

### **Abstract**

This document lists 25731 symbols and the corresponding  $\text{\LaTeX}$  commands that produce them. Some of these symbols are guaranteed to be available in every  $\text{\LaTeX} 2_{\epsilon}$  system; others require fonts and packages that may not accompany a given distribution and that therefore need to be installed. All of the fonts and packages used to prepare this document—as well as this document itself—are freely available from the Comprehensive  $\text{\TeX}$  Archive Network (<https://www.ctan.org/>).



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# Chapter 1

## Introduction

Welcome to the Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List! This document strives to be your primary source of L<sup>A</sup>T<sub>E</sub>X symbol information: font samples, L<sup>A</sup>T<sub>E</sub>X commands, packages, usage details, caveats—everything needed to put tens of thousands of different symbols at your disposal. All of the fonts covered herein meet the following criteria:

1. They are freely available from the Comprehensive T<sub>E</sub>X Archive Network (<https://www.ctan.org/>).
2. All of their symbols have L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> bindings. That is, a user should be able to access a symbol by name (e.g., `\bigtriangleup`).

As of version 12 of the Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List, that second restriction has been relaxed with the inclusion of Chapter 12, which showcases fonts that provide, at a minimum, either T<sub>E</sub>X font-metric files (`.tfm`) or the METAFONT sources (`.mf`) that produce those font-metric files. Some of the Chapter 12 fonts do include L<sup>A</sup>T<sub>E</sub>X font-definition files (`.fd`). However, what sets the fonts in Chapter 12 apart from the fonts in the rest of the document is that they lack a L<sup>A</sup>T<sub>E</sub>X style file (`.sty`) that individually names each of the glyphs.

The restrictions listed above are not particularly limiting criteria; the Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List contains samples of 25731 symbols—quite a large number. Some of these symbols are guaranteed to be available in every L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> system; others require fonts and packages that may not accompany a given distribution and that therefore need to be installed. See <https://www.texfaq.org/FAQ-installthings.html> for help with installing new fonts and packages.

### 1.1 Document Usage

Each chapter of this document contains a number of font tables. Each table shows a set of symbols, with the corresponding L<sup>A</sup>T<sub>E</sub>X command to the right of each symbol. A table’s caption indicates what package needs to be loaded in order to access that table’s symbols. For example, the symbols in Table 56, “textcomp Old-Style Numerals”, are made available by putting “`\usepackage{textcomp}`” in your document’s preamble. “ $\mathcal{MS}$ ” means to use the  $\mathcal{MS}$  packages, viz. `amssymb` and/or `amsmath`. Notes below a table provide additional information about some or all the symbols in that table. Many table notes refer to Section 13.3, which discusses topics relevant to all symbols provided by the corresponding package.

One note that appears a few times in this document, particularly in Chapter 2, indicates that certain symbols do not exist in the OT1 font encoding (Donald Knuth’s original, 7-bit font encoding, which is the default font encoding for L<sup>A</sup>T<sub>E</sub>X and pdfL<sup>A</sup>T<sub>E</sub>X) and that you should use `fontenc` to select a different encoding, such as T1 (a common 8-bit font encoding). That means that you should put “`\usepackage[encoding]{fontenc}`” in your document’s preamble, where *encoding* is, e.g., T1 or LY1. To limit the change in font encoding

to the current group, use “`\fontencoding{encoding}\selectfont`”. Note that this guidance applies only to  $\text{\LaTeX}$  and  $\text{pdf\LaTeX}$ ;  $\text{Lua\LaTeX}$  and  $\text{Xe\LaTeX}$  default to the TU (“ $\text{\TeX}$  Unicode”) font encoding, which directly supports Unicode character entry.

Chapter 13 contains some additional information about the symbols in this document. It warns that symbol names are not unique across packages; discusses scaling of mathematical symbols; provides additional, per-package usage information; gives examples of how to create new symbols out of existing symbols; explains how symbols are spaced in math mode; compares various schemes for boldfacing symbols; presents  $\text{\LaTeX}$  ASCII and Latin 1 tables; describes how to input and output Unicode characters; and provides some information about this document itself. The Comprehensive  $\text{\LaTeX}$  Symbol List ends with an index that facilitates searching.

A companion document, *Raw Font Tables*, also presents a large number of symbols but with a very different structure from this document. *Raw Font Tables* includes only symbols produced via a font file, while this document also includes composite symbols (combinations of two or more glyphs) and symbols drawn as pictures (using, e.g.,  $\text{\textit{TikZ}}$ ). This document sorts symbols by category while *Raw Font Tables* sorts symbols by underlying font file. The two documents are intended to complement each other. It is usually easier to find a desired symbol in The Comprehensive  $\text{\LaTeX}$  Symbol List, but *Raw Font Tables* is helpful for identifying related symbols, for finding symbols that exist in some font but are not exposed to the user via a  $\text{\LaTeX}$  package (or that this document inadvertently overlooked), and for the font name and character position needed to typeset a single symbol in isolation. The last of those is especially important for math symbols.  $\text{\TeX}$  imposes a limitation of at most 16 math alphabets per document, but symbols typeset with `\font` and `\char` are text symbols and do not consume a math alphabet. They are less convenient to use within a mathematical expression, however.

## 1.2 Frequently Requested Symbols

There are a number of symbols that are requested over and over again on `comp.text.tex`. If you’re looking for such a symbol the following list will help you find it quickly.

$\_$ , as in “ <code>Spaces_are_significant.</code> ” . . . . .	23	$\cdots$ . . . . .	157
$\tilde{\imath}$ , $\acute{\imath}$ , $\grave{\imath}$ , $\check{\imath}$ , etc. (versus $\tilde{\text{\textit{i}}}$ , $\acute{\text{\textit{i}}}$ , $\grave{\text{\textit{i}}}$ , and $\check{\text{\textit{i}}}$ ) . . . . .	32	$^{\circ}$ , as in “ <code>180^{\circ}</code> ” or “ <code>15^{\circ}\text{C}</code> ” . . . . .	166
$\text{\pounds}$ . . . . .	36	$\mathcal{L}$ , $\mathcal{F}$ , etc. . . . .	167
$\text{\pounds}$ . . . . .	37	$\mathbb{N}$ , $\mathbb{Z}$ , $\mathbb{R}$ , etc. . . . .	167
$\text{\textcircled{C}}$ , $\text{\textcircled{R}}$ , and $\text{\textsuperscript{TM}}$ . . . . .	39	$\text{\textasciix}$ . . . . .	167
$\text{\textpermyriad}$ . . . . .	40	$f$ . . . . .	466
$\text{\textff}$ . . . . .	63	$\acute{\text{a}}$ , $\grave{\text{e}}$ , etc. (i.e., several accents per character) . . . . .	469
$\therefore$ . . . . .	74	$<$ , $>$ , and $ $ (instead of $\text{\textit{i}}$ , $\text{\textit{l}}$ , and $\text{---}$ ) . . . . .	476
$\text{\text{:=}}$ and $\text{\text{::=}}$ . . . . .	75	$\wedge$ and $\sim$ (or $\sim$ ) . . . . .	476
$\lesssim$ and $\gtrsim$ . . . . .	91		

## Chapter 2

# Body-text symbols

This chapter lists symbols that are intended for use in running text, such as punctuation marks, accents, ligatures, and currency symbols. It also lists phonetic symbols and characters from a few foreign alphabets.

TABLE 1:  $\text{\LaTeX} 2_{\varepsilon}$  Escapable “Special” Characters

\$	\\$	%	\%	_	\_*	}	\}	&	\&	#	\#	{	\{
----	-----	---	----	---	-----	---	----	---	----	---	----	---	----

\* The `underscore` package redefines “\_” to produce an underscore in text mode (i.e., it makes it unnecessary to escape the underscore character).

TABLE 2: Predefined  $\text{\LaTeX} 2_{\epsilon}$  Text-mode Commands

$\wedge$		<code>\textasciicircum*</code>	$<$		<code>\textless</code>
$\sim$		<code>\textasciitilde*</code>	$\mathfrak{a}$	$\mathfrak{a}$	<code>\textordfeminine</code>
$*$	$*$	<code>\textasteriskcentered</code>	$\circ$	$\mathfrak{O}$	<code>\textordmasculine</code>
$\backslash$		<code>\textbackslash</code>	$\P$	$\P$	<code>\textparagraph<sup>†</sup></code>
$ $		<code>\textbar</code>	$\cdot$	$\cdot$	<code>\textperiodcentered</code>
$\ $	$\ $	<code>\textbardbl</code>	$\text{\%000}$	$\text{\%000}$	<code>\textpertenthousand</code>
$\bigcirc$	$\bigcirc$	<code>\textbigcircle</code>	$\text{\%00}$	$\text{\%00}$	<code>\textperthousand</code>
$\{$		<code>\textbraceleft<sup>†</sup></code>	$\text{\textasciicircum}$		<code>\textquestiondown</code>
$\}$		<code>\textbraceright<sup>†</sup></code>	$\text{\textasciitilde}$		<code>\textquotedblleft</code>
$\bullet$	$\bullet$	<code>\textbullet</code>	$\text{\textasciitilde}$		<code>\textquotedblright</code>
$\text{\textcircled{c}}$	$\text{\textcircled{c}}$	<code>\textcopyright<sup>†</sup></code>	$\text{\textasciitilde}$		<code>\textquotelleft</code>
$\dagger$	$\dagger$	<code>\textdagger<sup>†</sup></code>	$\text{\textasciitilde}$		<code>\textquoteright</code>
$\ddagger$	$\ddagger$	<code>\textdaggerdbl<sup>†</sup></code>	$\text{\textcircled{R}}$	$\text{\textcircled{R}}$	<code>\textregistered</code>
$\text{\$}$	$\text{\$}$	<code>\textdollar<sup>†</sup></code>	$\text{\textasciicircum}$	$\text{\textasciicircum}$	<code>\textsection<sup>†</sup></code>
$\dots$		<code>\textellipsis<sup>†</sup></code>	$\text{\textasciicircum}$	$\text{\textasciicircum}$	<code>\textsterling<sup>†</sup></code>
$\text{---}$		<code>\textendash</code>	$\text{\textasciicircum}$	$\text{\textasciicircum}$	<code>\texttrademark</code>
$\text{--}$		<code>\textendash</code>	$\text{---}$		<code>\textunderscore<sup>†</sup></code>
$\text{\!}$		<code>\textexclamdown</code>	$\text{\textasciicircum}$		<code>\textvisiblespace</code>
$>$		<code>\textgreater</code>			

The first symbol column represents the—sometimes “faked”—symbol that  $\text{\LaTeX} 2_{\epsilon}$  provides by default. The second symbol column represents the symbol as redefined by `textcomp` (if `textcomp` redefines it). The `textcomp` package is generally required to typeset Table 2’s symbols in italic, and some symbols additionally require the T1 font encoding for italic.

\* `\^{}{}` and `\~{}{}` can be used instead of `\textasciicircum` and `\textasciitilde`. See the discussion of “~” on page 476.

<sup>†</sup> It’s generally preferable to use the corresponding symbol from Table 3 because the symbols in that table work properly in both text mode and math mode.

TABLE 3:  $\text{\LaTeX} 2_{\epsilon}$  Commands Defined to Work in Both Math and Text Mode

$\{$	$\{$	$\text{---}$	$\text{\textcircled{c}}$	$\text{\textcircled{c}}$	$\ddagger$	$\ddagger$	$\text{\textasciicircum}$	$\text{\textasciicircum}$	$\text{\textasciicircum}$
$\}$	$\}$	$\text{\textcircled{c}}$	$\text{\textcircled{c}}$	$\text{\textcircled{c}}$	$\dots$	$\dots$	$\text{\textasciicircum}$	$\text{\textasciicircum}$	$\text{\textasciicircum}$
$\text{\$}$	$\text{\$}$	$\text{\$}$	$\text{\$}$	$\text{\$}$	$\P$	$\P$	$\P$	$\P$	$\P$

The first symbol column represents the—sometimes “faked”—symbol that  $\text{\LaTeX} 2_{\epsilon}$  provides by default. The second symbol column represents the symbol as redefined by `textcomp` (if `textcomp` redefines it). The `textcomp` package is generally required to typeset Table 3’s symbols in italic, and some symbols additionally require the T1 font encoding for italic.

TABLE 4:  $\mathcal{AMS}$  Commands Defined to Work in Both Math and Text Mode

✓ `\checkmark`    ® `\circledR`    ✠ `\maltese`

TABLE 5: Non-ASCII Letters (Excluding Accented Letters)

å	<code>\aa</code>	Ð	<code>\DH*</code>	Ł	<code>\L</code>	ø	<code>\o</code>	þ	<code>\th*</code>
Ä	<code>\AA</code>	Ð	<code>\DJ*</code>	ł	<code>\l</code>	œ	<code>\oe</code>	Þ	<code>\TH*</code>
Æ	<code>\AE</code>	đ	<code>\dj*</code>	Ŋ	<code>\NG*</code>	Œ	<code>\OE</code>		
æ	<code>\ae</code>	IJ	<code>\IJ</code>	ŋ	<code>\ng*</code>	ß	<code>\ss</code>		
ð	<code>\dh*</code>	ij	<code>\ij</code>	Ø	<code>\O</code>	SS	<code>\SS</code>		

\* Not available in the OT1 font encoding. Use the `fontenc` package to select an alternate font encoding, such as T1.

TABLE 6: `textgreek` Upright Greek Letters

α	<code>\textalpha</code>	η	<code>\texteta</code>	ν	<code>\textnu</code>	τ	<code>\texttau</code>
β	<code>\textbeta</code>	θ	<code>\texttheta</code>	ξ	<code>\textxi</code>	υ	<code>\textupsilon</code>
γ	<code>\textgamma</code>	ι	<code>\textiota</code>	ο	<code>\textomikron</code>	φ	<code>\textphi</code>
δ	<code>\textdelta</code>	κ	<code>\textkappa</code>	π	<code>\textpi</code>	χ	<code>\textchi</code>
ε	<code>\textepsilon</code>	λ	<code>\textlambda</code>	ρ	<code>\textrho</code>	ψ	<code>\textpsi</code>
ζ	<code>\textzeta</code>	μ	<code>\textmu*</code>	σ	<code>\textsigma</code>	ω	<code>\textomega</code>
A	<code>\textAlpha</code>	H	<code>\textEta</code>	N	<code>\textNu</code>	T	<code>\textTau</code>
B	<code>\textBeta</code>	Θ	<code>\textTheta</code>	Ξ	<code>\textXi</code>	Υ	<code>\textUpsilon</code>
Γ	<code>\textGamma</code>	I	<code>\textIota</code>	Ο	<code>\textOmikron</code>	Φ	<code>\textPhi</code>
Δ	<code>\textDelta</code>	K	<code>\textKappa</code>	Π	<code>\textPi</code>	Χ	<code>\textChi</code>
E	<code>\textEpsilon</code>	Λ	<code>\textLambda</code>	P	<code>\textRho</code>	Ψ	<code>\textPsi</code>
Z	<code>\textZeta</code>	M	<code>\textMu</code>	Σ	<code>\textSigma</code>	Ω	<code>\textOmega</code>

See the `textgreek` package note on page 459.

\* Synonyms for `\textmu` include `\textmicro` and `\textmugreek`.



TABLE 7: Letters Used to Typeset African Languages

Đ	\B{D}	ċ	\m{c}	f	\m{f}	k	\m{k}	t	\M{t}	Ƶ	\m{Z}
đ	\B{d}	Đ	\m{D}	F	\m{F}	Ɓ	\m{N}	T	\M{T}	Ɛ	\T{E}
H	\B{H}	đ	\M{d}	Ƴ	\m{G}	ŋ	\m{n}	t	\m{t}	ɛ	\T{e}
h	\B{h}	Đ	\M{D}	Ƴ	\m{g}	ɔ	\m{o}	T	\m{T}	Ɔ	\T{O}
ṭ	\B{t}	đ	\m{d}	ƭ	\m{I}	Ɔ	\m{O}	u	\m{u}*	ɔ	\T{o}
T	\B{T}	Ɛ	\m{E}	ɪ	\m{i}	P	\m{P}	U	\m{U}*		
ḃ	\m{b}	ɛ	\m{e}	J	\m{J}	p	\m{p}	Y	\m{Y}		
Ḃ	\m{B}	Ɛ	\M{E}	j	\m{j}	s	\m{s}	y	\m{y}		
Ċ	\m{C}	ə	\M{e}	K	\m{K}	S	\m{S}	z	\m{z}		

These characters all need the T4 font encoding, which is provided by the `fc` package.

\* `\m{v}` and `\m{V}` are synonyms for `\m{u}` and `\m{U}`.

TABLE 8: Letters Used to Typeset Vietnamese

Ơ	\OHORN	ơ	\ohorn	Ư	\UHORN	ư	\uhorn
---	--------	---	--------	---	--------	---	--------

These characters all need the T5 font encoding, which is provided by the `vtex` package.

TABLE 9: Punctuation Marks Not Found in OT1

«	\guillemetleft*	<	\guilsinglleft	„	\quotedblbase	"	\textquotedbl
»	\guillemetright*	>	\guilsinglright	,	\quotesinglbase		

To get these symbols, use the `fontenc` package to select an alternate font encoding, such as T1.

\* Older versions of  $\text{\LaTeX}$  misspelled these as `\guillemotleft` and `\guillemotright`. The older names are still retained for backward compatibility.

TABLE 10: pifont Decorative Punctuation Marks

•	\ding{123}	“	\ding{125}	¶	\ding{161}	‡	\ding{163}
•	\ding{124}	”	\ding{126}	¶	\ding{162}		

TABLE 11: fontawesome7 Decorative Punctuation Marks and Typographic Symbols

<b>*</b>	<code>\faAsterisk</code>	<b>¶</b>	<code>\faParagraph</code>	<b>‘</b>	<code>\faSingleQuoteLeft</code>
<b>@</b>	<code>\faAt</code>	<b>?</b>	<code>\faQuestion</code>	<b>’</b>	<code>\faSingleQuoteRight</code>
<b>...</b>	<code>\faEllipsis*</code>	<b>“</b>	<code>\faQuoteLeft</code>	<b>\</b>	<code>\faSlash</code>
<b>:</b>	<code>\faEllipsisVertical*</code>	<b>”</b>	<code>\faQuoteRight</code>		
<b>!</b>	<code>\faExclamation</code>	<b>§</b>	<code>\faSection</code>		

\* In fontawesome5, `\faEllipsis` was called `\faEllipsisH`, and `\faEllipsisVertical` was called `\faEllipsisV`,

TABLE 12: lucide-icons Decorative Punctuation Marks and Typographic Symbols

<b>&amp;</b>	<code>\lucideicon{ampersand}</code>	<b>:</b>	<code>\lucideicon{ellipsis-vertical}</code>
<b>&amp;&amp;</b>	<code>\lucideicon{ampersands}</code>	<b>#</b>	<code>\lucideicon{hash}</code>
<b>*</b>	<code>\lucideicon{asterisk}</code>	<b>¶</b>	<code>\lucideicon{pilcrow}</code>
<b>@</b>	<code>\lucideicon{at-sign}</code>	<b>”</b>	<code>\lucideicon{quote}</code>
<b>{}</b>	<code>\lucideicon{braces}</code>	<b>§</b>	<code>\lucideicon{section}</code>
<b>[]</b>	<code>\lucideicon{brackets}</code>	<b>/</b>	<code>\lucideicon{slash}</code>
<b>...</b>	<code>\lucideicon{ellipsis}</code>	<b>—</b>	<code>\lucideicon{space}</code>

See the lucide-icons package note on page 454.

TABLE 13: utfsym Decorative Punctuation Marks

<b>?</b>	<code>\usym{2753}</code>	<i>black question mark ornament</i>	<b>‡</b>	<code>\usym{2763}</code>	<i>heavy heart exclamation mark ornament</i>
<b>?</b>	<code>\usym{2754}</code>	<i>white question mark ornament</i>	<b>(</b>	<code>\usym{2768}</code>	<i>medium left parenthesis ornament</i>
<b>!</b>	<code>\usym{2755}</code>	<i>white exclamation mark ornament</i>	<b>)</b>	<code>\usym{2769}</code>	<i>medium right parenthesis ornament</i>
<b>!</b>	<code>\usym{2757}</code>	<i>heavy exclamation mark</i>	<b>(</b>	<code>\usym{276A}</code>	<i>medium flattened left parenthesis ornament</i>
<b> </b>	<code>\usym{2758}</code>	<i>light vertical bar</i>	<b>)</b>	<code>\usym{276B}</code>	<i>medium flattened right parenthesis ornament</i>
<b>!</b>	<code>\usym{2759}</code>	<i>medium vertical bar</i>	<b>(</b>	<code>\usym{276C}</code>	<i>medium left-pointing angle bracket ornament</i>
<b>!</b>	<code>\usym{275A}</code>	<i>heavy vertical bar</i>	<b>)</b>	<code>\usym{276D}</code>	<i>medium right-pointing angle bracket ornament</i>

(continued on next page)

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⦿	<code>\usym{275B}</code>	heavy single turned comma quotation mark ornament	◀	<code>\usym{276E}</code>	heavy left-pointing angle quotation mark ornament
◑	<code>\usym{275C}</code>	heavy single comma quotation mark ornament	◁	<code>\usym{276F}</code>	heavy right-pointing angle quotation mark ornament
⦿	<code>\usym{275D}</code>	heavy double turned comma quotation mark ornament	⌈	<code>\usym{2770}</code>	heavy left-pointing angle bracket ornament
◑	<code>\usym{275E}</code>	heavy double comma quotation mark ornament	⌋	<code>\usym{2771}</code>	heavy right-pointing angle bracket ornament
◑	<code>\usym{275F}</code>	heavy low single comma quotation mark ornament	[	<code>\usym{2772}</code>	light left tortoise shell bracket ornament
◑	<code>\usym{2760}</code>	heavy low double comma quotation mark ornament	]	<code>\usym{2773}</code>	light right tortoise shell bracket ornament
§	<code>\usym{2761}</code>	curved stem paragraph sign ornament	{	<code>\usym{2774}</code>	medium left curly bracket ornament
⚡	<code>\usym{2762}</code>	heavy exclamation mark ornament	}	<code>\usym{2775}</code>	medium right curly bracket ornament

See the `utfsym` package note on page 461.

TABLE 14: `twemojis` Decorative Punctuation Marks

⚡	<code>\twemoji{keycap: #}</code>	!	<code>\twemoji{red exclamation mark}</code>
!!	<code>\twemoji{double exclamation mark}</code>	?	<code>\twemoji{red question mark}</code>
!?	<code>\twemoji{exclamation question mark}</code>	!	<code>\twemoji{white exclamation mark}</code>
\$	<code>\twemoji{heavy dollar sign}</code>	?	<code>\twemoji{white question mark}</code>
*	<code>\twemoji{keycap: *}</code>		

See the `twemojis` package note on page 460.

TABLE 15: `tipa` Phonetic Symbols

ɣ	<code>\textbabygamma</code>	ʔ	<code>\textglotstop</code>	ɳ	<code>\textrightailn</code>
ɸ	<code>\textbarb</code>	˙	<code>\texthalflength</code>	ɿ	<code>\textrightailr</code>
ɛ	<code>\textbarc</code>	ɸ	<code>\texthardsign</code>	ɸ	<code>\textrightails</code>
ɸ	<code>\textbard</code>	ˆ	<code>\texthooktop</code>	ɸ	<code>\textrightailt</code>
j	<code>\textbardotlessj</code>	ɸ	<code>\texthtb</code>	ɳ	<code>\textrightailz</code>
g	<code>\textbarg</code>	f	<code>\texthtbardotlessj</code>	˘	<code>\textrighthook</code>

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?	\textbarglotstop	c'	\texthtc	A	\textsca
i	\textbari	d'	\texthtd	B	\textscb
l	\textbarl	g'	\texthtg	E	\textsce
o	\textbaro	h'	\texthth	G	\textscg
ƒ	\textbarrevglotstop	h̃	\texttheng	H	\textsch
u	\textbaru	k	\texthtk	o	\textschwa
l̄	\textbeltl	β	\texthtp	I	\textsci
β	\textbeta	q'	\texthtq	J	\textscj
⊙	\textbullseye	q̄	\texthttrtaild	L	\textsccl
˘	\textceltpal	g'	\texthtscg	N	\textscn
χ	\textchi	f	\texthtt	œ	\textscoelig
ε	\textcloseepsilon	hν	\texthvlig	Ω	\textscomega
ω	\textcloseomega	ɔ	\textinvglotstop	R	\textscr
z	\textcloserevepsilon	ʁ	\textinvscr	α	\textscripta
z̄	\textcommatailz	ι	\textiota	g	\textscriptg
˘	\textcorner	λ	\textlambda	U	\textscriptv
b	\textcrb	:	\textlengthmark	U	\textscu
d̄	\textcrd	t̄	\textlhookt	Y	\textscy
g	\textcrg	l	\textlhtlongi	,	\textsecstress
h	\textcrh	q	\textlhtlongy	ɤ	\textsoftsign
ɔ	\textcrinvglotstop	r	\textlonglegr	Ĉ	\textstretchc
λ	\textcrlambda	<	\textlptr	Ɑ	\texttctclig
2	\textcrtwo	η	\textltailm	tf	\texttेशlig
c	\textctc	μ	\textltailn	θ	\texttheta
d	\textctd	ı	\textltilde	þ	\textthorn
dz	\textctdctzlig	ķ	\textlyoghlig		\texttoneletterstem
ſ	\textctesh	J	\textObardotlessj	ts	\texttslig
j	\textctj	h̃	\textOlyoghlig	e	\textturna
u	\textctn	ω	\textomega	æ	\textturncelig
t	\textctt	˘	\textopencorner	q	\textturnh
Ɑ	\textcttctclig	o	\textopeno	x	\textturnk
z̄	\textcttyogh	˘	\textpalhook	I	\textturnlonglegr
z	\textctz	φ	\textphi	u	\textturnm
dz	\textdctzlig		\textpipe	uq	\textturnmrleg
f	\textdoublebaresh	'	\textprimstress	ı	\textturnr
‡	\textdoublebarpipe	?	\textraiseglotstop	ı̇	\textturnrrtail
≠	\textdoublebarslash	ı	\textraisevibyi	D	\textturnscripta
	\textdoublepipe	γ	\textramshorns	ı̇	\textturnt
	\textdoublevertline	˘	\textrevapostrophe	Λ	\textturnv
↓	\textdownstep	ə	\textreve	μ	\textturnw
đ	\textdyoghlig	z	\textrevepsilon	λ	\textturny
dz	\textdzlig	ı̇	\textrevglotstop	υ	\textupsilon
ε	\textepsilon	z̄	\textrevyogh	↑	\textupstep
ſ	\textesh	z̄	\textrhookrevepsilon		\textvertline
r	\textfishhookr	z̄	\textrhookschwa	ı̇	\textvibyi
g	\textg	˘	\textrhoticity	ı̇	\textvibyy

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$\gamma$	<code>\textgamma</code>	$>$	<code>\textrptr</code>	$p$	<code>\textwynn</code>
$\searrow$	<code>\textglobfall</code>	$d$	<code>\textrtaild</code>	$3$	<code>\textyogh</code>
$\nearrow$	<code>\textglobrise</code>	$l$	<code>\textrtail</code>		

See the `tipa` package note on page 459.

TABLE 17: `tipx` Phonetic Symbols

$\text{æ}$	<code>\texttaolig</code>	$\text{f}$	<code>\texthtbardotlessjvar</code>	$\text{ɹ}$	<code>\textrthooklong</code>
$\text{z̥}$	<code>\textbenttailyogh</code>	$\text{ω}$	<code>\textinvomega</code>	$\text{ɹ}$	<code>\textscaolig</code>
$\text{γ}$	<code>\textbktailgamma</code>	$\text{v}$	<code>\textinvsc</code>	$\text{Δ}$	<code>\textsdelta</code>
$\text{ɔ̥}$	<code>\textctinvglotstop</code>	$\text{σ}$	<code>\textinvscripta</code>	$\text{F}$	<code>\textscf</code>
$\text{j}$	<code>\textctjvar</code>	$\text{ɸ}$	<code>\textlfishhookrlig</code>	$\text{K}$	<code>\textscck</code>
$\text{ɓ}$	<code>\textctstretchc</code>	$\text{ɹ}$	<code>\textlhookfour</code>	$\text{M}$	<code>\textscm</code>
$\text{ɕ}$	<code>\textctstretchcvar</code>	$\text{p}$	<code>\textlhookp</code>	$\text{P}$	<code>\textscp</code>
$\text{ɹ}$	<code>\textctturnt</code>	$\text{ɹ}$	<code>\textlhiti</code>	$\text{Q}$	<code>\textscq</code>
$\text{db}$	<code>\textdblig</code>	$\text{l}$	<code>\textlooptoprevesh</code>	$\text{←}$	<code>\textsplleftarrow</code>
$\text{#}$	<code>\textdoublebarpipevar</code>	$\text{η}$	<code>\textnrleg</code>	$\text{C}$	<code>\textstretchcvar</code>
$\text{  }$	<code>\textdoublepipevar</code>	$\text{⊙}$	<code>\textObullseye</code>	$\text{↔}$	<code>\textsubdoublearrow</code>
$\text{↓}$	<code>\textdownfullarrow</code>	$\text{ɹ}$	<code>\textpalhooklong</code>	$\text{→}$	<code>\textsubbrightarrow</code>
$\text{♀}$	<code>\textfemale</code>	$\text{ɹ}$	<code>\textpalhookvar</code>	$\text{ɸ}$	<code>\textthornvari</code>
$\text{n}$	<code>\textfrbarn</code>	$\text{ }$	<code>\textpipevar</code>	$\text{ɸ}$	<code>\textthornvarii</code>
$\text{ɹ}$	<code>\textfrhookd</code>	$\text{ɸ}$	<code>\textqplig</code>	$\text{ɸ}$	<code>\textthornvariii</code>
$\text{ɹ}$	<code>\textfrhookdvar</code>	$\text{□}$	<code>\textrectangle</code>	$\text{ɸ}$	<code>\textthornvariv</code>
$\text{ɹ}$	<code>\textfrhookt</code>	$\text{↵}$	<code>\textretractingvar</code>	$\text{ɹ}$	<code>\textturnglotstop</code>
$\text{γ}$	<code>\textfrrtailgamma</code>	$\text{ɹ}$	<code>\textrevscl</code>	$\text{ɹ}$	<code>\textturnsk</code>
$\text{?}$	<code>\textglotstopvari</code>	$\text{ɹ}$	<code>\textrevscr</code>	$\text{ɹ}$	<code>\textturnscu</code>
$\text{?}$	<code>\textglotstopvarii</code>	$\text{a}$	<code>\textrhooka</code>	$\text{ɹ}$	<code>\textturnthree</code>
$\text{?}$	<code>\textglotstopvariii</code>	$\text{e}$	<code>\textrhooke</code>	$\text{ɹ}$	<code>\textturntwo</code>
$\text{γ}$	<code>\textgrgamma</code>	$\text{ε}$	<code>\textrhookepsilon</code>	$\text{♀}$	<code>\textuncrfemale</code>
$\text{h}$	<code>\textheng</code>	$\text{ɹ}$	<code>\textrhookopeno</code>	$\text{↑}$	<code>\textupfullarrow</code>
$\text{h}$	<code>\texthmlig</code>	$\text{ɹ}$	<code>\textrtailhth</code>		

TABLE 19: wsuipa Phonetic Symbols

ɤ	\babygamma	ŋ	\eng	ŋ	\labdentalnas	ə	\schwa
ḃ	\barb	ɐ	\er	ɬ	\latfric	ɪ	\sci
ḋ	\bard	ʃ	\esh	ɰ	\legm	N	\scn
ḅ	\bari	ð	\eth	ɹ	\legr	R	\scr
ḅ	\barl	ɾ	\flapr	ɮ	\lz	ɑ	\scripta
ḅ	\baro	ʔ	\glotstop	α	\nialpha	ɡ	\scriptg
ḅ	\barp	ḃ	\hookb	β	\nibeta	ʋ	\scriptv
ḅ	\barsci	ḋ	\hookd	χ	\nichi	U	\scu
ḅ	\barscu	ḅ	\hookg	ε	\niepsilon	Y	\scy
ḅ	\baru	ḅ	\hookh	γ	\nigamma	ʅ	\slashb
ḅ	\clickb	ḅ	\hookheng	ι	\niiota	ʅ	\slashc
ḅ	\clickc	ʔ	\hookrepsilon	λ	\nilambda	ḋ	\slashd
ḅ	\clickt	ḅ	\hv	ω	\niomega	ʅ	\slashu
ḅ	\closedniomega	ε	\inva	φ	\niphi	ḋ	\taild
ḅ	\closedrepsilon	ʃ	\invf	σ	\nisigma	ɿ	\tailinvr
ḅ	\crossb	ʔ	\invglotstop	θ	\nitheta	l	\taill
ḅ	\crossd	ɰ	\invh	ʋ	\niupsilon	ŋ	\tailn
ḅ	\crossh	ɹ	\invlegr	ɹ	\nj	ɿ	\tailr
ḅ	\crossnilambda	uu	\invm	oo	\oo	ʃ	\tails
ḅ	\curlyc	ɿ	\invr	ɔ	\openo	ḋ	\tailt
ḅ	\curlyesh	B	\invscr	ə	\reve	z	\tailz
ḅ	\curlyyogh	ɰ	\invscripta	ɣ	\reveject	ʃ	\tesh
ḅ	\curlyz	Λ	\invv	ʔ	\revepsilon	ḃ	\thorn
ḅ	\dlbari	ʱ	\invw	ʃ	\revglotstop	ḋ	\tildel
ḅ	\dz	ʃ	\invy	D	\scd	ʔ	\yogh
ʔ	\ejective	ɣ	\ipagamma	G	\scg		

TABLE 21: wasysym Phonetic Symbols

ð	\dh	ə	\inve	ʔ	\roundz	ḃ	\thorn
Ð	\DH	ɔ	\openo	ḃ	\Thorn		



TABLE 25: Text-mode Accents

Ää	\{"A}\{a}	Áá	\ {A}\ {a}†	Ââ	\f{A}\f{a}¶	Â̂	\t{A}\t{a}
Ãã	\' {A}\' {a}	Ãã	\~ {A}\~ {a}	Ää	\G{A}\G{a}‡	Ăă	\u{A}\u{a}
Ȧȧ	\. {A}\. {a}	Ȧȧ	\b{A}\b{a}	Ǻǻ	\h{A}\h{a}§	Ǻǻ	\U{A}\U{a}‡
Ȧȧ	\={A}\={a}	Ȧȧ	\c{A}\c{a}	Ǻǻ	\H{A}\H{a}	Ǻǻ	\U{A}\U{a}¶
Ȧȧ	\^{A}\^{a}	Ȧȧ	\C{A}\C{a}¶	Ȧȧ	\k{A}\k{a}†	Ȧȧ	\v{A}\v{a}
Ȧȧ	\' {A}\' {a}	Ȧȧ	\d{A}\d{a}	Ȧȧ	\r{A}\r{a}		
Ȧȧ	\newtie{A}\newtie{a}*	Ȧȧ	\textcircled{A}\textcircled{a}				

Also note the existence of `\i` and `\j`, which produce dotless versions of “i” and “j” (viz., “i” and “j”). These are useful when the accent is supposed to replace the dot in encodings that need to composite (i.e., combine) letters and accents. For example, “`na\{i}ve`” always produces a correct “naïve”, while “`na\{i}ve`” yields the rather odd-looking “naïve” when using the OT1 font encoding and older versions of L<sup>A</sup>T<sub>E</sub>X. Font encodings other than OT1 and newer versions of L<sup>A</sup>T<sub>E</sub>X properly typeset “`na\{i}ve`” as “naïve”.

\* Requires the `textcomp` package.

† Not available in the OT1 font encoding. Use the `fontenc` package to select an alternate font encoding, such as T1.

‡ Requires the T4 font encoding, provided by the `fc` package.

§ Requires the T5 font encoding, provided by the `vntex` package.

¶ Requires one of the Cyrillic font encodings (T2A, T2B, T2C, or X2). Use the `fontenc` package to select an encoding.

|| See also the `circledsteps` package, which uses TikZ to encircle symbols of any size.

TABLE 26: tipa Text-mode Accents

Ȧȧ	\textacutemacron{A}\textacutemacron{a}
Ȧȧ	\textacutewedge{A}\textacutewedge{a}
Ȧȧ	\textadvancing{A}\textadvancing{a}
Ȧȧ	\textbottomtiebar{A}\textbottomtiebar{a}
Ȧȧ	\textbrevemacron{A}\textbrevemacron{a}
Ȧȧ	\textcircumacute{A}\textcircumacute{a}
Ȧȧ	\textcircumdot{A}\textcircumdot{a}

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Ăă	<code>\textdotacute{A}\textdotacute{a}</code>
Ăă	<code>\textdotbreve{A}\textdotbreve{a}</code>
Ää	<code>\textdoublegrave{A}\textdoublegrave{a}</code>
Ää	<code>\textdoublevbaraccent{A}\textdoublevbaraccent{a}</code>
Ằằ	<code>\textfallrise{A}\textfallrise{a}</code>
Ăă	<code>\textgravecircum{A}\textgravecircum{a}</code>
Ăă	<code>\textgravedot{A}\textgravedot{a}</code>
Ăă	<code>\textgravemacron{A}\textgravemacron{a}</code>
Ăă	<code>\textgravemid{A}\textgravemid{a}</code>
Ăă	<code>\texthighrise{A}\texthighrise{a}</code>
ᄁᄂ	<code>\textinvsubbridge{A}\textinvsubbridge{a}</code>
ᄃᄄ	<code>\textlowering{A}\textlowering{a}</code>
ᄅᄆ	<code>\textlowrise{A}\textlowrise{a}</code>
Ăă	<code>\textmidacute{A}\textmidacute{a}</code>
Ăă	<code>\textovercross{A}\textovercross{a}</code>
Ăă	<code>\textoverw{A}\textoverw{a}</code>
ᄇᄈ	<code>\textpolhook{A}\textpolhook{a}</code>
ᄉᄊ	<code>\textraising{A}\textraising{a}</code>
ᄋᄌ	<code>\textretracting{A}\textretracting{a}</code>
ᄍᄎ	<code>\textringmacron{A}\textringmacron{a}</code>
Ằằ	<code>\textrisefall{A}\textrisefall{a}</code>
Ââ	<code>\textroundcap{A}\textroundcap{a}</code>
ᄏᄐ	<code>\textseagull{A}\textseagull{a}</code>
ᄑᄒ	<code>\textsubacute{A}\textsubacute{a}</code>
ᄓᄔ	<code>\textsubarch{A}\textsubarch{a}</code>
ᄕᄖ	<code>\textsubbar{A}\textsubbar{a}</code>
ᄗᄘ	<code>\textsubbridge{A}\textsubbridge{a}</code>
ᄙᄚ	<code>\textsubcircum{A}\textsubcircum{a}</code>
ᄛᄜ	<code>\textsubdot{A}\textsubdot{a}</code>
ᄝᄞ	<code>\textsubgrave{A}\textsubgrave{a}</code>
ᄟᄠ	<code>\textsublhalfring{A}\textsublhalfring{a}</code>
ᄡᄢ	<code>\textsubplus{A}\textsubplus{a}</code>
ᄤᄥ	<code>\textsubrhalfring{A}\textsubrhalfring{a}</code>
ᄧᄨ	<code>\textsubring{A}\textsubring{a}</code>
ᄩᄪ	<code>\textsubsquare{A}\textsubsquare{a}</code>
ᄬᄭ	<code>\textsubtilde{A}\textsubtilde{a}</code>

*(continued on next page)*

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$\text{\AA}$	<code>\textsubumlaut{A}\textsubumlaut{a}</code>
$\text{\textsubw A}$	<code>\textsubw{A}\textsubw{a}</code>
$\text{\textsubwedge A}$	<code>\textsubwedge{A}\textsubwedge{a}</code>
$\text{\AA}$	<code>\textsuperimposetilde{A}\textsuperimposetilde{a}</code>
$\text{\AA}$	<code>\textsyllabic{A}\textsyllabic{a}</code>
$\text{\AA}$	<code>\texttildedot{A}\texttildedot{a}</code>
$\text{\AA}$	<code>\texttoptiebar{A}\texttoptiebar{a}</code>
$\text{\AA}$	<code>\textvbaraccent{A}\textvbaraccent{a}</code>

See the tipa package note on page 459.

TABLE 28: extraipa Text-mode Accents

$\text{\AA}$	<code>\bibridge{A}\bibridge{a}</code>	$\text{\AA}$	<code>\partvoiceless{A}\partvoiceless{a}</code>
$\text{\AA}$	<code>\crtilde{A}\crtilde{a}</code>	$\text{\AA}$	<code>\sliding{A}\sliding{a}</code>
$\text{\AA}$	<code>\dottedtilde{A}\dottedtilde{a}</code>	$\text{\AA}$	<code>\spreadlips{A}\spreadlips{a}</code>
$\text{\AA}$	<code>\doubletilde{A}\doubletilde{a}</code>	$\text{\AA}$	<code>\subcorner{A}\subcorner{a}</code>
$\text{\AA}$	<code>\finpartvoice{A}\finpartvoice{a}</code>	$\text{\AA}$	<code>\subdoublebar{A}\subdoublebar{a}</code>
$\text{\AA}$	<code>\finpartvoiceless{A}\finpartvoiceless{a}</code>	$\text{\AA}$	<code>\subdoublevert{A}\subdoublevert{a}</code>
$\text{\AA}$	<code>\inipartvoice{A}\inipartvoice{a}</code>	$\text{\AA}$	<code>\sublptr{A}\sublptr{a}</code>
$\text{\AA}$	<code>\inipartvoiceless{A}\inipartvoiceless{a}</code>	$\text{\AA}$	<code>\subrptra{A}\subrptra{a}</code>
$\text{\AA}$	<code>\overbridge{A}\overbridge{a}</code>	$\text{\AA}$	<code>\whistle{A}\whistle{a}</code>
$\text{\AA}$	<code>\partvoice{A}\partvoice{a}</code>		

TABLE 29: wsuipa Text-mode Accents

$\text{\AA}$	<code>\dental{A}\dental{a}</code>
$\text{\AA}$	<code>\underarch{A}\underarch{a}</code>

TABLE 30: phonetic Text-mode Accents

$\text{\AA}$	<code>\hill{A}\hill{a}</code>	$\text{\AA}$	<code>\rc{A}\rc{a}</code>	$\text{\AA}$	<code>\ut{A}\ut{a}</code>
$\text{\AA}$	<code>\od{A}\od{a}</code>	$\text{\AA}$	<code>\syl{A}\syl{a}</code>		
$\text{\AA}$	<code>\ohill{A}\ohill{a}</code>	$\text{\AA}$	<code>\td{A}\td{a}</code>		

See the phonetic package note on page 456.

TABLE 31: metre Text-mode Accents

Áá	<code>\acutus{A}\acutus{a}</code>
Ăă	<code>\breve{A}\breve{a}</code>
Ãã	<code>\circumflexus{A}\circumflexus{a}</code>
Ää	<code>\diaeresis{A}\diaeresis{a}</code>
Àà	<code>\gravis{A}\gravis{a}</code>
Āā	<code>\macron{A}\macron{a}</code>

TABLE 32: t4phonet Text-mode Accents

Ää	<code>\textdoublegrave{A}\textdoublegrave{a}</code>
Àà	<code>\textvbaraccent{A}\textvbaraccent{a}</code>
Ää	<code>\textdoublevbaraccent{A}\textdoublevbaraccent{a}</code>

See the `t4phonet` package note on page 458.

TABLE 33: arcs Text-mode Accents

Ⓐⓐ	<code>\overarc{A}\overarc{a}</code>	Ⓐⓐ	<code>\underarc{A}\underarc{a}</code>
----	-------------------------------------	----	---------------------------------------

See the `arcs` package note on page 449.

TABLE 34: semtrans Accents

Ⓐⓐ	<code>\D{A}\D{a}</code>	Ⓐⓐ	<code>\U{A}\U{a}</code>
ⓋⓇ	<code>\T{A}\T{a}</code>		

\* `\T` is not actually an accent but a command that rotates its argument 180° using the `graphicx` package’s `\rotatebox` command.

TABLE 35: ogonek Accents

Ąą	<code>\k{A}\k{a}</code>
----	-------------------------

TABLE 36: combelow Accents

Ȧȧ	<code>\cb{A}\cb{a}</code>
----	---------------------------

`\cb` places a comma *above* letters with descenders. Hence, while “`\cb{s}`” produces “ſ̣”, “`\cb{g}`” produces “ġ”.

TABLE 37: wsuipa Diacritics

ˆ	\ain	<	\leftp	°	\overring	ˈ	\stress	˘	\underwedge
⌈	\corner	⌈	\leftt	◌	\polishhook	ˌ	\syllabic	ˆ	\upp
˘	\downp	ː	\length	>	\rightp	˙	\underdts	⌋	\upt
⌊	\downt	˜	\midtilde	⌊	\rightt	◌	\underring		
˘	\halflength	◌	\open	ˌ	\secstress	˘	\undertilde		

The `wsuipa` package defines all of the above as ordinary characters, not as accents. However, it does provide `\diatop` and `\diaunder` commands, which are used to compose diacritics with other characters. For example, `\diatop[\overring|a]` produces “â”, and `\diaunder[\underdts|a]` produces “ä”. See the `wsuipa` documentation for more information.

TABLE 38: textcomp Diacritics

ˆ	\textacutedbl	˘	\textasciicaron	ˉ	\textasciimacron
˘	\textasciiacute	¨	\textasciidieresis	ˆ	\textgravedbl
˘	\textasciibreve	˘	\textasciigrave		

The `textcomp` package defines all of the above as ordinary characters, not as accents. You can use `\llap` or `\rlap` to combine them with other characters. See the discussion of `\llap` and `\rlap` on page 467 for more information.

TABLE 39: marvosym Diacritics

→	\arrowOver	—	\barOver	/	\StrikingThrough
→	\ArrowOver	—	\BarOver		

The `marvosym` package defines all of the above as ordinary characters, not as accents. You can use `\llap` or `\rlap` to combine them with other characters. See the discussion of `\llap` and `\rlap` on page 467 for more information.

TABLE 40: textcomp Currency Symbols

฿	\textbaht	\$	\textdollar*	₵	\textguarani	₩	\textwon
¢	\textcent	\$	\textdollaroldstyle	£	\textlira	¥	\textyen
¢	\textcentoldstyle	₫	\textdong	₦	\textnaira		
₯	\textcolonmonetary	€	\texteuro	₱	\textpeso		
₣	\textcurrency	f	\textflorin	£	\textsterling*		

\* It’s generally preferable to use the corresponding symbol from Table 3 on page 23 because the symbols in that table work properly in both text mode and math mode.

TABLE 41: marvosym Currency Symbols

ℳ	<code>\Deleatur</code>	€	<code>\EurCr</code>	€	<code>\EurTm</code>	℔	<code>\Pfund</code>
€	<code>\EstimatedSign</code>	€	<code>\EurDig</code>	\$	<code>\EyesDollar</code>	β	<code>\Shilling</code>
€	<code>\EUR</code>	€	<code>\EurHv</code>	φ	<code>\Florin</code>		

The different euro signs are meant to be visually compatible with different fonts—Courier (`\EURcr`), Helvetica (`\EURhv`), Times Roman (`\EURtm`), and the `marvosym` digits listed in Table 383 (`\EURdig`). The `mathdesign` package redefines `\texteuro` to be visually compatible with one of three additional fonts: Utopia (€), Charter (€), or Garamond (€).

TABLE 42: fontawesome7 Currency Symbols

₳	<code>\faAustralSign</code>	₣	<code>\faFlorinSign</code>	₲	<code>\faPesoSign</code>
฿	<code>\faBahtSign</code>	₵	<code>\faFrancSign</code>	₯	<code>\faRubleSign</code>
৳	<code>\faBangladeshiTakaSign</code>	₶	<code>\faGuaraniSign</code>	₹	<code>\faRupeeSign</code>
₿	<code>\faBitcoinSign</code>	₸	<code>\faHryvniaSign*</code>	₺	<code>\faRupiahSign</code>
₧	<code>\faBrazilianRealSign</code>	₹	<code>\faIndianRupeeSign</code>	₪	<code>\faShekelSign</code>
₮	<code>\faBtc</code>	₴	<code>\faKipSign</code>	£	<code>\faSterlingSign*</code>
¢	<code>\faCediSign</code>	₵	<code>\faLariSign</code>	₮	<code>\faTengeSign*</code>
¢	<code>\faCentSign</code>	₶	<code>\faLiraSign</code>	₺	<code>\faTurkishLiraSign</code>
₯	<code>\faColonSign</code>	₷	<code>\faLitecoinSign</code>	¥	<code>\faViacoin</code>
₧	<code>\faCruzeiroSign</code>	₸	<code>\faManatSign</code>	₩	<code>\faWonSign</code>
\$	<code>\faDollarSign</code>	₹	<code>\faMillSign</code>	¥	<code>\faYenSign</code>
₫	<code>\faDongSign</code>	₺	<code>\faNairaSign</code>		
€	<code>\faEuroSign</code>	₴	<code>\faPesetaSign</code>		

\* In `fontawesome5`, `\faSterlingSign` was called `\faPoundSign`, `\faTengeSign` was called `\faTenge`, and `\faHryvniaSign` was called `\faHryvnia`.

TABLE 43: wasysym Currency Symbols

¢	<code>\cent</code>	¤	<code>\currency</code>	€	<code>\wasyeuro*</code>
---	--------------------	---	------------------------	---	-------------------------

\* `\wasyeuro` is also available as `\euro` unless you specify the `noeuro` package option.

TABLE 44: GfA2e Currency Symbols

€	<code>\Euro</code>	£	<code>\Pound</code>
---	--------------------	---	---------------------

TABLE 45: teubner Currency Symbols

✕	<code>\denarius</code>	c	<code>\hemiobellion</code>	o	<code>\tetartemorion</code>
⊢	<code>\dracma</code>	℥	<code>\stater</code>		

TABLE 46: tfruppee Currency Symbols

₹	<code>\rupee</code>
---	---------------------

TABLE 47: lucide-icons Currency Symbols

ℳ	<code>\lucideicon{currency}</code>	₱	<code>\lucideicon{philippine-peso}</code>
\$	<code>\lucideicon{dollar-sign}</code>	£	<code>\lucideicon{pound-sterling}</code>
€	<code>\lucideicon{euro}</code>	₽	<code>\lucideicon{russian-ruble}</code>
₾	<code>\lucideicon{georgian-lari}</code>	﷼	<code>\lucideicon{saudi-riyal}</code>
₹	<code>\lucideicon{indian-rupee}</code>	₣	<code>\lucideicon{swiss-franc}</code>
¥	<code>\lucideicon{japanese-yen}</code>	₺	<code>\lucideicon{turkish-lira}</code>

See the lucide-icons package note on page 454.

TABLE 48: eurosym Euro Signs









€	<code>\geneuro</code>	€	<code>\geneuronarrow</code>	€	<code>\geneurowide</code>	€	<code>\officialeguro</code>
---	-----------------------	---	-----------------------------	---	---------------------------	---	-----------------------------

`\euro` is automatically mapped to one of the above—by default, `\officialeguro`—based on a eurosym package option. See the eurosym documentation for more information. The `\geneuro_` characters are generated from the current body font’s “C” character and therefore may not appear exactly as shown.

TABLE 49: fourier Euro Signs

€	<code>\eurologo</code>	€	<code>\texteuro</code>
---	------------------------	---	------------------------

TABLE 50: textcomp Legal Symbols

	<code>\textcircledP</code>			<code>\textcopyright</code>		<code>\textservicemark</code>
	<code>\textcircledC</code>			<code>\textregistered</code>		<code>\texttrademark</code>

The first symbol column represents the—sometimes “faked”—symbol that L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> provides by default. The second symbol column represents the symbol as redefined by `textcomp`. The `textcomp` package is generally required to typeset Table 50’s symbols in *italic*.






See <https://www.texfaq.org/FAQ-tradesyms.html> for solutions to common problems that occur when using these symbols (e.g., getting a “” when you expected to get a “”).

TABLE 51: twemojis Legal Symbols

	<code>\twemoji{copyright}</code>
	<code>\twemoji{registered}</code>
	<code>\twemoji{trade mark}</code>

See the `twemojis` package note on page 460.

TABLE 52: fontawesome7 Legal Symbols

























	<code>\faCopyright</code>		<code>\faCreativeCommonsRemix</code>
	<code>\faCopyright[regular]</code>		<code>\faCreativeCommonsSa</code>
	<code>\faCreativeCommons</code>		<code>\faCreativeCommonsSampling</code>
	<code>\faCreativeCommonsBy</code>		<code>\faCreativeCommonsSamplingPlus</code>
	<code>\faCreativeCommonsNc</code>		<code>\faCreativeCommonsShare</code>
	<code>\faCreativeCommonsNcEu</code>		<code>\faCreativeCommonsZero</code>
	<code>\faCreativeCommonsNcJp</code>		<code>\faRegistered</code>
	<code>\faCreativeCommonsNd</code>		<code>\faRegistered[regular]</code>
	<code>\faCreativeCommonsPd</code>		<code>\faTrademark</code>
	<code>\faCreativeCommonsPdAlt</code>		

TABLE 53: lucide-icons Legal Symbols

	<code>\lucideicon{copyleft}</code>		<code>\lucideicon{creative-commons}</code>
	<code>\lucideicon{copyright}</code>		














See the `lucide-icons` package note on page 454.

TABLE 54: ccllicenses Creative Commons License Icons

	<code>\cc</code>		<code>\ccnc*</code>		<code>\ccsa*</code>
	<code>\ccby</code>		<code>\ccnd</code>		

\* These symbols utilize the `rotating` package and therefore display improperly in some DVI viewers.

TABLE 55: ccicons Creative Commons License Icons

	<code>\ccAttribution</code>		<code>\ccNonCommercialEU</code>		<code>\ccShare</code>
	<code>\ccCopy</code>		<code>\ccNonCommercialJP</code>		<code>\ccShareAlike</code>
	<code>\ccLogo</code>		<code>\ccPublicDomain</code>		<code>\ccZero</code>
	<code>\ccNoDerivatives</code>		<code>\ccRemix</code>		
	<code>\ccNonCommercial</code>		<code>\ccSampling</code>		

See the `ccicons` package note on page 451.

TABLE 56: textcomp Old-style Numerals

0	<code>\textzerooldstyle</code>	4	<code>\textfouroldstyle</code>	8	<code>\texteightoldstyle</code>
1	<code>\textoneoldstyle</code>	5	<code>\textfiveoldstyle</code>	9	<code>\textnineoldstyle</code>
2	<code>\texttwooldstyle</code>	6	<code>\textsixoldstyle</code>		
3	<code>\textthreeoldstyle</code>	7	<code>\textsevenoldstyle</code>		

Rather than use the bulky `\textoneoldstyle`, `\texttwooldstyle`, etc. commands shown above, consider using `\oldstylenums{...}` to typeset an old-style number.

TABLE 57: Miscellaneous textcomp Symbols

<code>\b</code>	<code>\textblank</code>	<code>\P</code>	<code>\textpilcrow</code>
<code> </code>	<code>\textbrokenbar</code>	<code>'</code>	<code>\textquotesingle</code>
<code>=</code>	<code>\textdblhyphen</code>	<code>,</code>	<code>\textquotestraightbase</code>
<code>=</code>	<code>\textdblhyphenchar</code>	<code>"</code>	<code>\textquotestraightdblbase</code>
<code>%</code>	<code>\textdiscount</code>	<code>R</code>	<code>\textrecipe</code>
<code>e</code>	<code>\textestimated</code>	<code>*</code>	<code>\textreferencemark</code>
<code>?</code>	<code>\textinterrobang</code>	<code>—</code>	<code>\textthreequartersemdash</code>
<code>‡</code>	<code>\textinterrobangdown</code>	<code>~</code>	<code>\texttildelow</code>
<code>N<sup>o</sup></code>	<code>\textnumero</code>	<code>—</code>	<code>\texttwelveudash</code>
<code>o</code>	<code>\textopenbullet</code>		



TABLE 58: Miscellaneous wasysym Text-mode Symbols

f \longs    % \permil    § \wasyparagraph\*

\* wasysym defines \Paragraph as a synonym for \wasyparagraph.

TABLE 59: fontawesome7 Decorative Letters

<b>A</b> \faA	<b>E</b> \faE	<b>I</b> \faI	<b>M</b> \faM	<b>Q</b> \faQ	<b>U</b> \faU	<b>Y</b> \faY
<b>B</b> \faB	<b>F</b> \faF	<b>J</b> \faJ	<b>N</b> \faN	<b>R</b> \faR	<b>V</b> \faV	<b>Z</b> \faZ
<b>C</b> \faC	<b>G</b> \faG	<b>K</b> \faK	<b>O</b> \faO	<b>S</b> \faS	<b>W</b> \faW	
<b>D</b> \faD	<b>H</b> \faH	<b>L</b> \faL	<b>P</b> \faP	<b>T</b> \faT	<b>X</b> \faX	

TABLE 60: twemojis Decorative Letters

<b>A</b> \twemoji{1f1e6}	<b>H</b> \twemoji{1f1ed}	<b>O</b> \twemoji{1f1f4}	<b>V</b> \twemoji{1f1fb}
<b>B</b> \twemoji{1f1e7}	<b>I</b> \twemoji{1f1ee}	<b>P</b> \twemoji{1f1f5}	<b>W</b> \twemoji{1f1fc}
<b>C</b> \twemoji{1f1e8}	<b>J</b> \twemoji{1f1ef}	<b>Q</b> \twemoji{1f1f6}	<b>X</b> \twemoji{1f1fd}
<b>D</b> \twemoji{1f1e9}	<b>K</b> \twemoji{1f1f0}	<b>R</b> \twemoji{1f1f7}	<b>Y</b> \twemoji{1f1fe}
<b>E</b> \twemoji{1f1ea}	<b>L</b> \twemoji{1f1f1}	<b>S</b> \twemoji{1f1f8}	<b>Z</b> \twemoji{1f1ff}
<b>F</b> \twemoji{1f1eb}	<b>M</b> \twemoji{1f1f2}	<b>T</b> \twemoji{1f1f9}	
<b>G</b> \twemoji{1f1ec}	<b>N</b> \twemoji{1f1f3}	<b>U</b> \twemoji{1f1fa}	

See the twemojis package note on page 460.

TABLE 61: twemojis Decorative Numbers

<b>0</b> \twemoji{keycap: 0}	<b>4</b> \twemoji{keycap: 4}	<b>8</b> \twemoji{keycap: 8}
<b>1</b> \twemoji{keycap: 1}	<b>5</b> \twemoji{keycap: 5}	<b>9</b> \twemoji{keycap: 9}
<b>2</b> \twemoji{keycap: 2}	<b>6</b> \twemoji{keycap: 6}	<b>10</b> \twemoji{keycap: 10}
<b>3</b> \twemoji{keycap: 3}	<b>7</b> \twemoji{keycap: 7}	

See the twemojis package note on page 460.

## Chapter 3

# Mathematical symbols

Most, but not all, of the symbols in this chapter are math-mode only. That is, they yield a “Missing \$ inserted” error message if not used within `$. . . $`, `\[. . . \]`, or another math-mode environment. Operators marked as “variable-sized” are taller in displayed formulas, shorter in in-text formulas, and possibly shorter still when used in various levels of superscripts and subscripts.

Stylized letters such as “ $\mathcal{L}$ ” and “ $\mathbb{Z}$ ” are usually produced using one of the math alphabets in Table 416 rather than with an explicit symbol command. Look there first if you need a symbol for a transform, number set, or some other alphanumeric.

Although there have been many requests on `comp.text.tex` for a contradiction symbol, the ensuing discussion invariably reveals innumerable ways to represent contradiction in a proof, including “ $\blacksquare$ ” (`\blitza`), “ $\Rightarrow\Leftarrow$ ” (`\Rightarrow\Leftarrow`), “ $\perp$ ” (`\bot`), “ $\leftrightarrow$ ” (`\nletrightarrow`), and “ $\text{\textcircled{X}}$ ” (`\textcircled{X}`). Because of the lack of notational consensus, it is probably better to spell out “Contradiction!” than to use a symbol for this purpose. Similarly, discussions on `comp.text.tex` have revealed that there are a variety of ways to indicate the mathematical notion of “is defined as”. Common candidates include “ $\triangleq$ ” (`\triangleq`), “ $\equiv$ ” (`\equiv`), “ $\coloneqq$ ” (`\coloneqq`), and “ $\stackrel{\text{def}}{=}$ ” (`\stackrel{\text{def}}{=}`). See also the example of `\equalsfill` on page 469. Depending upon the context, disjoint union may be represented as “ $\coprod$ ” (`\coprod`), “ $\sqcup$ ” (`\sqcup`), “ $\dot{\cup}$ ” (`\dotcup`), “ $\oplus$ ” (`\oplus`), “ $\amalg$ ” (`\amalg`), or any of a number of other symbols.<sup>2</sup> Finally, the average value of a variable  $x$  is written by some people as “ $\overline{x}$ ” (`\overline{x}`), by some people as “ $\langle x \rangle$ ” (`\langle x \rangle`), and by some people as “ $\varnothing x$ ” or “ $\emptyset x$ ” (`\diameter x` or `\varnothing x`). The moral of the story is that you should be careful always to explain your notation to avoid confusing your readers.

TABLE 62: Math-mode Versions of Text Symbols

\$	<code>\mathdollar</code>	¶	<code>\mathparagraph</code>	£	<code>\mathsterling</code>
...	<code>\mathellipsis</code>	§	<code>\mathsection</code>	-	<code>\mathunderscore</code>

It’s generally preferable to use the corresponding symbol from Table 3 on page 23 because the symbols in that table work properly in both text mode and math mode.

<sup>1</sup>In `txfonts`, `pxfonts`, and `mathtools` the symbol is called `\coloneqq`. In `mathabx` and `MnSymbol` it’s called `\coloneq`. In `colonequals` it’s called `\colonequals`.

<sup>2</sup>Bob Tennent listed these and other disjoint-union symbol possibilities in a November 2007 post to `comp.text.tex`.

TABLE 63: logix Math-mode Versions of Text Symbols

&	\AAnd	©	\Cpyrght	!	\Exclaim	;	\Semicln
&	\Ampersand	†	\Dagger	\	\LeftSlash	'	\SingleQuote
@	\At	‡	\Daggerr		\LngVrtBar	~	\Tild
`	\BackQuote	††	\Ddagger	#	\Numbr	'''	\TripleQuote
	\BndBar	‡‡	\Ddaggerr	%	\Percnt	_	\Underscore
^	\Circumflex	\$	\Dollar	?	\Queston		
,	\Coma	"	\DoubleQuote	/	\RightSlash		

See the logix package note on page 454.

TABLE 64: logix Basic Operators

*	\Asterick	⊕	\CircMinusPlus	÷	\Divd	-	\Minus
⊗	\CircAsterick	⊕	\CircPls	/	\Divide	⊖	\MinusPlus
⊘	\CircDivd	⊕	\CircPlusMinus	÷	\DMinus	+	\Pls
⊙	\CircDivide	⊗	\CircTimes	+	\DPlus	±	\PlusMinus
⊖	\CircMinus	*	\DAsterisk	×	\DTimes	×	\Times

See the logix package note on page 454.

TABLE 65: utfsym Basic Operators

×	\usym{2715}	<i>multiplication X</i>	÷	\usym{2797}	<i>heavy division sign</i>
✖	\usym{2716}	<i>heavy multiplication X</i>	—	\usym{2796}	<i>heavy minus sign</i>
+	\usym{2795}	<i>heavy plus sign</i>			

See the utfsym package note on page 461.

TABLE 66: twemojis Basic Operators

÷	\twemoji{divide}	×	\twemoji{multiply}
=	\twemoji{heavy equals sign}	+	\twemoji{plus}
-	\twemoji{minus}		

See the twemojis package note on page 460.

TABLE 67: cml1 Unary Operators

!	\oc*	↑	\shneg	?	\wn*
↕	\shift	↓	\shpos		

\* \oc and \wn differ from “!” and “?” in terms of their math-mode spacing:  $\$A=!B\$$  produces “ $A =!B$ ”, for example, while  $\$A=\oc B\$$  produces “ $A =!B$ ”.

TABLE 68: Binary Operators

$\amalg$	<code>\amalg</code>	$\cup$	<code>\cup</code>	$\oplus$	<code>\oplus</code>	$\times$	<code>\times</code>
$\ast$	<code>\ast</code>	$\dagger$	<code>\dagger</code>	$\oslash$	<code>\oslash</code>	$\triangleleft$	<code>\triangleleft</code>
$\bigcirc$	<code>\bigcirc</code>	$\ddagger$	<code>\ddagger</code>	$\otimes$	<code>\otimes</code>	$\triangleright$	<code>\triangleright</code>
$\bigtriangledown$	<code>\bigtriangledown</code>	$\diamond$	<code>\diamond</code>	$\pm$	<code>\pm</code>	$\triangleleft^*$	<code>\unlhd^*</code>
$\bigtriangleup$	<code>\bigtriangleup</code>	$\div$	<code>\div</code>	$\triangleright$	<code>\rhd^*</code>	$\triangleright^*$	<code>\unrhd^*</code>
$\bullet$	<code>\bullet</code>	$\triangleleft$	<code>\lhd^*</code>	$\backslash$	<code>\setminus</code>	$\uplus$	<code>\uplus</code>
$\cap$	<code>\cap</code>	$\mp$	<code>\mp</code>	$\sqcap$	<code>\sqcap</code>	$\vee$	<code>\vee</code>
$\cdot$	<code>\cdot</code>	$\odot$	<code>\odot</code>	$\sqcup$	<code>\sqcup</code>	$\wedge$	<code>\wedge</code>
$\circ$	<code>\circ</code>	$\ominus$	<code>\ominus</code>	$\star$	<code>\star</code>	$\wr$	<code>\wr</code>

\* Not predefined by the  $\text{\LaTeX} 2_{\epsilon}$  core. Use the `latexsym` package to expose this symbol.

TABLE 69:  $\mathcal{AMS}$  Binary Operators

$\bar{\wedge}$	<code>\barwedge</code>	$\odot$	<code>\circledcirc</code>	$\intercal$	<code>\intercal^*</code>
$\boxdot$	<code>\boxdot</code>	$\ominus$	<code>\circleddash</code>	$\leftthreetimes$	<code>\leftthreetimes</code>
$\boxminus$	<code>\boxminus</code>	$\cup$	<code>\Cup</code>	$\ltimes$	<code>\ltimes</code>
$\boxplus$	<code>\boxplus</code>	$\curlyvee$	<code>\curlyvee</code>	$\rightthreetimes$	<code>\rightthreetimes</code>
$\boxtimes$	<code>\boxtimes</code>	$\curlywedge$	<code>\curlywedge</code>	$\rtimes$	<code>\rtimes</code>
$\Cap$	<code>\Cap</code>	$\divideontimes$	<code>\divideontimes</code>	$\smallsetminus$	<code>\smallsetminus</code>
$\centerdot$	<code>\centerdot</code>	$\dotplus$	<code>\dotplus</code>	$\veebar$	<code>\veebar</code>
$\circledast$	<code>\circledast</code>	$\overline{\wedge}$	<code>\doublebarwedge</code>		

\* Some people use a superscripted `\intercal` for matrix transpose: “ $A^{\intercal}$ ”  $\mapsto$  “ $A^{\intercal}$ ”. (See the May 2009 `comp.text.tex` thread, “raising math symbols”, for suggestions about altering the height of the superscript.) `\top` (Table 282 on page 129), `T`, and `\mathsf{T}` are other popular choices: “ $A^{\top}$ ”, “ $A^T$ ”, “ $A^{\mathsf{T}}$ ”.

TABLE 70: stmaryrd Binary Operators

$\Phi$	<code>\baro</code>	$\parallel$	<code>\interleave</code>	$\otimes$	<code>\varoast</code>
$\backslash$	<code>\bbslash</code>	$\triangleleft$	<code>\leftslice</code>	$\oplus$	<code>\varobar</code>
$\&$	<code>\binampersand</code>	$\M$	<code>\merge</code>	$\oslash$	<code>\varobslash</code>
$\wp$	<code>\bindnasrepma</code>	$\ominus$	<code>\minuso</code>	$\odot$	<code>\varocircle</code>
$\boxast$	<code>\boxast</code>	$\pm$	<code>\moo</code>	$\odot$	<code>\varodot</code>
$\boxbar$	<code>\boxbar</code>	$\oplus$	<code>\nplus</code>	$\oslash$	<code>\varogreaterthan</code>
$\boxbox$	<code>\boxbox</code>	$\oplus$	<code>\obar</code>	$\oslash$	<code>\varolessthan</code>
$\boxbslash$	<code>\boxbslash</code>	$\square$	<code>\oblong</code>	$\ominus$	<code>\varominus</code>
$\boxcircle$	<code>\boxcircle</code>	$\oslash$	<code>\obslash</code>	$\oplus$	<code>\varoplus</code>
$\boxdot$	<code>\boxdot</code>	$\oslash$	<code>\ogreaterthan</code>	$\oslash$	<code>\varoslash</code>
$\boxempty$	<code>\boxempty</code>	$\oslash$	<code>\olessthan</code>	$\otimes$	<code>\varotimes</code>
$\boxslash$	<code>\boxslash</code>	$\oslash$	<code>\ovee</code>	$\oslash$	<code>\varovee</code>
$\curlyveedownarrow$	<code>\curlyveedownarrow</code>	$\oslash$	<code>\owedge</code>	$\oslash$	<code>\varowedge</code>
$\curlyveeuparrow$	<code>\curlyveeuparrow</code>	$\triangleright$	<code>\rightslice</code>	$\times$	<code>\vartimes</code>
$\curlywedgedownarrow$	<code>\curlywedgedownarrow</code>	$//$	<code>\sslash</code>	$\Uparrow$	<code>\Ydown</code>
$\curlywedgeuparrow$	<code>\curlywedgeuparrow</code>	$\parallel$	<code>\talloblong</code>	$\Leftarrow$	<code>\Yleft</code>
$\fatbslash$	<code>\fatbslash</code>	$\bigcirc$	<code>\varbigcirc</code>	$\rightarrow$	<code>\Yright</code>
$\fatsemi$	<code>\fatsemi</code>	$\Uparrow$	<code>\varcurlyvee</code>	$\Uparrow$	<code>\Yup</code>
$\fatslash$	<code>\fatslash</code>	$\curlywedge$	<code>\varcurlywedge</code>		

TABLE 71: wasysym Binary Operators

$\triangleleft$	<code>\lhd</code>	$\bigcirc$	<code>\ocircle</code>	$\blacktriangleright$	<code>\RHD</code>	$\triangleright$	<code>\unrhd</code>
$\blacktriangleleft$	<code>\LHD</code>	$\triangleright$	<code>\rhd</code>	$\trianglelefteq$	<code>\unlhd</code>		

TABLE 72: txfonts/pxfonts Binary Operators

$\oplus$	<code>\circledbar</code>	$\oslash$	<code>\circledwedge</code>	$\bigcirc$	<code>\medcirc</code>
$\oslash$	<code>\circledbslash</code>	$\wp$	<code>\invamp</code>	$\boxplus$	<code>\sqcapplus</code>
$\oslash$	<code>\circledvee</code>	$\bullet$	<code>\medbullet</code>	$\boxplus$	<code>\sqcupplus</code>

TABLE 73: mathabx Binary Operators

*	\ast	^	\curlywedge	□	\sqcap
*	\Asterisk	÷	\divdot	□	\sqcup
⋈	\barwedge	*	\divideontimes	▢	\sqdoublecap
★	\bigstar	÷	\dotdiv	▢	\sqdoublecup
★	\bigvarstar	+	\dotplus	□	\square
◆	\blackdiamond	×	\dottimes	⊕	\squplus
∩	\cap	⋈	\doublebarwedge	·	\udot
⊕	\circplus	⊔	\doublecap	⊕	\uplus
*	\coasterisk	⊔	\doublecup	*	\varstar
⌘	\coAsterisk	×	\ltimes	∨	\vee
*	\convolution	⊕	\pluscirc	⋈	\veebar
∪	\cup	×	\rtimes	⋈	\veedoublebar
∨	\curlyvee	■	\sqbullet	^	\wedge

Many of the preceding glyphs go by multiple names. `\centerdot` is equivalent to `\sqbullet`, and `\ast` is equivalent to `*`. `\asterisk` produces the same glyph as `\ast`, but as an ordinary symbol, not a binary operator. Similarly, `\bigast` produces a large-operator version of the `\Asterisk` binary operator, and `\bigcoast` produces a large-operator version of the `\coAsterisk` binary operator.

TABLE 74: MnSymbol Binary Operators

⊔	\amalg	▢	\doublesqcup	∴	\righttherefore
*	\ast	⋈	\doublevee	×	\rightthreetimes
⋈	\backslashslashdiv	⋈	\doublewedge	⋈	\rightY
⋈	\bowtie	∴	\downtherefore	×	\rtimes
•	\bullet	∨	\downY	⋈	\slashdiv
∩	\cap	×	\dimes	Π	\smallprod
∩	\capdot	∴	\fivedots	□	\sqcap
⊕	\capplus	∞	\hbipropto	□	\sqcapdot
·	\cdot	∴	\hdotdot	⊕	\sqcapplus
○	\circ	⌈	\lefthalfcap	□	\sqcup
∨	\closedcurlyvee	⌊	\lefthalfcup	⊔	\sqcupdot
^	\closedcurlywedge	∴	\lefttherefore	⊕	\sqcupplus
∪	\cup	×	\leftthreetimes	∴	\squaredots
∪	\cupdot	⋈	\leftY	×	\times
⊕	\cupplus	×	\ltimes	·	\udotdot
∨	\curlyvee	⋈	\medbackslash	∴	\uptherefore
∨	\curlyveedot	○	\medcircle	⋈	\upY
^	\curlywedge	⋈	\medslash	×	\utimes

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$\curlywedge$	<code>\curlywedgedot</code>	$\mid$	<code>\medvert</code>	$\S$	<code>\vbipropto</code>
$\ddot{\cdot}$	<code>\ddotdotdot</code>	$\vdash$	<code>\medvertdot</code>	$:$	<code>\vdotdot</code>
$\diamond$	<code>\diamonddots</code>	$-$	<code>\minus</code>	$\vee$	<code>\vee</code>
$\div$	<code>\div</code>	$\dot{-}$	<code>\minusdot</code>	$\vee\dot{\cdot}$	<code>\veedot</code>
$\dot{\mid}$	<code>\dotmedvert</code>	$\mp$	<code>\mp</code>	$\bowtie$	<code>\vertbowtie</code>
$\dot{-}$	<code>\dotminus</code>	$\wp$	<code>\neswbipropto</code>	$\vdash$	<code>\vertdiv</code>
$\cap$	<code>\doublecap</code>	$\wp$	<code>\nwsebipropto</code>	$\wedge$	<code>\wedge</code>
$\cup$	<code>\doublecup</code>	$+$	<code>\plus</code>	$\wedge\dot{\cdot}$	<code>\wedgedot</code>
$\curlyvee$	<code>\doublecurlyvee</code>	$\pm$	<code>\pm</code>	$\wr$	<code>\wreath</code>
$\curlywedge$	<code>\doublecurlywedge</code>	$\lrcorner$	<code>\righthalfcap</code>		
$\sqcap$	<code>\doublesqcap</code>	$\lrcorner$	<code>\righthalfcup</code>		

MnSymbol defines `\setminus` and `\smallsetminus` as synonyms for `\medbackslash`; `\Join` as a synonym for `\bowtie`; `\wr` as a synonym for `\wreath`; `\shortmid` as a synonym for `\medvert`; `\Cap` as a synonym for `\doublecap`; `\Cup` as a synonym for `\doublecup`; and, `\uplus` as a synonym for `\cupplus`.

TABLE 76: FdSymbol Binary Operators

$\amalg$	<code>\amalg</code>	$\sqcup$	<code>\doublesqcup</code>	$\succ$	<code>\rightY</code>
$*$	<code>\ast</code>	$\vee$	<code>\doublevee</code>	$\rtimes$	<code>\rtimes</code>
$\bar{\wedge}$	<code>\barwedge</code>	$\wedge$	<code>\doublewedge</code>	$\setminus$	<code>\setminus</code>
$\bowtie$	<code>\bowtie</code>	$\downarrow$	<code>\downY</code>	$\sqcap$	<code>\sqcap</code>
$\cap$	<code>\cap</code>	$\times$	<code>\dtimes</code>	$\sqcap\dot{\cdot}$	<code>\sqcapdot</code>
$\cap\dot{\cdot}$	<code>\capdot</code>	$\cdots$	<code>\hdotdot</code>	$\sqcap+$	<code>\sqcapplus</code>
$\cap+$	<code>\capplus</code>	$\intercal$	<code>\intercal</code>	$\sqcup$	<code>\sqcup</code>
$\cdot$	<code>\cdot</code>	$\int$	<code>\intprod</code>	$\sqcup\dot{\cdot}$	<code>\sqcupdot</code>
$\centerdot$	<code>\centerdot</code>	$\int^r$	<code>\intprodr</code>	$\sqcup+$	<code>\sqcupplus</code>
$\cup$	<code>\cup</code>	$\leftthreetimes$	<code>\leftthreetimes</code>	$\times$	<code>\times</code>
$\cup\dot{\cdot}$	<code>\cupdot</code>	$\leftY$	<code>\leftY</code>	$\times\bar{\cdot}$	<code>\timesbar</code>
$\cup+$	<code>\cupplus</code>	$\ltimes$	<code>\ltimes</code>	$\ddot{\cdot}$	<code>\udotdot</code>
$\curlyvee$	<code>\curlyvee</code>	$\backslash$	<code>\medbackslash</code>	$\upbowtie$	<code>\upbowtie</code>
$\curlywedge$	<code>\curlywedge</code>	$/$	<code>\medslash</code>	$\upY$	<code>\upY</code>
$\ddot{\cdot}$	<code>\ddotdotdot</code>	$-$	<code>\minus</code>	$\utimes$	<code>\utimes</code>
$\div$	<code>\div</code>	$\dot{-}$	<code>\minusdot</code>	$\amalg$	<code>\varamalg</code>
$\divideontimes$	<code>\divideontimes</code>	$\dot{-}$	<code>\minusfdots</code>	$:$	<code>\vdotdot</code>
$/$	<code>\divslash</code>	$\dot{-}$	<code>\minusrdots</code>	$\vdots$	<code>\vdots</code>
$\dot{-}$	<code>\dotminus</code>	$\mp$	<code>\mp</code>	$\vee$	<code>\vee</code>

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$\dot{+}$	<code>\dotplus</code>	$+$	<code>\plus</code>	$\veebar$	<code>\veebar</code>
$\dot{\times}$	<code>\dottimes</code>	$\dagger$	<code>\plusdot</code>	$\veedot$	<code>\veedot</code>
$\overline{\wedge}$	<code>\doublebarwedge</code>	$\pm$	<code>\pm</code>	$\veedoublebar$	<code>\veedoublebar</code>
$\doublecap$	<code>\doublecap</code>	$\lrcorner$	<code>\pullback</code>	$\wedge$	<code>\wedge</code>
$\doublecup$	<code>\doublecup</code>	$\lhd$	<code>\pushout</code>	$\wedgedot$	<code>\wedgedot</code>
$\doublesqcap$	<code>\doublesqcap</code>	$\ltimes$	<code>\rightthreetimes</code>	$\wr$	<code>\wreath</code>

FdSymbol defines `\btimes` as a synonym for `\dtimes`; `\Cap` as a synonym for `\doublecap`; `\Cup` as a synonym for `\doublecup`; `\hookupminus` as a synonym for `\intprodr`; `\hourglass` as a synonym for `\upbowtie`; `\land` as a synonym for `\wedge`; `\lor` as a synonym for `\vee`; `\minushookup` as a synonym for `\intprod`; `\smalldivslash` as a synonym for `\medslash`; `\smallsetminus` as a synonym for `\medbackslash`; `\Sqcap` as a synonym for `\doublesqcap`; `\Sqcup` as a synonym for `\doublesqcup`; `\ttimes` as a synonym for `\utimes`; `\lJoin` as a synonym for `\ltimes`; `\rJoin` as a synonym for `\rtimes`; `\Join` and `\lrtimes` as synonyms for `\bowtie`; `\uplus` as a synonym for `\cupplus`; `\veeonvee` as a synonym for `\doublevee`; `\wedgeonwedge` as a synonym for `\doublewedge`; and `\wr` as a synonym for `\wreath`).

TABLE 78: boisik Binary Operators

$*$	<code>\ast</code>	$\dot{\times}$	<code>\dottimes</code>	$\rtimes$	<code>\rtimesblack</code>
$\phi$	<code>\baro</code>	$\overline{\wedge}$	<code>\doublebarwedge</code>	$\smallsetminus$	<code>\smallsetminus</code>
$\overline{\wedge}$	<code>\barwedge</code>	$;$	<code>\fatsemi</code>	$\rtimes$	<code>\rtimesblack</code>
$\parallel$	<code>\bbslash</code>	$>$	<code>\gtrdot</code>	$\sqplus$	<code>\sqplus</code>
$\&$	<code>\binampersand</code>	$\top$	<code>\intercal</code>	$\sslash$	<code>\sslash</code>
$\bowtie$	<code>\bindnasrepma</code>	$\wr$	<code>\lbag</code>	$\times$	<code>\times</code>
$\blackbowtie$	<code>\blackbowtie</code>	$\blackbowtie$	<code>\lblackbowtie</code>	$\uplus$	<code>\uplus</code>
$\bowtie$	<code>\bowtie</code>	$\leftthreetimes$	<code>\leftthreetimes</code>	$\varcap$	<code>\varcap</code>
$\cap$	<code>\cap</code>	$\leftthreetimes$	<code>\leftthreetimes</code>	$\varcup$	<code>\varcup</code>
$\Cap$	<code>\Cap</code>	$\lessdot$	<code>\lessdot</code>	$\varintercal$	<code>\varintercal</code>
$\cdot$	<code>\cdot</code>	$\ltimes$	<code>\ltimes</code>	$\varsqcap$	<code>\varsqcap</code>
$\centerdot$	<code>\centerdot</code>	$\ltimesblack$	<code>\ltimesblack</code>	$\varsqcup$	<code>\varsqcup</code>
$\circplus$	<code>\circplus</code>	$\merge$	<code>\merge</code>	$\vartimes$	<code>\vartimes</code>
$\coAsterisk$	<code>\coAsterisk</code>	$\minuso$	<code>\minuso</code>	$\vee$	<code>\vee</code>
$\convolution$	<code>\convolution</code>	$\moo$	<code>\moo</code>	$\veebar$	<code>\veebar</code>
$\cup$	<code>\cup</code>	$\mp$	<code>\mp</code>	$\veedot$	<code>\veedot</code>
$\Cup$	<code>\Cup</code>	$\nplus$	<code>\nplus</code>	$\veedoublebar$	<code>\veedoublebar</code>
$\cupleftarrow$	<code>\cupleftarrow</code>	$\pluscirc$	<code>\pluscirc</code>	$\wedge$	<code>\wedge</code>

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$\curlyvee$	<code>\curlyvee</code>	$\pm$	<code>\plustrif</code>	$\wedge$	<code>\Wedge</code>
$\curlywedge$	<code>\curlywedge</code>	$\pm$	<code>\pm</code>	$\Uparrow$	<code>\Ydown</code>
$\dagger$	<code>\dagger</code>	$\int$	<code>\rbag</code>	$\leftarrow$	<code>\Yleft</code>
$\ddagger$	<code>\ddagger</code>	$\bowtie$	<code>\rblackbowtie</code>	$\rightarrow$	<code>\Yright</code>
$\div$	<code>\div</code>	$\triangleright$	<code>\rightslice</code>	$\Uparrow$	<code>\Yup</code>
$\divideontimes$	<code>\divideontimes</code>	$\nearrow$	<code>\rightthreetimes</code>		
$\dotplus$	<code>\dotplus</code>	$\rtimes$	<code>\rtimes</code>		

TABLE 80: stix Binary Operators

$\amalg$	<code>\amalg</code>	$\; ;$	<code>\fcmp</code>	$\sqcup$	<code>\sqcup</code>
$\ast$	<code>\ast</code>	$\; /$	<code>\frac{1}{2}</code>	$\sqcup$	<code>\Sqcup</code>
$\bar{\cap}$	<code>\bar{\cap}</code>	$\intercal$	<code>\intercal</code>	$\ss$	<code>\ss</code>
$\bar{\cup}$	<code>\bar{\cup}</code>	$\interleave$	<code>\interleave</code>	$\vdots$	<code>\threedotcolon</code>
$\bar{\vee}$	<code>\bar{\vee}</code>	$\intprod$	<code>\intprod</code>	$\times$	<code>\times</code>
$\bar{\wedge}$	<code>\bar{\wedge}</code>	$\intprodr$	<code>\intprodr</code>	$\times$	<code>\timesbar</code>
$\bigvee$	<code>\bigvee</code>	$\invlazys$	<code>\invlazys</code>	$-$	<code>\tminus</code>
$\bigwedge$	<code>\bigwedge</code>	$\leftthreetimes$	<code>\leftthreetimes</code>	$+$	<code>\tplus</code>
$\btimes$	<code>\btimes</code>	$\llhd$	<code>\llhd</code>	$\#$	<code>\tripleplus</code>
$\cap$	<code>\cap</code>	$\ltimes$	<code>\ltimes</code>	$\parallel$	<code>\trslash</code>
$\Cap$	<code>\Cap</code>	$\midbarvee$	<code>\midbarvee</code>	$\cap$	<code>\twocaps</code>
$\capbarcup$	<code>\capbarcup</code>	$\midbarwedge$	<code>\midbarwedge</code>	$\cup$	<code>\twocups</code>
$\capdot$	<code>\capdot</code>	$\minusdot$	<code>\minusdot</code>	$\colon$	<code>\typecolon</code>
$\capovercup$	<code>\capovercup</code>	$\minusfdots$	<code>\minusfdots</code>	$\ominus$	<code>\uminus</code>
$\capwedge$	<code>\capwedge</code>	$\minusrdots$	<code>\minusrdots</code>	$\triangleleft$	<code>\unlhd</code>
$\closedvarcap$	<code>\closedvarcap</code>	$\mp$	<code>\mp</code>	$\triangleright$	<code>\unrhd</code>
$\closedvarcup$	<code>\closedvarcup</code>	$\nhVvert$	<code>\nhVvert</code>	$\upand$	<code>\upand</code>
$\closedvarcupsmashprod$	<code>\closedvarcupsmashprod</code>	$\opluslhrim$	<code>\opluslhrim</code>	$\uplus$	<code>\uplus</code>
$\commaminus$	<code>\commaminus</code>	$\oplusrhrim$	<code>\oplusrhrim</code>	$\varbarwedge$	<code>\varbarwedge</code>
$\cup$	<code>\cup</code>	$\otimeslhrim$	<code>\otimeslhrim</code>	$\vardoublebarwedge$	<code>\vardoublebarwedge</code>
$\Cup$	<code>\Cup</code>	$\otimesrhrim$	<code>\otimesrhrim</code>	$\varveebar$	<code>\varveebar</code>
$\cupbarcap$	<code>\cupbarcap</code>	$\plusdot$	<code>\plusdot</code>	$\times$	<code>\vectimes</code>
$\cupdot$	<code>\cupdot</code>	$\pluseqq$	<code>\pluseqq</code>	$\vee$	<code>\Vee</code>
$\cupleftarrow$	<code>\cupleftarrow</code>	$\plushat$	<code>\plushat</code>	$\vee$	<code>\vee</code>
$\cupovercap$	<code>\cupovercap</code>	$\plussim$	<code>\plussim</code>	$\veebar$	<code>\veebar</code>
$\cupvee$	<code>\cupvee</code>	$\plussubtwo$	<code>\plussubtwo</code>	$\veedot$	<code>\veedot</code>
$\curlyvee$	<code>\curlyvee</code>	$\plustrif$	<code>\plustrif</code>	$\veedoublebar$	<code>\veedoublebar</code>

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$\curlywedge$	<code>\curlywedge</code>	$\pm$	<code>\pm</code>	$\vee$	<code>\veemidvert</code>
$\dagger$	<code>\dagger</code>	$\rhd$	<code>\rhd</code>	$\veeodot$	<code>\veeodot</code>
$\ddagger$	<code>\ddagger</code>	$\rightthreetimes$	<code>\rightthreetimes</code>	$\veeonvee$	<code>\veeonvee</code>
$\div$	<code>\div</code>	$\ringplus$	<code>\ringplus</code>	$\Wedge$	<code>\Wedge</code>
$\divideontimes$	<code>\divideontimes</code>	$\rsolbar$	<code>\rsolbar</code>	$\wedge$	<code>\wedge</code>
$\dotminus$	<code>\dotminus</code>	$\rtimes$	<code>\rtimes</code>	$\wedgedot$	<code>\wedgedot</code>
$\dotplus$	<code>\dotplus</code>	$\setminus$	<code>\setminus</code>	$\wedgedoublebar$	<code>\wedgedoublebar</code>
$\dottimes$	<code>\dottimes</code>	$\shuffle$	<code>\shuffle</code>	$\wedgemidvert$	<code>\wedgemidvert</code>
$\doublebarvee$	<code>\doublebarvee</code>	$\simplus$	<code>\simplus</code>	$\wedgedot$	<code>\wedgedot</code>
$\doublebarwedge$	<code>\doublebarwedge</code>	$\smallsetminus$	<code>\smallsetminus</code>	$\wedgonwedge$	<code>\wedgonwedge</code>
$\doubleplus$	<code>\doubleplus</code>	$\smashtimes$	<code>\smashtimes</code>	$\wr$	<code>\wr</code>
$\dsol$	<code>\dsol</code>	$\sqcap$	<code>\sqcap</code>		
$\eqqplus$	<code>\eqqplus</code>	$\sqcap$	<code>\sqcap</code>		

stix defines `\land` as a synonym for `\wedge`, `\lor` as a synonym for `\vee`, `\doublecap` as a synonym for `\Cap`, and `\doublecup` as a synonym for `\Cup`.

TABLE 82: mathdesign Binary Operators

$\times$	<code>\dtimes</code>	$\times$	<code>\udtimes</code>	$\times$	<code>\utimes</code>
----------	----------------------	----------	-----------------------	----------	----------------------

The `mathdesign` package additionally provides versions of each of the binary operators shown in Table 69.

TABLE 83: pdfMsym Binary Operators

$\circ\wedge$	<code>\circwedge</code>	$\div$	<code>\divs</code>	$\nmid$	<code>\ndivs</code>
$\cup$	<code>\dcup</code>	$\wedge$	<code>\dwedge</code>		

See the `pdfMsym` package note on page 456.

TABLE 84: cml Binary Operators

$\P$	<code>\parr*</code>	$\&$	<code>\with†</code>
------	---------------------	------	---------------------

\* `cml` defines `\invamp` as a synonym for `\parr`.

† `\with` differs from `\&` in terms of its math-mode spacing: `\&` produces “ $A \& B$ ”, for example, while `\with` produces “ $A \& B$ ”.

TABLE 85: shuffle Binary Operators

$\sqcup$	<code>\cshuffle</code>	$\sqcup$	<code>\shuffle</code>
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TABLE 86: resmes Binary Operators

 $\mathbb{L}$     `\resmes`

This symbol notates the restriction of a measure to a set, as in  $\phi \mathbb{L} Y$ .

TABLE 87: logix Logical Operators

$\ominus$	<code>\CircInvNt</code>	$\oplus$	<code>\CircXor</code>	$\overline{\wedge}$	<code>\Nand</code>	$\nabla$	<code>\SbNd</code>
$\otimes$	<code>\CircNand</code>	$\hat{\wedge}$	<code>\Dnd</code>	$\wedge$	<code>\Nd</code>	$\overline{\vee}$	<code>\SbNor</code>
$\oslash$	<code>\CircNd</code>	$\neg$	<code>\Dnt</code>	$\sim$	<code>\Ngt</code>	$\vee$	<code>\SbOr</code>
$\oslash$	<code>\CircNgt</code>	$\dot{\vee}$	<code>\Dor</code>	$\nabla$	<code>\Nor</code>	$\underline{\vee}$	<code>\SbXor</code>
$\oslash$	<code>\CircNor</code>	$\neg$	<code>\InvNt</code>	$\neg$	<code>\Nt</code>	$ $	<code>\Shfr</code>
$\ominus$	<code>\CircNt</code>	$\uparrow$	<code>\Lnand</code>	$\vee$	<code>\Or</code>	$\underline{\vee}$	<code>\Xor</code>
$\oslash$	<code>\CircOr</code>	$\downarrow$	<code>\Lnor</code>	$\overline{\wedge}$	<code>\SbNand</code>		

See the logix package note on page 454.

TABLE 88: ulsy Geometric Binary Operators

 $\oplus$     `\odplus`

TABLE 89: mathabx Geometric Binary Operators

$\blacktriangledown$	<code>\blacktriangledown</code>	$\boxright$	<code>\boxright</code>	$\ominus$	<code>\ominus</code>
$\blacktriangleleft$	<code>\blacktriangleleft</code>	$\boxslash$	<code>\boxslash</code>	$\oplus$	<code>\oplus</code>
$\blacktriangleright$	<code>\blacktriangleright</code>	$\boxtimes$	<code>\boxtimes</code>	$\otimes$	<code>\otimes</code>
$\blacktriangleup$	<code>\blacktriangleup</code>	$\boxtop$	<code>\boxtop</code>	$\oslash$	<code>\oslash</code>
$\boxast$	<code>\boxast</code>	$\boxtriangleup$	<code>\boxtriangleup</code>	$\otimes$	<code>\otimes</code>
$\boxbackslash$	<code>\boxbackslash</code>	$\boxvoid$	<code>\boxvoid</code>	$\oplus$	<code>\otop</code>
$\boxbot$	<code>\boxbot</code>	$\oasterisk$	<code>\oasterisk</code>	$\oslash$	<code>\otriangleup</code>
$\boxcirc$	<code>\boxcirc</code>	$\obackslash$	<code>\obackslash</code>	$\bigcirc$	<code>\ovoid</code>
$\boxcoasterisk$	<code>\boxcoasterisk</code>	$\obot$	<code>\obot</code>	$\nabla$	<code>\smalltriangledown</code>
$\boxdiv$	<code>\boxdiv</code>	$\ocirc$	<code>\ocirc</code>	$\triangleleft$	<code>\smalltriangleleft</code>
$\boxdot$	<code>\boxdot</code>	$\ocoasterisk$	<code>\ocoasterisk</code>	$\triangleright$	<code>\smalltriangleright</code>
$\boxleft$	<code>\boxleft</code>	$\odiv$	<code>\odiv</code>	$\triangle$	<code>\smalltriangleup</code>
$\boxminus$	<code>\boxminus</code>	$\odot$	<code>\odot</code>		
$\boxplus$	<code>\boxplus</code>	$\oleft$	<code>\oleft</code>		

TABLE 90: MnSymbol Geometric Binary Operators

▣	\boxbackslash	▼	\filledmedtriangledown	⊙	\ocirc
▢	\boxbox	◀	\filledmedtriangleleft	⊙	\odot
▣	\boxdot	▶	\filledmedtriangleright	⊖	\ominus
▢	\boxminus	▲	\filledmedtriangleup	⊕	\oplus
⊞	\boxplus	■	\filledsquare	⊗	\oslash
⊟	\boxslash	★	\filledstar	⊗	\ostar
⊠	\boxtimes	▼	\filledtriangledown	⊗	\otimes
▢	\boxvert	◀	\filledtriangleleft	⊗	\otriangle
◊	\diamondbackslash	▶	\filledtriangleright	⊙	\overt
◊	\diamondddiamond	▲	\filledtriangleup	★	\pentagram
◊	\diamondddot	◊	\meddiamond	◊	\smalldiamond
◊	\diamonddminus	□	\medsquare	◻	\smallsquare
⊞	\diamonddplus	☆	\medstar	★	\smallstar
◊	\diamonddslash	▽	\medtriangledown	▽	\smalltriangledown
⊞	\diamonddtimes	◁	\medtriangleleft	◁	\smalltriangleleft
◊	\diamonddvert	▷	\medtriangleright	▷	\smalltriangleright
▽	\downslice	△	\medtriangleup	△	\smalltriangleup
◆	\filleddiamond	⊗	\oast	★	\thinstar
■	\filledmedsquare	⊙	\obackslash	△	\upslice

MnSymbol defines \blacksquare as a synonym for \filledmedsquare; \square and \Box as synonyms for \medsquare; \diamond as a synonym for \smalldiamond; \Diamond as a synonym for \meddiamond; \star as a synonym for \thinstar; \circledast as a synonym for \oast; \circledcirc as a synonym for \ocirc; and, \circleddash as a synonym for \ominus.

TABLE 91: FdSymbol Geometric Binary Operators

▣	\boxbackslash	▼	\medblacktriangledown	⊕	\oplus
▢	\boxbox	◀	\medblacktriangleleft	⊗	\oslash
▣	\boxdot	▶	\medblacktriangleright	⊗	\otimes
▢	\boxminus	▲	\medblacktriangleup	⊙	\overt
⊞	\boxplus	○	\medcircle	●	\smallblackcircle
⊟	\boxslash	◊	\meddiamond	◆	\smallblackdiamond
⊠	\boxtimes	/	\medslash	■	\smallblacksquare
▢	\boxvert	□	\medsquare	★	\smallblackstar
◊	\diamondbackslash	▽	\medtriangledown	▼	\smallblacktriangledown
◊	\diamondddiamond	◁	\medtriangleleft	◀	\smallblacktriangleleft
◊	\diamondddot	▷	\medtriangleright	▶	\smallblacktriangleright
◊	\diamonddminus	△	\medtriangleup	▲	\smallblacktriangleup

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⊕	\diamondplus	☆	\medwhitestar	○	\smallcircle
◇	\diamondslash	⊗	\oast	◇	\smalldiamond
⊗	\diamondtimes	⊘	\obackslash	◻	\smallsquare
⬆	\diamondvert	⊙	\ocirc	▽	\smalltriangledown
●	\medblackcircle	⊖	\odash	◁	\smalltriangleleft
◆	\medblackdiamond	⊙	\odot	▷	\smalltriangleright
■	\medblacksquare	⊖	\oequal	△	\smalltriangleup
★	\medblackstar	⊖	\ominus	☆	\smallwhitestar

FdSymbol defines synonyms for most of the preceding symbols:

◆	\blackdiamond	◇	\diamond	●	\smblkcircle
▲	\blacktriangle	◇	\Diamond	◆	\smblkdiamond
▼	\blacktriangledown	◇	\diamondbslash	■	\smblksquare
◀	\blacktriangleleft	◇	\diamondcdot	☆	\smwhitestar
▶	\blacktriangleright	◆	\mdblkdiamond	○	\smwhtcircle
□	\Box	■	\mdblksquare	◇	\smwhtdiamond
▤	\boxbar	●	\mdlgblkcircle	◻	\smwhtsquare
▨	\boxbslash	◆	\mdlgblkdiamond	□	\square
▩	\boxdiag	■	\mdlgblksquare	★	\star
•	\bullet	○	\mdlgwhtcircle	△	\triangle
○	\circ	◇	\mdlgwhtdiamond	▽	\triangledown
⊗	\circledast	◻	\mdlgwhtsquare	◁	\triangleleft
⊙	\circledcirc	◇	\mdwhtdiamond	▷	\triangleright
⊖	\circleddash	◻	\mdwhtsquare	△	\vartriangle
⊖	\circledequal	★	\medstar		
⬆	\circledvert	⊘	\obslash		

TABLE 94: boisik Geometric Binary Operators

◆	\blacklozenge	▤	\boxright	□	\oblong
■	\blacksquare	▨	\boxslash	⊕	\obot
▲	\blacktriangle	▩	\boxtimes	⊘	\obslash
▼	\blacktriangledown	▤	\boxtop	⊗	\ogreaterthan
◀	\blacktriangleleft	▤	\boxtriangle	⊕	\oleft
▶	\blacktriangleright	⊗	\circledast	⊖	\olessthan
⊗	\boxast	⊙	\circledcirc	⊖	\ominus
▤	\boxbar	⊖	\circleddash	⊕	\oplus
▤	\boxbot	◇	\diamond	⊕	\oright

(continued on next page)

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$\boxminus$	<code>\boxminus</code>	$\diamondbar$	<code>\diamondbar</code>	$\oslash$	<code>\oslash</code>
$\boxslash$	<code>\boxslash</code>	$\diamondcirc$	<code>\diamondcircle</code>	$\otimes$	<code>\otimes</code>
$\boxcirc$	<code>\boxcircle</code>	$\diamondminus$	<code>\diamondminus</code>	$\otop$	<code>\otop</code>
$\boxdiv$	<code>\boxdivision</code>	$\diamondop$	<code>\diamondop</code>	$\otriangle$	<code>\otriangle</code>
$\boxdot$	<code>\boxdot</code>	$\diamondplus$	<code>\diamondplus</code>	$\ovee$	<code>\ovee</code>
$\boxleft$	<code>\boxleft</code>	$\diamondtimes$	<code>\diamondtimes</code>	$\owedge$	<code>\owedge</code>
$\boxminus$	<code>\boxminus</code>	$\diamondtriangle$	<code>\diamondtriangle</code>	$\star$	<code>\star</code>
$\boxplus$	<code>\boxplus</code>	$\obar$	<code>\obar</code>	$\talloblong$	<code>\talloblong</code>

TABLE 96: stix Geometric Binary Operators

$\blackX$	<code>\blackhourglass</code>	$\diamondleft$	<code>\concavediamondtickleft</code>	$\oplus$	<code>\oplus</code>
$\boxast$	<code>\boxast</code>	$\diamondright$	<code>\concavediamondtickright</code>	$\oslash$	<code>\oslash</code>
$\boxbar$	<code>\boxbar</code>	$\diamond$	<code>\diamond</code>	$\otimes$	<code>\otimes</code>
$\boxbox$	<code>\boxbox</code>	$\triangleleft$	<code>\dsub</code>	$\otimes$	<code>\Otimes</code>
$\boxslash$	<code>\boxbslash</code>	$\X$	<code>\hourglass</code>	$\otimes$	<code>\otimeshat</code>
$\boxcirc$	<code>\boxcircle</code>	$\diamond$	<code>\lozengeminus</code>	$\triangleright$	<code>\rsub</code>
$\boxdiag$	<code>\boxdiag</code>	$\blacklozenge$	<code>\mdlgbklozenge</code>	$\bullet$	<code>\smbkcircle</code>
$\boxdot$	<code>\boxdot</code>	$\bigcirc$	<code>\mdlgwhtcircle</code>	$\star$	<code>\star</code>
$\boxminus$	<code>\boxminus</code>	$\obar$	<code>\obar</code>	$\talloblong$	<code>\talloblong</code>
$\boxplus$	<code>\boxplus</code>	$\obot^*$	<code>\obot^*</code>	$\triangle$	<code>\triangle</code>
$\boxtimes$	<code>\boxtimes</code>	$\oslash$	<code>\obslash</code>	$\triangleleft$	<code>\triangleleftminus</code>
$\circledast$	<code>\circledast</code>	$\oplus$	<code>\odiv</code>	$\triangleplus$	<code>\triangleplus</code>
$\circledcirc$	<code>\circledcirc</code>	$\odot$	<code>\odot</code>	$\triangle$	<code>\triangleleserifs</code>
$\circleddash$	<code>\circleddash</code>	$\odot$	<code>\odotslashdot^*</code>	$\triangle$	<code>\triangleletimes</code>
$\circledequal$	<code>\circledequal</code>	$\odot$	<code>\ogreaterthan</code>	$\bullet$	<code>\vysmbkcircle<sup>†</sup></code>
$\circledparallel$	<code>\circledparallel</code>	$\boxtimes$	<code>\olcross^*</code>	$\circ$	<code>\vysmwhtcircle</code>
$\circledvert$	<code>\circledvert</code>	$\odot$	<code>\olessthan</code>	$\square$	<code>\whitesquaretickleft</code>
$\circlehbar$	<code>\circlehbar</code>	$\ominus$	<code>\ominus</code>	$\square$	<code>\whitesquaretickright</code>
$\diamond$	<code>\concavediamond</code>	$\oplus$	<code>\operp</code>		

\* Defined as an ordinary character, not as a binary relation. However, these symbols more closely resemble the other symbols in this table than they do the geometric shapes presented in Table 601, which is why they are included here.

<sup>†</sup> stix defines `\bullet` as a synonym for `\vysmbkcircle`.

TABLE 98: logix Geometric Binary Operators

●	\BlackCircle	◄	\LogPast
•	\BlackCircleA	◊	\LogPos
•	\BlackCircleB	○	\LWhiteCircle
•	\BlackCircleC	◊	\LWhiteCurvedDiamond
•	\BlackCircleD	◊	\LWhiteDiamond
•	\BlackCircleE	▽	\LWhiteDownTriangle
•	\BlackCircleF	◄	\LWhiteLeftArrowHead
•	\BlackCircleG	◄	\LWhiteLeftTriangle
•	\BlackCircleH	◻	\LWhiteLozenge
•	\BlackCircleI	▷	\LWhiteRightArrowHead
◆	\BlackCurvedDiamond	▷	\LWhiteRightCurvedArrowHead
◆	\BlackDiamond	▷	\LWhiteRightTriangle
•	\BlackDiamondA	○	\LWhiteSmallCircle
•	\BlackDiamondB	◻	\LWhiteSquare
•	\BlackDiamondC	◻	\LWhiteSquareRoundCorners
•	\BlackDiamondD	△	\LWhiteUpTriangle
•	\BlackDiamondE	◦	\LWhiteVerySmallCircle
•	\BlackDiamondF	◻	\LWhiteVerySmallSquare
•	\BlackDiamondG	■	\Nec
•	\BlackDiamondH	●	\Next
•	\BlackDiamondI	▲	\NonCont
▼	\BlackDownTriangle	○	\OutlineCircle
•	\BlackDownTriangleA	◊	\OutlineCurvedDiamond
▼	\BlackDownTriangleB	◊	\OutlineDiamond
▼	\BlackDownTriangleC	▽	\OutlineDownTriangle
▼	\BlackDownTriangleD	◄	\OutlineLeftArrowHead
▼	\BlackDownTriangleE	◄	\OutlineLeftTriangle
▼	\BlackDownTriangleF	◻	\OutlineLozenge
▼	\BlackDownTriangleG	▷	\OutlineRightArrowHead
▼	\BlackDownTriangleH	▷	\OutlineRightCurvedArrowHead
▼	\BlackDownTriangleI	▷	\OutlineRightTriangle
◄	\BlackLeftArrowHead	○	\OutlineSmallCircle
◄	\BlackLeftTriangle	◻	\OutlineSquare
•	\BlackLeftTriangleA	◻	\OutlineSquareRoundCorners
◄	\BlackLeftTriangleB	△	\OutlineUpTriangle
◄	\BlackLeftTriangleC	◦	\OutlineVerySmallCircle
◄	\BlackLeftTriangleD	◻	\OutlineVerySmallSquare
◄	\BlackLeftTriangleE	◄	\Past
◄	\BlackLeftTriangleF	◆	\Pos
◄	\BlackLeftTriangleG	◻	\QuartedLozenge
◄	\BlackLeftTriangleH	⊕	\QuarteredCircle
◄	\BlackLeftTriangleI	◊	\QuarteredCurvedDiamond

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
































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■	\BlackLozenge	⬠	\QuarteredDiamond
•	\BlackReallySmallCircle	▼	\QuarteredDownTriangle
◆	\BlackReallySmallDiamond	◄	\QuarteredLeftTriangle
▪	\BlackReallySmallSquare	►	\QuarteredRightTriangle
▶	\BlackRightArrowHead	⊕	\QuarteredSmallCircle
▷	\BlackRightCurvedArrowHead	⊞	\QuarteredSquare
▸	\BlackRightTriangle	⊠	\QuarteredSquareRoundCorners
◀	\BlackRightTriangleA	⬆	\QuarteredUpTriangle
▹	\BlackRightTriangleB	⊙	\QuarteredVerySmallCircle
▸	\BlackRightTriangleC	⊡	\QuarteredVerySmallSquare
▹	\BlackRightTriangleD	▽	\TmpCont
▸	\BlackRightTriangleE	▷	\TmpFutr
▹	\BlackRightTriangleF	⊞	\TmpNec
▸	\BlackRightTriangleG	⊖	\TmpNext
▹	\BlackRightTriangleH	⬆	\TmpNonCont
▸	\BlackRightTriangleI	◄	\TmpPast
•	\BlackSmallCircle	⬠	\TmpPos
■	\BlackSquare	⊞	\UpSlahsedSquareRoundCorners
▪	\BlackSquareA	⊙	\UpSlashedCircle
▫	\BlackSquareB	◊	\UpSlashedCurvedDiamond
■	\BlackSquareC	◊	\UpSlashedDiamond
■	\BlackSquareD	▼	\UpSlashedDownTriangle
■	\BlackSquareE	◄	\UpSlashedLeftTriangle
■	\BlackSquareF	▤	\UpSlashedLozenge
■	\BlackSquareG	►	\UpSlashedRightTriangle
■	\BlackSquareH	⊙	\UpSlashedSmallCircle
■	\BlackSquareI	▤	\UpSlashedSquare
■	\BlackSquareRoundCorners	⬆	\UpSlashedUpTriangle
▲	\BlackUpTriangle	⊙	\UpSlashedVerySmallCircle
◀	\BlackUpTriangleA	▤	\UpSlashedVerySmallSquare
▴	\BlackUpTriangleB	⊞	\VerticallyDividedCircle
▴	\BlackUpTriangleC	⬠	\VerticallyDividedCurvedDiamond
▴	\BlackUpTriangleD	⬠	\VerticallyDividedDiamond
▴	\BlackUpTriangleE	▼	\VerticallyDividedDownTriangle
▴	\BlackUpTriangleF	◄	\VerticallyDividedLeftTriangle
▴	\BlackUpTriangleG	▤	\VerticallyDividedLozenge
▴	\BlackUpTriangleH	►	\VerticallyDividedRightTriangle
▴	\BlackUpTriangleI	⊙	\VerticallyDividedSmallCircle
•	\BlackVerySmallCircle	⊞	\VerticallyDividedSquare
▪	\BlackVerySmallSquare	⊠	\VerticallyDividedSquareRoundCorners
▼	\Cont	⬆	\VerticallyDividedUpTriangle
⊗	\CrossedCircle	⊙	\VerticallyDividedVerySmallCircle
⊞	\CrossedCurvedDiamond	▤	\VerticallyDividedVerySmallSquare
⊞	\CrossedDiamond	○	\WhiteCircle
▼	\CrossedDownTriangle	°	\WhiteCircleA

*(continued on next page)*























































































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	<code>\CrossedLeftTriangle</code>		<code>\WhiteCircleB</code>
	<code>\CrossedLozenge</code>		<code>\WhiteCircleC</code>
	<code>\CrossedRightTriangle</code>		<code>\WhiteCircleContainingBlackCircle</code>
	<code>\CrossedSmallCircle</code>		<code>\WhiteCircleD</code>
	<code>\CrossedSquare</code>		<code>\WhiteCircleE</code>
	<code>\CrossedSquareRoundCorners</code>		<code>\WhiteCircleF</code>
	<code>\CrossedUpTriangle</code>		<code>\WhiteCircleG</code>
	<code>\CrossedVerySmallCircle</code>		<code>\WhiteCircleH</code>
	<code>\CrossedVerySmallSquare</code>		<code>\WhiteCircleI</code>
	<code>\DeoCont</code>		<code>\WhiteCurvedDiamond</code>
	<code>\DeoFutr</code>		<code>\WhiteCurvedDiamondContainingBlackDiamond</code>
	<code>\DeoNec</code>		<code>\WhiteDiamond</code>
	<code>\DeoNext</code>		<code>\WhiteDiamondA</code>
	<code>\DeoNonCont</code>		<code>\WhiteDiamondB</code>
	<code>\DeoPast</code>		<code>\WhiteDiamondC</code>
	<code>\DeoPos</code>		<code>\WhiteDiamondContainingBlackDiamond</code>
	<code>\DottedCircI</code>		<code>\WhiteDiamondD</code>
	<code>\DottedCurvedDiamond</code>		<code>\WhiteDiamondE</code>
	<code>\DottedDiamond</code>		<code>\WhiteDiamondF</code>
	<code>\DottedDownTriangle</code>		<code>\WhiteDiamondG</code>
	<code>\DottedLeftArrowHead</code>		<code>\WhiteDiamondH</code>
	<code>\DottedLeftTriangle</code>		<code>\WhiteDiamondI</code>
	<code>\DottedLozenge</code>		<code>\WhiteDownTriangle</code>
	<code>\DottedRightArrowHead</code>		<code>\WhiteDownTriangleA</code>
	<code>\DottedRightCurvedArrowHead</code>		<code>\WhiteDownTriangleB</code>
	<code>\DottedRightTriangle</code>		<code>\WhiteDownTriangleC</code>
	<code>\DottedSmallCircle</code>		<code>\WhiteDownTriangleContainingBlackDownTriangle</code>
	<code>\DottedSquare</code>		<code>\WhiteDownTriangleD</code>
	<code>\DottedSquareRoundCorners</code>		<code>\WhiteDownTriangleE</code>
	<code>\DottedUpTriangle</code>		<code>\WhiteDownTriangleF</code>
	<code>\DottedVerySmallCircle</code>		<code>\WhiteDownTriangleG</code>
	<code>\DottedVerySmallSquare</code>		<code>\WhiteDownTriangleH</code>
	<code>\DownSlashedCircle</code>		<code>\WhiteDownTriangleI</code>
	<code>\DownSlashedCurvedDiamond</code>		<code>\WhiteLeftArrowHead</code>
	<code>\DownSlashedDiamond</code>		<code>\WhiteLeftTriangle</code>
	<code>\DownSlashedDownTriangle</code>		<code>\WhiteLeftTriangleA</code>
	<code>\DownSlashedLeftTriangle</code>		<code>\WhiteLeftTriangleB</code>
	<code>\DownSlashedLozenge</code>		<code>\WhiteLeftTriangleC</code>
	<code>\DownSlashedRightTriangle</code>		<code>\WhiteLeftTriangleContainingBlackLeftTriangle</code>
	<code>\DownSlashedSmallCircle</code>		<code>\WhiteLeftTriangleD</code>
	<code>\DownSlashedSquare</code>		<code>\WhiteLeftTriangleE</code>
	<code>\DownSlashedSquareRoundCorners</code>		<code>\WhiteLeftTriangleF</code>
	<code>\DownSlashedUpTriangle</code>		<code>\WhiteLeftTriangleG</code>
	<code>\DownSlashedVerySmallCircle</code>		<code>\WhiteLeftTriangleH</code>

*(continued on next page)*

*(continued from previous page)*

	<code>\DownSlashedVerySmallSquare</code>		<code>\WhiteLeftTriangleI</code>
	<code>\DoxCont</code>		<code>\WhiteLozenge</code>
	<code>\DoxFutr</code>		<code>\WhiteLozengeContainingBlackLozenge</code>
	<code>\DoxNec</code>		<code>\WhiteReallySmallCircle</code>
	<code>\DoxNext</code>		<code>\WhiteReallySmallDiamond</code>
	<code>\DoxNonCont</code>		<code>\WhiteReallySmallSquare</code>
	<code>\DoxPast</code>		<code>\WhiteRightArrowHead</code>
	<code>\DoxPos</code>		<code>\WhiteRightCurvedArrowHead</code>
	<code>\FacCont</code>		<code>\WhiteRightTriangle</code>
	<code>\FacFutr</code>		<code>\WhiteRightTriangleA</code>
	<code>\FacNec</code>		<code>\WhiteRightTriangleB</code>
	<code>\FacNext</code>		<code>\WhiteRightTriangleC</code>
	<code>\FacNonCont</code>		<code>\WhiteRightTriangleContainingBlackRightTriangle</code>
	<code>\FacPast</code>		<code>\WhiteRightTriangleD</code>
	<code>\FacPos</code>		<code>\WhiteRightTriangleE</code>
	<code>\Futr</code>		<code>\WhiteRightTriangleF</code>
	<code>\HorizontallyDividedCircle</code>		<code>\WhiteRightTriangleG</code>
	<code>\HorizontallyDividedCurvedDiamond</code>		<code>\WhiteRightTriangleH</code>
	<code>\HorizontallyDividedDiamond</code>		<code>\WhiteRightTriangleI</code>
	<code>\HorizontallyDividedDownTriangle</code>		<code>\WhiteSmallCircle</code>
	<code>\HorizontallyDividedLeftTriangle</code>		<code>\WhiteSmallCircleContainingBlackCircle</code>
	<code>\HorizontallyDividedLozenge</code>		<code>\WhiteSquare</code>
	<code>\HorizontallyDividedRightTriangle</code>		<code>\WhiteSquareA</code>
	<code>\HorizontallyDividedSmallCircle</code>		<code>\WhiteSquareB</code>
	<code>\HorizontallyDividedSquare</code>		<code>\WhiteSquareC</code>
	<code>\HorizontallyDividedSquareRoundCorners</code>		<code>\WhiteSquareContainingBlackSquare</code>
	<code>\HorizontallyDividedUpTriangle</code>		<code>\WhiteSquareD</code>
	<code>\HorizontallyDividedVerySmallCircle</code>		<code>\WhiteSquareE</code>
	<code>\HorizontallyDividedVerySmallSquare</code>		<code>\WhiteSquareF</code>
	<code>\LBlackCircle</code>		<code>\WhiteSquareG</code>
	<code>\LBlackCurvedDiamond</code>		<code>\WhiteSquareH</code>
	<code>\LBlackDiamond</code>		<code>\WhiteSquareI</code>
	<code>\LBlackDownTriangle</code>		<code>\WhiteSquareRoundCorners</code>
	<code>\LBlackLeftArrowHead</code>		<code>\WhiteSquareRoundCornersContainingBlackSquare</code>
	<code>\LBlackLeftTriangle</code>		<code>\WhiteUpTriangle</code>
	<code>\LBlackLozenge</code>		<code>\WhiteUpTriangleA</code>
	<code>\LBlackRightArrowHead</code>		<code>\WhiteUpTriangleB</code>
	<code>\LBlackRightCurvedArrowHead</code>		<code>\WhiteUpTriangleC</code>
	<code>\LBlackRightTriangle</code>		<code>\WhiteUpTriangleContainingBlackUpTriangle</code>
	<code>\LBlackSmallCircle</code>		<code>\WhiteUpTriangleD</code>
	<code>\LBlackSquare</code>		<code>\WhiteUpTriangleE</code>
	<code>\LBlackSquareRoundCorners</code>		<code>\WhiteUpTriangleF</code>
	<code>\LBlackUpTriangle</code>		<code>\WhiteUpTriangleG</code>
	<code>\LBlackVerySmallCircle</code>		<code>\WhiteUpTriangleH</code>

















*(continued on next page)*


(continued from previous page)

■	\LBlackVerySmallSquare	△	\WhiteUpTriangleI
▽	\LogCont	◦	\WhiteVerySmallCircle
▷	\LogFutr	◉	\WhiteVerySmallCircleContainingBlackCircle
▣	\LogNec	◻	\WhiteVerySmallSquare
⊙	\LogNext	◼	\WhiteVerySmallSquareContainingBlackSquare
△	\LogNonCont		

See the logix package note on page 454.

TABLE 100: halloweenmath Halloween-Themed Math Operators

	\bigpumpkin <sup>‡</sup>		\mathleftghost		\reversemathcloud
	\bigskull		\mathrightbat		\reversemathwitch <sup>†</sup>
	\mathbat		\mathrightghost		\reversemathwitch* <sup>†</sup>
	\mathcloud		\mathwitch* <sup>†</sup>		\skull
	\mathghost		\mathwitch <sup>†</sup>		
	\mathleftbat		\pumpkin		

<sup>†</sup> These symbols accept limits. For example, `\mathwitch*_{i=0}^{\infty} f(x)` produces “  $f(x)$ ” in text mode and

$$\int\limits_{i=0}^{\infty} f(x)$$

in display mode.

<sup>‡</sup> `\greatpumpkin` is a synonym for `\bigpumpkin`.

TABLE 101: stix Small Integrals

$\int$	\smallawint	$\int$	\smallintcap	$\int$	\smalloint
$\int$	\smallcirfnint	$\int$	\smallintclockwise	$\int$	\smallointctrcclockwise
$\int$	\smallfint	$\int$	\smallintcup	$\int$	\smallpointint
$\int$	\smalliiint	$\int$	\smallintlarhk	$\int$	\smallrppointint
$\int$	\smalliiint	$\int$	\smallintx	$\int$	\smallscpointint
$\int$	\smalliint	$\int$	\smallllowint	$\int$	\smallsqint
$\int$	\smallint	$\int$	\smallnpointint	$\int$	\smallsumint
$\int$	\smallintbar	$\int$	\smallloiiint	$\int$	\smallupint
$\int$	\smallintBar	$\int$	\smallloiiint	$\int$	\smallvarointclockwise

See the stix package note on page 458.

TABLE 102: stix Small Integrals with Explicit Slant

$\int$	<code>\smallawintsl</code>	$\int$	<code>\smallawintup</code>
$\int$	<code>\smallcirfnintsl</code>	$\int$	<code>\smallcirfnintup</code>
$\int$	<code>\smallfintsl</code>	$\int$	<code>\smallfintup</code>
$\int$	<code>\smalliiintsl</code>	$\int$	<code>\smalliiintup</code>
$\int$	<code>\smalliiintsl</code>	$\int$	<code>\smalliiintup</code>
$\int$	<code>\smalliintsl</code>	$\int$	<code>\smalliintup</code>
$\int$	<code>\smallintbarsl</code>	$\int$	<code>\smallintBarup</code>
$\int$	<code>\smallintBarsl</code>	$\int$	<code>\smallintbarup</code>
$\int$	<code>\smallintcapsl</code>	$\int$	<code>\smallintcapup</code>
$\int$	<code>\smallintclockwisesl</code>	$\int$	<code>\smallintclockwiseup</code>
$\int$	<code>\smallintcupsl</code>	$\int$	<code>\smallintcupup</code>
$\int$	<code>\smallintlarhksl</code>	$\int$	<code>\smallintlarhkup</code>
$\int$	<code>\smallintsl</code>	$\int$	<code>\smallintup</code>
$\int$	<code>\smallintxsl</code>	$\int$	<code>\smallintxup</code>
$\int$	<code>\smallllowintsl</code>	$\int$	<code>\smallllowintup</code>
$\int$	<code>\smallnpolintsl</code>	$\int$	<code>\smallnpolintup</code>
$\int$	<code>\smalllooiintsl</code>	$\int$	<code>\smalllooiintup</code>
$\int$	<code>\smallloointsl</code>	$\int$	<code>\smallloointup</code>
$\int$	<code>\smallointctrlockwisesl</code>	$\int$	<code>\smallointctrlockwiseup</code>
$\int$	<code>\smallointsl</code>	$\int$	<code>\smallointup</code>
$\int$	<code>\smallpointintsl</code>	$\int$	<code>\smallpointintup</code>
$\int$	<code>\smallrppolintsl</code>	$\int$	<code>\smallrppolintup</code>
$\int$	<code>\smallscpolintsl</code>	$\int$	<code>\smallscpolintup</code>
$\int$	<code>\smallsqintsl</code>	$\int$	<code>\smallsqintup</code>
$\int$	<code>\smallsumintsl</code>	$\int$	<code>\smallsumintup</code>
$\int$	<code>\smallupintsl</code>	$\int$	<code>\smallupintup</code>
$\int$	<code>\smallvarointclockwisesl</code>	$\int$	<code>\smallvarointclockwiseup</code>

See the stix package note on page 458.

TABLE 104: Variable-sized Math Operators

$\cap \cap$	<code>\bigcap</code>	$\otimes \otimes$	<code>\bigotimes</code>	$\wedge \wedge$	<code>\bigwedge</code>	$\prod \prod$	<code>\prod</code>
$\cup \cup$	<code>\bigcup</code>	$\sqcup \sqcup$	<code>\bigsqcup</code>	$\coprod \coprod$	<code>\coprod</code>	$\sum \sum$	<code>\sum</code>
$\odot \odot$	<code>\bigodot</code>	$\oplus \oplus$	<code>\bigoplus</code>	$\int \int$	<code>\int</code>		
$\oplus \oplus$	<code>\bigoplus</code>	$\vee \vee$	<code>\bigvee</code>	$\oint \oint$	<code>\oint</code>		

TABLE 105:  $\mathcal{AMS}$  Variable-sized Math Operators

$$\begin{array}{llll} \iint & \iint & \backslash iint & \iiint & \iiint & \backslash iiint \\ \iiiii & \iiiii & \backslash iiiint & \int \cdots \int & \int \cdots \int & \backslash idotsint \end{array}$$

TABLE 106: `stmaryrd` Variable-sized Math Operators

$$\begin{array}{llll} \Box \Box & \backslash bigbox & ||| ||| & \backslash biginterleave & \sqcap \sqcap & \backslash bigsqcap \\ \Upsilon \Upsilon & \backslash bigcurlyvee & \oplus \oplus & \backslash bignplus & \nabla \nabla & \backslash bigtriangledown \\ \wedge \wedge & \backslash bigcurlywedge & || || & \backslash bigparallel & \triangle \triangle & \backslash bigtriangleup \end{array}$$

TABLE 107: `wasysym` Variable-sized Math Operators

$$\begin{array}{lll} \int \int & \backslash int & \iint \iint & \backslash iint & \iiint \iiint & \backslash iiint \\ \oint \oint & \backslash oint & \oiint \oiint & \backslash oiint \end{array}$$

If `wasysym` is loaded without package options then none of the preceding symbols are defined. However, `\varint` produces `wasysym`'s `\int` glyph, and `\varoint` produces `wasysym`'s `\oint` glyph.

If `wasysym` is loaded with the `integrals` option then all of the preceding symbols are defined, but `\varint` and `\varoint` are left undefined.

If `wasysym` is loaded with the `nointegrals` option then none of the preceding symbols, `\varint`, or `\varoint` are defined.

TABLE 108: `mathabx` Variable-sized Math Operators

$\curlyvee$	<code>\bigcurlyvee</code>	$\boxslash$	<code>\bigboxslash</code>	$\bigoplus$	<code>\bigoright</code>
$\sqcap$	<code>\bigsqcap</code>	$\boxtimes$	<code>\bigboxtimes</code>	$\bigoslash$	<code>\bigoslash</code>
$\curlywedge$	<code>\bigcurlywedge</code>	$\boxplus$	<code>\bigboxplus</code>	$\bigotimes$	<code>\bigotimes</code>
$\boxast$	<code>\bigboxasterisk</code>	$\boxtriangleup$	<code>\bigboxtriangleup</code>	$\bigtriangleup$	<code>\bigtriangleup</code>
$\boxbackslash$	<code>\bigboxbackslash</code>	$\boxvoid$	<code>\bigboxvoid</code>	$\bigcirc$	<code>\bigovoid</code>
$\boxbot$	<code>\bigboxbot</code>	$\complement$	<code>\bigcomplement</code>	$\bigplus$	<code>\bigplus</code>
$\boxcirc$	<code>\bigboxcirc</code>	$\bigcircast$	<code>\bigcircasterisk</code>	$\bigplus$	<code>\bigsqplus</code>
$\boxcoasterisk$	<code>\bigboxcoasterisk</code>	$\bigcircbackslash$	<code>\bigcircbackslash</code>	$\bigtimes$	<code>\bigtimes</code>
$\boxdiv$	<code>\bigboxdiv</code>	$\bigoplus$	<code>\bigoplus</code>	$\iiint$	<code>\iiint</code>
$\boxdot$	<code>\bigboxdot</code>	$\bigodot$	<code>\bigodot</code>	$\iint$	<code>\iint</code>
$\boxleft$	<code>\bigboxleft</code>	$\bigocoasterisk$	<code>\bigocoasterisk</code>	$\int$	<code>\int</code>
$\boxminus$	<code>\bigboxminus</code>	$\bigodiv$	<code>\bigodiv</code>	$\oint$	<code>\oint</code>
$\boxplus$	<code>\bigboxplus</code>	$\bigoplus$	<code>\bigoplus</code>	$\oint$	<code>\oint</code>
$\boxright$	<code>\bigboxright</code>	$\bigominus$	<code>\bigominus</code>		

TABLE 110: txfonts/pxfonts Variable-sized Math Operators

$\sqcap$	$\boxed{+}$	<code>\bigsqcapplus</code>	$\oint$	$\oint$	<code>\ointclockwise</code>
$\sqcup$	$\boxed{+}$	<code>\bigsqcupplus</code>	$\oint$	$\oint$	<code>\ointctrlockwise</code>
$f$	$f$	<code>\fint</code>	$\int$	$\int$	<code>\sqiiint</code>
$\int \cdots \int$	$\int \cdots \int$	<code>\idotsint</code>	$\int$	$\int$	<code>\sqiint</code>
$\iiint$	$\iiint$	<code>\iiiint</code>	$\int$	$\int$	<code>\sqint</code>
$\iint$	$\iint$	<code>\iiint</code>	$\oint$	$\oint$	<code>\varoiintclockwise</code>
$\int$	$\int$	<code>\iint</code>	$\oint$	$\oint$	<code>\varoiintctrlockwise</code>
$\oint$	$\oint$	<code>\oiintclockwise</code>	$\oint$	$\oint$	<code>\varoiintclockwise</code>
$\oint$	$\oint$	<code>\oiintctrlockwise</code>	$\oint$	$\oint$	<code>\varoiintctrlockwise</code>
$\oint$	$\oint$	<code>\oiint</code>	$\oint$	$\oint$	<code>\varointclockwise</code>
$\oint$	$\oint$	<code>\ointclockwise</code>	$\oint$	$\oint$	<code>\varointctrlockwise</code>
$\oint$	$\oint$	<code>\ointctrlockwise</code>	$\times$	$\times$	<code>\varprod</code>
$\oint$	$\oint$	<code>\oint</code>			

TABLE 112: esint Variable-sized Math Operators

$\int \cdots \int$	$\int \cdots \int$	<code>\dotsint</code>	$\oint$	$\oint$	<code>\ointclockwise</code>
$\int$	$\int$	<code>\fint</code>	$\oint$	$\oint$	<code>\ointctrlockwise</code>
$\iiint$	$\iiint$	<code>\iiint</code>	$\iiint$	$\iiint$	<code>\sqint</code>
$\iiint$	$\iiint$	<code>\iiint</code>	$\iiint$	$\iiint$	<code>\sqint</code>
$\iint$	$\iint$	<code>\iint</code>	$\iint$	$\iint$	<code>\varoiint</code>
$\int$	$\int$	<code>\landdownint</code>	$\oint$	$\oint$	<code>\varointclockwise</code>
$\int$	$\int$	<code>\landupint</code>	$\oint$	$\oint$	<code>\varointctrlockwise</code>
$\oint$	$\oint$	<code>\oint</code>			

TABLE 113: bigints Variable-sized Math Operators

$\int$	$\int$	<code>\bigint</code>	$\oint$	$\oint$	<code>\bigoint</code>
$\int$	$\int$	<code>\bigints</code>	$\oint$	$\oint$	<code>\bigoints</code>
$\int$	$\int$	<code>\bigintss</code>	$\oint$	$\oint$	<code>\bigointss</code>
$\int$	$\int$	<code>\bigintsss</code>	$\oint$	$\oint$	<code>\bigintsss</code>
$\int$	$\int$	<code>\bigintssss</code>	$\oint$	$\oint$	<code>\bigintssss</code>



TABLE 114: MnSymbol Variable-sized Math Operators

$\bigcap$	$\bigcap$	<code>\bigcap</code>	$\bigominus$	$\bigominus$	<code>\bigominus</code>	$\complement$	$\complement$	<code>\complement</code>
$\bigcap\!\cdot$	$\bigcap\!\cdot$	<code>\bigcapdot</code>	$\bigoplus$	$\bigoplus$	<code>\bigoplus</code>	$\coprod$	$\coprod$	<code>\coprod</code>
$\bigcap+$	$\bigcap+$	<code>\bigcapplus</code>	$\bigoslash$	$\bigoslash$	<code>\bigoslash</code>	$\int\cdots\int$	$\int\cdots\int$	<code>\idotsint</code>
$\bigcirc$	$\bigcirc$	<code>\bigcircle</code>	$\bigotimes$	$\bigotimes$	<code>\bigotimes</code>	$\iiint$	$\iiint$	<code>\iiint</code>
$\bigcup$	$\bigcup$	<code>\bigcup</code>	$\bigotimes$	$\bigotimes$	<code>\bigotimes</code>	$\iiint$	$\iiint$	<code>\iiint</code>
$\bigcup\!\cdot$	$\bigcup\!\cdot$	<code>\bigcupdot</code>	$\bigtriangleup$	$\bigtriangleup$	<code>\bigtriangleup</code>	$\iint$	$\iint$	<code>\iint</code>
$\bigcup+$	$\bigcup+$	<code>\bigcupplus*</code>	$\bigodot$	$\bigodot$	<code>\bigodot</code>	$\int$	$\int$	<code>\int</code>
$\bigvee$	$\bigvee$	<code>\bigcurlyvee</code>	$\bigplus$	$\bigplus$	<code>\bigplus</code>	$\int$	$\int$	<code>\landdownint</code>
$\bigvee\!\cdot$	$\bigvee\!\cdot$	<code>\bigcurlyveedot</code>	$\bigsqcap$	$\bigsqcap$	<code>\bigsqcap</code>	$\int$	$\int$	<code>\landupint</code>
$\bigwedge$	$\bigwedge$	<code>\bigcurlywedge</code>	$\bigsqcap\!\cdot$	$\bigsqcap\!\cdot$	<code>\bigsqcapdot</code>	$\oint$	$\oint$	<code>\lrcircleleftint</code>
$\bigwedge\!\cdot$	$\bigwedge\!\cdot$	<code>\bigcurlywedgedot</code>	$\bigsqcap+$	$\bigsqcap+$	<code>\bigsqcapplus</code>	$\oint$	$\oint$	<code>\lrcirclerightint</code>
$\bigdoublecurlyvee$	$\bigdoublecurlyvee$	<code>\bigdoublecurlyvee</code>	$\bigsqcup$	$\bigsqcup$	<code>\bigsqcup</code>	$\oint$	$\oint$	<code>\oiint</code>
$\bigdoublecurlywedge$	$\bigdoublecurlywedge$	<code>\bigdoublecurlywedge</code>	$\bigsqcup\!\cdot$	$\bigsqcup\!\cdot$	<code>\bigsqcupdot</code>	$\oint$	$\oint$	<code>\oint</code>
$\bigdoublevee$	$\bigdoublevee$	<code>\bigdoublevee</code>	$\bigsqcup+$	$\bigsqcup+$	<code>\bigsqcupplus</code>	$\prod$	$\prod$	<code>\prod</code>
$\bigdoublewedge$	$\bigdoublewedge$	<code>\bigdoublewedge</code>	$\bigtimes$	$\bigtimes$	<code>\bigtimes</code>	$\oint$	$\oint$	<code>\rcircleleftint</code>
$\bigcircast$	$\bigcircast$	<code>\bigcircast</code>	$\bigvee$	$\bigvee$	<code>\bigvee</code>	$\oint$	$\oint$	<code>\rcirclerightint</code>
$\bigcircbackslash$	$\bigcircbackslash$	<code>\bigcircbackslash</code>	$\bigvee\!\cdot$	$\bigvee\!\cdot$	<code>\bigveedot</code>	$\int$	$\int$	<code>\strokedint</code>
$\bigcirccirc$	$\bigcirccirc$	<code>\bigocirc</code>	$\bigwedge$	$\bigwedge$	<code>\bigwedge</code>	$\Sigma$	$\Sigma$	<code>\sum</code>
$\bigcirc\!\cdot$	$\bigcirc\!\cdot$	<code>\bigodot</code>	$\bigwedge\!\cdot$	$\bigwedge\!\cdot$	<code>\bigwedgedot</code>	$\sum$	$\sum$	<code>\sumint</code>

\* MnSymbol defines `\biguplus` as a synonym for `\bigcupplus`.

TABLE 116: FdSymbol Variable-sized Math Operators

$\bigcap$	$\bigcap$	<code>\bigcap</code>	$\bigsqcup$	$\bigsqcup$	<code>\bigsqcup</code>	$\int$	$\int$	<code>\landupint</code>
$\bigcap\!\cdot$	$\bigcap\!\cdot$	<code>\bigcapdot</code>	$\bigsqcup\!\cdot$	$\bigsqcup\!\cdot$	<code>\bigsqcupdot</code>	$\oint$	$\oint$	<code>\lcircleleftint</code>
$\bigcap+$	$\bigcap+$	<code>\bigcapplus</code>	$\bigsqcup+$	$\bigsqcup+$	<code>\bigsqcupplus</code>	$\oint$	$\oint$	<code>\lclercletrightint</code>
$\bigcup$	$\bigcup$	<code>\bigcup</code>	$\bigtimes$	$\bigtimes$	<code>\bigtimes</code>	$\iiint$	$\iiint$	<code>\oiint</code>
$\bigcup\!\cdot$	$\bigcup\!\cdot$	<code>\bigcupdot</code>	$\bigvee$	$\bigvee$	<code>\bigvee</code>	$\oiint$	$\oiint$	<code>\oiint</code>
$\bigcup+$	$\bigcup+$	<code>\bigcupplus</code>	$\bigvee\!\cdot$	$\bigvee\!\cdot$	<code>\bigveedot</code>	$\oint$	$\oint$	<code>\oint</code>
$\bigcurlyvee$	$\bigcurlyvee$	<code>\bigcurlyvee</code>	$\bigwedge$	$\bigwedge$	<code>\bigwedge</code>	$\sum$	$\sum$	<code>\osum</code>
$\bigcurlywedge$	$\bigcurlywedge$	<code>\bigcurlywedge</code>	$\bigwedge\!\cdot$	$\bigwedge\!\cdot$	<code>\bigwedgedot</code>	$\prod$	$\prod$	<code>\prod</code>
$\bigdoublevee$	$\bigdoublevee$	<code>\bigdoublevee</code>	$\coprod$	$\coprod$	<code>\coprod</code>	$\oint$	$\oint$	<code>\rcircleleftint</code>
$\bigdoublewedge$	$\bigdoublewedge$	<code>\bigdoublewedge</code>	$\int$	$\int$	<code>\int</code>	$\oint$	$\oint$	<code>\rcircclerightint</code>
$\bigodot$	$\bigodot$	<code>\bigodot</code>	$\int\!\cdots\!\int$	$\int\!\cdots\!\int$	<code>\idotsint</code>	$\sum$	$\sum$	<code>\sum</code>
$\bigodot\!\cdot$	$\bigodot\!\cdot$	<code>\bigodotdot</code>	$\iiint$	$\iiint$	<code>\iiint</code>	$\int$	$\int$	<code>\sumint</code>
$\bigoplus$	$\bigoplus$	<code>\bigoplus</code>	$\iiint$	$\iiint$	<code>\iiint</code>	$\prod$	$\prod$	<code>\varcoprod</code>
$\bigotimes$	$\bigotimes$	<code>\bigotimes</code>	$\iint$	$\iint$	<code>\iint</code>	$\sum$	$\sum$	<code>\varosum</code>
$\bigplus$	$\bigplus$	<code>\bigplus</code>	$\int$	$\int$	<code>\int</code>	$\prod$	$\prod$	<code>\varprod</code>
$\bigsqcap$	$\bigsqcap$	<code>\bigsqcap</code>	$\int$	$\int$	<code>\intbar</code>	$\sum$	$\sum$	<code>\varsum</code>
$\bigsqcap\!\cdot$	$\bigsqcap\!\cdot$	<code>\bigsqcapdot</code>	$\int$	$\int$	<code>\intBar</code>	$\int$	$\int$	<code>\varsumint</code>
$\bigsqcap+$	$\bigsqcap+$	<code>\bigsqcapplus</code>	$\int$	$\int$	<code>\landdownint</code>			

\* FdSymbol defines `\awint` as a synonym for `\landdownint`, `\biguplus` as a synonym for `\bigcupplus`, `\conjquant` as a synonym for `\bigdoublewedge`, `\disjquant` as a synonym for `\bigdoublevee`, `\dotsint` as a synonym for `\idotsint`, `\intclockwise` as a synonym for `\landupint`, `\intctrcclockwise` as a synonym for `\landdownint`, `\modtwosum` as a synonym for `\osum`, `\ointclockwise` as a synonym for `\lcircleleftint`, `\ointctrcclockwise` as a synonym for `\rcircclerightint`, `\varmodtwosum` as a synonym for `\varosum`, `\varointclockwise` as a synonym for `\lclercletrightint`, and `\varointctrcclockwise` as a synonym for `\rcircleleftint`.

$$\int \int \backslash \text{intup}$$

boisik additionally provides all of the symbols in Table 104.

$\int$	$\int$	<code>\awint</code>	$\amalg$	$\amalg$	<code>\coprod</code>	$\int$	$\int$	<code>\oiint</code>
$\sum$	$\sum$	<code>\Bbbsum</code>	$\mathbb{W}$	$\mathbb{W}$	<code>\disjquant</code>	$\oint$	$\oint$	<code>\oiint</code>
$\cap$	$\cap$	<code>\bigcap</code>	$\int$	$\int$	<code>\fint</code>	$\oint$	$\oint$	<code>\oint</code>
$\cup$	$\cup$	<code>\bigcup</code>	$\int$	$\int$	<code>\iiint</code>	$\oint$	$\oint$	<code>\ointctrclockwise</code>
$\cup$	$\cup$	<code>\bigcupdot</code>	$\int$	$\int$	<code>\iint</code>	$\oint$	$\oint$	<code>\pointint</code>
$\odot$	$\odot$	<code>\bigodot</code>	$\int$	$\int$	<code>\iint</code>	$\prod$	$\prod$	<code>\prod</code>
$\oplus$	$\oplus$	<code>\bigoplus</code>	$\int$	$\int$	<code>\int</code>	$\int$	$\int$	<code>\rppointint</code>
$\otimes$	$\otimes$	<code>\bigotimes</code>	$\int$	$\int$	<code>\intbar</code>	$\int$	$\int$	<code>\scpointint</code>
$\sqcap$	$\sqcap$	<code>\bigsqcap</code>	$\neq$	$\neq$	<code>\intBar</code>	$\int$	$\int$	<code>\sqint</code>
$\sqcup$	$\sqcup$	<code>\bigsqcup</code>	$\int$	$\int$	<code>\intcap</code>	$\sum$	$\sum$	<code>\sum</code>
$\llbracket$	$\llbracket$	<code>\bigtalloblong</code>	$\int$	$\int$	<code>\intclockwise</code>	$\sum$	$\sum$	<code>\sumint</code>
$\times$	$\times$	<code>\bigtimes</code>	$\int$	$\int$	<code>\intcup</code>	$\int$	$\int$	<code>\upint</code>

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$\biguplus$	$\biguplus$	<code>\biguplus</code>	$\intlarhk$	$\intlarhk$	<code>\intlarhk</code>	$\ointclockwise$	$\ointclockwise$	<code>\ointclockwise</code>
$\bigvee$	$\bigvee$	<code>\bigvee</code>	$\intx$	$\intx$	<code>\intx</code>	$\backslash$	$\backslash$	<code>\backslash</code>
$\bigwedge$	$\bigwedge$	<code>\bigwedge</code>	$\intlowint$	$\intlowint$	<code>\intlowint</code>	$/$	$/$	<code>/</code>
$\circlearrowleft$	$\circlearrowleft$	<code>\circlearrowleft</code>	$\summodtwo$	$\summodtwo$	<code>\summodtwo</code>			
$\conjugant$	$\conjugant$	<code>\conjugant</code>	$\intpolint$	$\intpolint$	<code>\intpolint</code>			

See the stix package note on page 458.

TABLE 121: stix Integrals with Explicit Slant

$\intsl$	$\intsl$	<code>\intsl</code>	$\intup$	$\intup$	<code>\intup</code>
$\iintsl$	$\iintsl$	<code>\iintsl</code>	$\iintup$	$\iintup$	<code>\iintup</code>
$\iiintsl$	$\iiintsl$	<code>\iiintsl</code>	$\iiintup$	$\iiintup$	<code>\iiintup</code>
$\ointsl$	$\ointsl$	<code>\ointsl</code>	$\ointup$	$\ointup$	<code>\ointup</code>
$\oiintsl$	$\oiintsl$	<code>\oiintsl</code>	$\oiintup$	$\oiintup$	<code>\oiintup</code>
$\oiiintsl$	$\oiiintsl$	<code>\oiiintsl</code>	$\oiiintup$	$\oiiintup$	<code>\oiiintup</code>
$\intclockwisel$	$\intclockwisel$	<code>\intclockwisel</code>	$\intclockwiseup$	$\intclockwiseup$	<code>\intclockwiseup</code>

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$\oint$	$\oint$	<code>\varointclockwisesl</code>	$\oint$	$\oint$	<code>\varointclockwiseup</code>
$\oint$	$\oint$	<code>\ointctrckwisesl</code>	$\oint$	$\oint$	<code>\ointctrckwiseup</code>
$\sumint$	$\sumint$	<code>\sumintsl</code>	$\sumint$	$\sumint$	<code>\sumintup</code>
$\iiint$	$\iiint$	<code>\iiiintsl</code>	$\iiint$	$\iiint$	<code>\iiiintup</code>
$\int$	$\int$	<code>\intbarsl</code>	$\int$	$\int$	<code>\intbarup</code>
$\int$	$\int$	<code>\intBarsl</code>	$\int$	$\int$	<code>\intBarup</code>
$\int$	$\int$	<code>\fintsl</code>	$\int$	$\int$	<code>\fintup</code>
$\int$	$\int$	<code>\cirfnintsl</code>	$\int$	$\int$	<code>\cirfnintup</code>
$\int$	$\int$	<code>\awintsl</code>	$\int$	$\int$	<code>\awintup</code>
$\int$	$\int$	<code>\rppolintsl</code>	$\int$	$\int$	<code>\rppolintup</code>
$\int$	$\int$	<code>\scpolintsl</code>	$\int$	$\int$	<code>\scpolintup</code>
$\int$	$\int$	<code>\npolintsl</code>	$\int$	$\int$	<code>\npolintup</code>
$\oint$	$\oint$	<code>\pointintsl</code>	$\oint$	$\oint$	<code>\pointintup</code>
$\int$	$\int$	<code>\sqintsl</code>	$\int$	$\int$	<code>\sqintup</code>
$\int$	$\int$	<code>\intlarhksl</code>	$\int$	$\int$	<code>\intlarhkup</code>
$\int$	$\int$	<code>\intxsl</code>	$\int$	$\int$	<code>\intxup</code>

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$\int^\circ$	$\int^\circ$	<code>\intcapsl</code>	$\int^\circ$	$\int^\circ$	<code>\intcapup</code>
$\int^\circ$	$\int^\circ$	<code>\intcups1</code>	$\int^\circ$	$\int^\circ$	<code>\intcupup</code>
$\int^\circ$	$\int^\circ$	<code>\upintsl</code>	$\int^\circ$	$\int^\circ$	<code>\upintup</code>
$\int^\circ$	$\int^\circ$	<code>\lowintsl</code>	$\int^\circ$	$\int^\circ$	<code>\lowintup</code>

See the stix package note on page 458.

TABLE 123: cmupint Variable-sized Upright Integrals

$\int^\circ$	$\int^\circ$	<code>\awint</code>	$\int^\circ$	$\int^\circ$	<code>\npolint</code>
$\int^\circ$	$\int^\circ$	<code>\baraint</code>	$\int^\circ$	$\int^\circ$	<code>\oiint</code>
$\int^\circ$	$\int^\circ$	<code>\cirfnint</code>	$\int^\circ$	$\int^\circ$	<code>\oiint</code>
$\int^\circ$	$\int^\circ$	<code>\doublebarint</code>	$\int^\circ$	$\int^\circ$	<code>\oint</code>
$\int^\circ$	$\int^\circ$	<code>\downint</code>	$\int^\circ$	$\int^\circ$	<code>\ointclockwise</code>
$\int^\circ$	$\int^\circ$	<code>\fint</code>	$\int^\circ$	$\int^\circ$	<code>\ointctrclockwise</code>
$\int^\circ \cdots \int^\circ$	$\int^\circ \cdots \int^\circ$	<code>\idotsint*</code>	$\int^\circ$	$\int^\circ$	<code>\pointint</code>
$\int^\circ \cdots \int^\circ$	$\int^\circ \cdots \int^\circ$	<code>\iiint</code>	$\int^\circ$	$\int^\circ$	<code>\rppolint</code>

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$\iiint$	$\iiint$	<code>\iiint</code>	$\int$	$\int$	<code>\scpolint</code>
$\iint$	$\iint$	<code>\iint</code>	$\oint$	$\oint$	<code>\sqint</code>
$\int$	$\int$	<code>\int</code>	$\oint$	$\oint$	<code>\sqint</code>
$\oint$	$\oint$	<code>\intcap</code>	$\oint$	$\oint$	<code>\sumint</code>
$\oint$	$\oint$	<code>\intclockwise</code>	$\int$	$\int$	<code>\upint</code>
$\oint$	$\oint$	<code>\intcup</code>	$\int \dots \int$	$\int \dots \int$	<code>\varidotsint*</code>
$\oint$	$\oint$	<code>\intlarhk</code>	$\oint$	$\oint$	<code>\varointclockwise</code>
$\oint$	$\oint$	<code>\landdownint</code>	$\oint$	$\oint$	<code>\varointctrcklockwise</code>
$\oint$	$\oint$	<code>\landupint</code>	$\oint$	$\oint$	<code>\xint</code>

See the `cmupint` package note on page 451.

\* `\varidotsint` is always drawn as is. `\idotsint` is drawn identically to `\varidotsint` when `amsmath` is not loaded or with more space surrounding each dot when `amsmath` is loaded.

TABLE 125: `mathdesign` Variable-sized Math Operators

$\oint$	$\oint$	<code>\intclockwise</code>	$\oint$	$\oint$	<code>\ointclockwise</code>
$\oint$	$\oint$	<code>\oiint</code>	$\oint$	$\oint$	<code>\ointctrcklockwise</code>
$\oint$	$\oint$	<code>\oiint</code>			

The `mathdesign` package provides three versions of each integral—in fact, of every symbol—to accompany different text fonts: Utopia ( $\int$ ), Garamond ( $\int$ ), and Charter ( $\int$ ).

TABLE 126: pdfMsym Variable-sized Math Operators

$\int$	$\int$	<code>\aint</code>	$\forall$	$\forall$	<code>\bigforall</code>
$\bigwedge$	$\bigwedge$	<code>\bigcircwedge</code>	$\int$	$\int$	<code>\biNint{5}</code> *
$\bigcup$	$\bigcup$	<code>\bigdcup</code>	$\int$	$\int$	<code>\iNint{5}</code> *
$\bigwedge$	$\bigwedge$	<code>\bigdwedge</code>	$\int$	$\int$	<code>\oiNint{5}</code> *
$\exists$	$\exists$	<code>\bigexists</code>			

See the pdfMsym package note on page 456.

\* These commands have a required argument, which specifies the number of integrals. For example, `\oiNint{7}` produces the symbol



TABLE 127: newcomputermodern Variable-sized Math Operators

$\ast$	$\ast$	<code>\convolution</code>
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newcomputermodern additionally provides many of the other operators appearing in this chapter. See the newcomputermodern package note on page 455.

TABLE 128: prodint Variable-sized Math Operators

$\prod$	<code>\prodi</code>	$\prod$	<code>\Prodi</code>	$\prod$	<code>\PRODI</code>
---------	---------------------	---------	---------------------	---------	---------------------

See the prodint package note on page 456.



TABLE 129: pdfMsym Extensible Math Operators

$$\prod \quad \backslash\mathrm{prood} \quad \sum \quad \backslash\mathrm{suum}$$

These symbols extend horizontally to fit their lower and upper limits. Hence,

$$\backslash\mathrm{suum}_{\{i=\lfloor\sqrt{a^2+b^2+c^2}\rfloor\}^{\{\max(5N-3, 11N-8)\}}}$$

produces

$$\sum_{i=\lfloor\sqrt{a^2+b^2+c^2}\rfloor}^{\max(5N-3, 11N-8)}.$$

See the pdfMsym package note on page 456.

TABLE 130: cml Large Math Operators

$$\wp \quad \backslash\mathrm{bigparr}^* \quad \& \quad \backslash\mathrm{bigwith}$$

\* cml defines `\biginvamp` as a synonym for `\bigparr`.

TABLE 131: Binary Relations

$\approx$	<code>\approx</code>	$\equiv$	<code>\equiv</code>	$\perp$	<code>\perp</code>	$\smile$	<code>\smile</code>
$\asymp$	<code>\asymp</code>	$\frown$	<code>\frown</code>	$\prec$	<code>\prec</code>	$\succ$	<code>\succ</code>
$\bowtie$	<code>\bowtie</code>	$\Join$	<code>\Join*</code>	$\preceq$	<code>\preceq</code>	$\succeq$	<code>\succeq</code>
$\cong$	<code>\cong</code>	$\mid$	<code>\mid<sup>†</sup></code>	$\propto$	<code>\propto</code>	$\vdash$	<code>\vdash</code>
$\dashv$	<code>\dashv</code>	$\models$	<code>\models</code>	$\sim$	<code>\sim</code>		
$\doteq$	<code>\doteq</code>	$\parallel$	<code>\parallel</code>	$\simeq$	<code>\simeq</code>		

\* Not predefined by the  $\mathrm{\LaTeX} 2_{\epsilon}$  core. Use the latexsym package to expose this symbol.

<sup>†</sup> The difference between `\mid` and `|` is that the former is a binary relation while the latter is a math ordinal. Consequently,  $\mathrm{\LaTeX}$  typesets the two with different surrounding spacing. Contrast “ $P(A \mid B)$ ”  $\mapsto$  “ $P(A|B)$ ” with “ $P(A \mid B)$ ”  $\mapsto$  “ $P(A \mid B)$ ”.

TABLE 132:  $\mathcal{AMS}$  Binary Relations

$\approx$	<code>\approxeq</code>	$\equiv$	<code>\eqcirc</code>	$\succsim$	<code>\succapprox</code>
$\backsimeq$	<code>\backepsilon</code>	$\fallingdotseq$	<code>\fallingdotseq</code>	$\succcurlyeq$	<code>\succcurlyeq</code>
$\backsimeq$	<code>\backsim</code>	$\multimap$	<code>\multimap</code>	$\succsim$	<code>\succsim</code>
$\backsimeq$	<code>\backsimeq</code>	$\pitchfork$	<code>\pitchfork</code>	$\therefore$	<code>\therefore</code>
$\because$	<code>\because</code>	$\precapprox$	<code>\precapprox</code>	$\thickapprox$	<code>\thickapprox</code>
$\between$	<code>\between</code>	$\preccurlyeq$	<code>\preccurlyeq</code>	$\thicksim$	<code>\thicksim</code>
$\bumpeq$	<code>\bumpeq</code>	$\precsim$	<code>\precsim</code>	$\varpropto$	<code>\varpropto</code>
$\bumpeq$	<code>\bumpeq</code>	$\risingdotseq$	<code>\risingdotseq</code>	$\Vdash$	<code>\Vdash</code>
$\circeq$	<code>\circeq</code>	$\shortmid$	<code>\shortmid</code>	$\vdash$	<code>\vdash</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\shortparallel$	<code>\shortparallel</code>	$\Vdash$	<code>\Vdash</code>
$\curlyeqsucc$	<code>\curlyeqsucc</code>	$\smallfrown$	<code>\smallfrown</code>		
$\doteqdot$	<code>\doteqdot</code>	$\smallsmile$	<code>\smallsmile</code>		

TABLE 133:  $\mathcal{AMS}$  Negated Binary Relations

$\ncong$	<code>\ncong</code>	$\nshortparallel$	<code>\nshortparallel</code>	$\nVDash$	<code>\nVDash</code>
$\nmid$	<code>\nmid</code>	$\nsim$	<code>\nsim</code>	$\precnapprox$	<code>\precnapprox</code>
$\nparallel$	<code>\nparallel</code>	$\nsucc$	<code>\nsucc</code>	$\precnsim$	<code>\precnsim</code>
$\nprec$	<code>\nprec</code>	$\nsucceq$	<code>\nsucceq</code>	$\succnapprox$	<code>\succnapprox</code>
$\npreceq$	<code>\npreceq</code>	$\nvDash$	<code>\nvDash</code>	$\succnsim$	<code>\succnsim</code>
$\nshortmid$	<code>\nshortmid</code>	$\nvdash$	<code>\nvdash</code>		

TABLE 134: `stmaryrd` Binary Relations

$\inplus$	<code>\inplus</code>	$\niplus$	<code>\niplus</code>
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TABLE 135: `wasysym` Binary Relations

$\invneg$	<code>\invneg</code>	$\leadsto$	<code>\leadsto</code>	$\asymp$	<code>\asymp</code>
$\Join$	<code>\Join</code>	$\logof$	<code>\logof</code>		

TABLE 136: txfonts/pxfonts Binary Relations

$\bigcirc$	<code>\circledgtr</code>	$\ltimes$	<code>\lJoin</code>	$\times$	<code>\opentimes</code>
$\bigcirc$	<code>\circledless</code>	$\rtimes$	<code>\lrtimes</code>	$\perp$	<code>\Perp</code>
$\approx$	<code>\colonapprox</code>	$\multimap$	<code>\multimap</code>	$\preceq$	<code>\preceqq</code>
$\approx$	<code>\Colonapprox</code>	$\multimap$	<code>\multimapboth</code>	$\preceq$	<code>\precneqq</code>
$\vdash$	<code>\coloneq</code>	$\multimap$	<code>\multimapbothvert</code>	$\Join$	<code>\rJoin</code>
$\vdash$	<code>\Coloneq</code>	$\multimap$	<code>\multimapdot</code>	$\strictfi$	<code>\strictfi</code>
$\vdash$	<code>\Coloneqq</code>	$\multimap$	<code>\multimapdotboth</code>	$\strictif$	<code>\strictif</code>
$\vdash$	<code>\Coloneqq*</code>	$\multimap$	<code>\multimapdotbothA</code>	$\strictiff$	<code>\strictiff</code>
$\sim$	<code>\Colonsim</code>	$\multimap$	<code>\multimapdotbothAvert</code>	$\succeq$	<code>\succeqq</code>
$\sim$	<code>\colonsim</code>	$\multimap$	<code>\multimapdotbothB</code>	$\succeq$	<code>\succneqq</code>
$\equiv$	<code>\Eqcolon</code>	$\multimap$	<code>\multimapdotbothBvert</code>	$\parallel$	<code>\varparallel</code>
$\equiv$	<code>\eqcolon</code>	$\multimap$	<code>\multimapdotbothvert</code>	$\parallel$	<code>\varparallelinv</code>
$\equiv$	<code>\eqqcolon</code>	$\multimap$	<code>\multimapdotinv</code>	$\Vdash$	<code>\Vdash</code>
$\equiv$	<code>\Eqqqcolon</code>	$\multimap$	<code>\multimapinv</code>		
$\sim$	<code>\eqsim</code>	$\times$	<code>\openJoin</code>		

\* As an alternative to using txfonts/pxfonts, a “:=” symbol can be constructed with “`\mathrel{\mathop:}=`”.

TABLE 137: txfonts/pxfonts Negated Binary Relations

$\napprox$	<code>\napproxeq</code>	$\npreccurlyeq$	<code>\npreccurlyeq</code>	$\nthickapprox$	<code>\nthickapprox</code>
$\nasymp$	<code>\nasympt</code>	$\npreceq$	<code>\npreceqq</code>	$\nrightarrow$	<code>\ntwoheadleftarrow</code>
$\nbacksim$	<code>\nbacksim</code>	$\nprec$	<code>\nprec</code>	$\nrightarrow$	<code>\ntwoheadrightarrow</code>
$\nbacksimeq$	<code>\nbacksimeq</code>	$\nsimeq$	<code>\nsimeq</code>	$\nparallel$	<code>\nvarparallel</code>
$\nbumpeq$	<code>\nbumpeq</code>	$\nsuccapprox$	<code>\nsuccapprox</code>	$\nvarparallelinv$	<code>\nvarparallelinv</code>
$\nbumpeq$	<code>\nbumpeq</code>	$\nsucccurlyeq$	<code>\nsucccurlyeq</code>	$\nVdash$	<code>\nVdash</code>
$\nequiv$	<code>\nequiv</code>	$\nsucceq$	<code>\nsucceqq</code>		
$\nprecapprox$	<code>\nprecapprox</code>	$\nsuccsim$	<code>\nsuccsim</code>		

TABLE 138: mathabx Binary Relations

$\between$	<code>\between</code>	$\divides$	<code>\divides</code>	$\risingdotseq$	<code>\risingdotseq</code>
$\botdoteq$	<code>\botdoteq</code>	$\dotseq$	<code>\dotseq</code>	$\succapprox$	<code>\succapprox</code>
$\bumpedeq$	<code>\bumpedeq</code>	$\eqbumped$	<code>\eqbumped</code>	$\succcurlyeq$	<code>\succcurlyeq</code>
$\bumpedeq$	<code>\bumpedeq</code>	$\eqcirc$	<code>\eqcirc</code>	$\succdot$	<code>\succdot</code>
$\circeq$	<code>\circeq</code>	$\eqcolon$	<code>\eqcolon</code>	$\succsim$	<code>\succsim</code>
$\coloneq$	<code>\coloneq</code>	$\fallingdotseq$	<code>\fallingdotseq</code>	$\therefore$	<code>\therefore</code>
$\corresponds$	<code>\corresponds</code>	$\ggcurly$	<code>\ggcurly</code>	$\topdoteq$	<code>\topdoteq</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\llcurly$	<code>\llcurly</code>	$\vdash$	<code>\vdash</code>
$\curlyeqsucc$	<code>\curlyeqsucc</code>	$\precapprox$	<code>\precapprox</code>	$\Vdash$	<code>\Vdash</code>
$\DashV$	<code>\DashV</code>	$\preccurlyeq$	<code>\preccurlyeq</code>	$\VDash$	<code>\VDash</code>
$\Dashv$	<code>\Dashv</code>	$\precdot$	<code>\precdot</code>	$\Vdash$	<code>\Vdash</code>
$\dashVv$	<code>\dashVv</code>	$\prec$	<code>\prec</code>		

TABLE 139: mathabx Negated Binary Relations

$\napprox$	<code>\napprox</code>	$\nperp$	<code>\notperp</code>	$\nVDash$	<code>\nvDash</code>
$\ncong$	<code>\ncong</code>	$\nprec$	<code>\nprec</code>	$\nVDash$	<code>\nVDash</code>
$\ncurlyeqprec$	<code>\ncurlyeqprec</code>	$\nprecapprox$	<code>\nprecapprox</code>	$\nVdash$	<code>\nVdash</code>
$\ncurlyeqsucc$	<code>\ncurlyeqsucc</code>	$\npreccurlyeq$	<code>\npreccurlyeq</code>	$\nvDash$	<code>\nvDash</code>
$\nDashv$	<code>\nDashv</code>	$\npreceq$	<code>\npreceq</code>	$\nVdash$	<code>\nVdash</code>
$\ndashV$	<code>\ndashV</code>	$\nprecsim$	<code>\nprecsim</code>	$\precnapprox$	<code>\precnapprox</code>
$\ndashv$	<code>\ndashv</code>	$\nsim$	<code>\nsim</code>	$\precneq$	<code>\precneq</code>
$\nDashV$	<code>\nDashV</code>	$\nsimeq$	<code>\nsimeq</code>	$\precnsim$	<code>\precnsim</code>
$\ndashVv$	<code>\ndashVv</code>	$\nsucc$	<code>\nsucc</code>	$\succnapprox$	<code>\succnapprox</code>
$\neq$	<code>\neq</code>	$\nsuccapprox$	<code>\nsuccapprox</code>	$\succneq$	<code>\succneq</code>
$\notasymp$	<code>\notasymp</code>	$\nsucccurlyeq$	<code>\nsucccurlyeq</code>	$\succnsim$	<code>\succnsim</code>
$\notdivides$	<code>\notdivides</code>	$\nsucceq$	<code>\nsucceq</code>		
$\notequiv$	<code>\notequiv</code>	$\succsim$	<code>\succsim</code>		

The `\changenotsign` command toggles the behavior of `\not` to produce either a vertical or a diagonal slash through a binary operator. Thus, “`$a \not= b$`” can be made to produce either “ $a \nmid b$ ” or “ $a \neq b$ ”.

TABLE 140: MnSymbol Binary Relations

$\approx$	<code>\approx</code>	$\hat{=}$	<code>\hateq</code>	$\infty$	<code>\rightpropto</code>
$\approxeq$	<code>\approxeq</code>	$\times$	<code>\hcrossing</code>	$\triangleright$	<code>\rightslice</code>
$\backapprox$	<code>\backapprox</code>	$\vdash$	<code>\leftfootline</code>	$\Vdash$	<code>\rightVdash</code>
$\backapproxeq$	<code>\backapproxeq</code>	$\leftarrow$	<code>\leftfree</code>	$\vdash$	<code>\rightvdash</code>
$\backcong$	<code>\backcong</code>	$\models$	<code>\leftmodels</code>	$\dot{=}$	<code>\risingdotseq</code>
$\backeqsim$	<code>\backeqsim</code>	$\models$	<code>\leftModels</code>	$\searrow$	<code>\sefootline</code>
$\backsim$	<code>\backsim</code>	$\infty$	<code>\leftpropto</code>	$\searrow$	<code>\sefree</code>
$\backsimeq$	<code>\backsimeq</code>	$\dashv$	<code>\leftrightline</code>	$\ll$	<code>\seModels</code>
$\backtriple sim$	<code>\backtriple sim</code>	$=$	<code>\Leftrightarrow</code>	$\ll$	<code>\semodels</code>
$\between$	<code>\between</code>	$\triangleleft$	<code>\leftslice</code>	$\rangle$	<code>\separated</code>
$\bumpeq$	<code>\bumpeq</code>	$\dashv$	<code>\leftVdash</code>	$\curvearrowright$	<code>\seVdash</code>
$\Bumpeq$	<code>\Bumpeq</code>	$\dashv$	<code>\leftvdash</code>	$\curvearrowleft$	<code>\sevdash</code>
$\circeq$	<code>\circeq</code>	$\succ$	<code>\nefootline</code>	$\parallel$	<code>\shortparallel</code>
$\closedequal$	<code>\closedequal</code>	$\succ$	<code>\nefree</code>	$\sim$	<code>\sim</code>
$\closedprec$	<code>\closedprec</code>	$\ll$	<code>\neModels</code>	$\simeq$	<code>\simeq</code>
$\closedsucc$	<code>\closedsucc</code>	$\ll$	<code>\nemodels</code>	$>$	<code>\succ</code>
$\coloneq$	<code>\coloneq</code>	$/$	<code>\neswline</code>	$\gtrapprox$	<code>\succapprox</code>
$\cong$	<code>\cong</code>	$//$	<code>\Neswline</code>	$\gtrsim$	<code>\succcurlyeq</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\ll$	<code>\neVdash</code>	$\geq$	<code>\succeq</code>
$\curlyeqsucc$	<code>\curlyeqsucc</code>	$\ll$	<code>\nevDash</code>	$\gtrsim$	<code>\succsim</code>

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$\dot{=}$	<code>\Doteq</code>	$\nwarrow$	<code>\nwfootline</code>	$\swarrow$	<code>\swfootline</code>
$\doteq$	<code>\doteq</code>	$\nearrow$	<code>\nwfree</code>	$\swarrow$	<code>\swfree</code>
$\downarrow$	<code>\downfootline</code>	$\Rightarrow$	<code>\nwmodels</code>	$\Rightarrow$	<code>\swModels</code>
$\downarrow$	<code>\downfree</code>	$\Rightarrow$	<code>\nwModels</code>	$\Rightarrow$	<code>\swmodels</code>
$\Pi$	<code>\downmodels</code>	$\times$	<code>\nwsecrossing</code>	$\times$	<code>\swVdash</code>
$\overline{\Pi}$	<code>\downModels</code>	$\parallel$	<code>\Nwseline</code>	$\nearrow$	<code>\swvdash</code>
$\propto$	<code>\downpropto</code>	$\searrow$	<code>\nwseline</code>	$\approx$	<code>\triplesim</code>
$\dashv$	<code>\downvdash</code>	$\searrow$	<code>\nwvdash</code>	$ $	<code>\updownline</code>
$\overline{\dashv}$	<code>\downVdash</code>	$\searrow$	<code>\nwVdash</code>	$\parallel$	<code>\Updownline</code>
$\bumpeq$	<code>\eqbump</code>	$<$	<code>\prec</code>	$\vdash$	<code>\upfootline</code>
$\eqcirc$	<code>\eqcirc</code>	$\approx$	<code>\precapprox</code>	$\uparrow$	<code>\upfree</code>
$\dot{=}$	<code>\eqdot</code>	$\approx$	<code>\preccurlyeq</code>	$\parallel$	<code>\upModels</code>
$\sim$	<code>\eqsim</code>	$\leq$	<code>\preceq</code>	$\parallel$	<code>\upmodels</code>
$=$	<code>\equal</code>	$\approx$	<code>\precsim</code>	$\propto$	<code>\uppropto</code>
$\square$	<code>\equalclosed</code>	$\dashv$	<code>\rightfootline</code>	$\perp$	<code>\upvdash</code>
$\equiv$	<code>\equiv</code>	$\rightarrow$	<code>\rightfree</code>	$\perp$	<code>\upVdash</code>
$\boxplus$	<code>\equivclosed</code>	$\models$	<code>\rightmodels</code>	$\times$	<code>\vcrossing</code>
$\fallingdotseq$	<code>\fallingdotseq</code>	$\models$	<code>\rightModels</code>	$\Vdash$	<code>\Vdash</code>

MnSymbol additionally defines synonyms for some of the preceding symbols:

$\dashv$	<code>\dashv</code>	(same as <code>\leftvdash</code> )
$\searrow$	<code>\diagdown</code>	(same as <code>\nwseline</code> )
$\swarrow$	<code>\diagup</code>	(same as <code>\neswline</code> )
$ $	<code>\divides</code>	(same as <code>\updownline</code> )
$\dot{=}$	<code>\doteqdot</code>	(same as <code>\Doteq</code> )
$\models$	<code>\models</code>	(same as <code>\rightmodels</code> )
$\parallel$	<code>\parallel</code>	(same as <code>\Updownline</code> )
$\perp$	<code>\perp</code>	(same as <code>\upvdash</code> )
$\propto$	<code>\propto</code>	(same as <code>\leftpropto</code> )
$\text{---}$	<code>\relbar</code>	(same as <code>\leftrightline</code> )
$\text{=}$	<code>\Relbar</code>	(same as <code>\Leftrightarrow</code> )
$\propto$	<code>\varpropto</code>	(same as <code>\leftpropto</code> )
$\models$	<code>\vDash</code>	(same as <code>\rightmodels</code> )
$\models$	<code>\VDash</code>	(same as <code>\rightModels</code> )
$\vdash$	<code>\vdash</code>	(same as <code>\rightvdash</code> )
$\Vdash$	<code>\Vdash</code>	(same as <code>\rightVdash</code> )

TABLE 142: MnSymbol Negated Binary Relations

$\napprox$	<code>\napprox</code>	$\nleftfootline$	<code>\nleftfootline</code>	$\nrisingdotseq$	<code>\nrisingdotseq</code>
$\napproxeq$	<code>\napproxeq</code>	$\nleftfree$	<code>\nleftfree</code>	$\nsefootline$	<code>\nsefootline</code>
$\nbackapprox$	<code>\nbackapprox</code>	$\nleftmodels$	<code>\nleftmodels</code>	$\nsefree$	<code>\nsefree</code>
$\nbackapproxeq$	<code>\nbackapproxeq</code>	$\nleftModels$	<code>\nleftModels</code>	$\nseModels$	<code>\nseModels</code>
$\nbackcong$	<code>\nbackcong</code>	$\nleftrightline$	<code>\nleftrightline</code>	$\nsemodels$	<code>\nsemodels</code>
$\nbackeqsim$	<code>\nbackeqsim</code>	$\nLeftrightarrow$	<code>\nLeftrightarrow</code>	$\nsevdash$	<code>\nsevdash</code>
$\nbacksim$	<code>\nbacksim</code>	$\nleftvdash$	<code>\nleftvdash</code>	$\nseVdash$	<code>\nseVdash</code>
$\nbacksimeq$	<code>\nbacksimeq</code>	$\nleftVdash$	<code>\nleftVdash</code>	$\nshortmid$	<code>\nshortmid</code>
$\nbacktriple sim$	<code>\nbacktriple sim</code>	$\nnefootline$	<code>\nnefootline</code>	$\nshortparallel$	<code>\nshortparallel</code>
$\nbump eq$	<code>\nbump eq</code>	$\nnefree$	<code>\nnefree</code>	$\nsim$	<code>\nsim</code>
$\nBump eq$	<code>\nBump eq</code>	$\nnemodels$	<code>\nnemodels</code>	$\nsimeq$	<code>\nsimeq</code>
$\ncircle eq$	<code>\ncircle eq</code>	$\nneModels$	<code>\nneModels</code>	$\nsucc$	<code>\nsucc</code>
$\nclosedequal$	<code>\nclosedequal</code>	$\nneswline$	<code>\nneswline</code>	$\nsuccapprox$	<code>\nsuccapprox</code>
$\ncong$	<code>\ncong</code>	$\nNeswline$	<code>\nNeswline</code>	$\nsucccurlyeq$	<code>\nsucccurlyeq</code>
$\ncurlyeqprec$	<code>\ncurlyeqprec</code>	$\nneVdash$	<code>\nneVdash</code>	$\nsucceq$	<code>\nsucceq</code>
$\ncurlyeqsucc$	<code>\ncurlyeqsucc</code>	$\nnevDash$	<code>\nnevDash</code>	$\nsuccsim$	<code>\nsuccsim</code>
$\ndoteq$	<code>\ndoteq</code>	$\nnwfootline$	<code>\nnwfootline</code>	$\nswfootline$	<code>\nswfootline</code>
$\nDoteq$	<code>\nDoteq</code>	$\nnwfree$	<code>\nnwfree</code>	$\nswfree$	<code>\nswfree</code>
$\ndownfootline$	<code>\ndownfootline</code>	$\nnwmodels$	<code>\nnwmodels</code>	$\nswModels$	<code>\nswModels</code>
$\ndownfree$	<code>\ndownfree</code>	$\nnwModels$	<code>\nnwModels</code>	$\nswmodels$	<code>\nswmodels</code>
$\ndownModels$	<code>\ndownModels</code>	$\nNwseline$	<code>\nNwseline</code>	$\nswvdash$	<code>\nswvdash</code>
$\ndownmodels$	<code>\ndownmodels</code>	$\nnwseline$	<code>\nnwseline</code>	$\nswVdash$	<code>\nswVdash</code>
$\ndownVdash$	<code>\ndownVdash</code>	$\nnwvdash$	<code>\nnwvdash</code>	$\ntriple sim$	<code>\ntriple sim</code>
$\ndownvdash$	<code>\ndownvdash</code>	$\nnwVdash$	<code>\nnwVdash</code>	$\nUpdownline$	<code>\nUpdownline</code>
$\neqbump$	<code>\neqbump</code>	$\nprec$	<code>\nprec</code>	$\nupdownline$	<code>\nupdownline</code>
$\neqcirc$	<code>\neqcirc</code>	$\nprecapprox$	<code>\nprecapprox</code>	$\nupfootline$	<code>\nupfootline</code>
$\neqdot$	<code>\neqdot</code>	$\npreccurlyeq$	<code>\npreccurlyeq</code>	$\nupfree$	<code>\nupfree</code>
$\neqsim$	<code>\neqsim</code>	$\npreceq$	<code>\npreceq</code>	$\nupModels$	<code>\nupModels</code>
$\nequal$	<code>\nequal</code>	$\nprec sim$	<code>\nprec sim</code>	$\nupmodels$	<code>\nupmodels</code>
$\nequalclosed$	<code>\nequalclosed</code>	$\nrightfootline$	<code>\nrightfootline</code>	$\nupVdash$	<code>\nupVdash</code>
$\nequiv$	<code>\nequiv</code>	$\nrightfree$	<code>\nrightfree</code>	$\nupvdash$	<code>\nupvdash</code>
$\nequivclosed$	<code>\nequivclosed</code>	$\nrightModels$	<code>\nrightModels</code>	$\precnapprox$	<code>\precnapprox</code>
$\neswcrossing$	<code>\neswcrossing</code>	$\nrightmodels$	<code>\nrightmodels</code>	$\precnsim$	<code>\precnsim</code>
$\nfallingdotseq$	<code>\nfallingdotseq</code>	$\nrightvdash$	<code>\nrightvdash</code>	$\succnapprox$	<code>\succnapprox</code>
$\nhateq$	<code>\nhateq</code>	$\nrightVdash$	<code>\nrightVdash</code>	$\succnsim$	<code>\succnsim</code>

MnSymbol additionally defines synonyms for some of the preceding symbols:

$\dashv$	<code>\ndashv</code>	(same as <code>\leftvdash</code> )
$\searrow$	<code>\ndiagdown</code>	(same as <code>\nnwswline</code> )
$\nearrow$	<code>\ndiagup</code>	(same as <code>\neswline</code> )
$\downharpoonright$	<code>\ndivides</code>	(same as <code>\nupdownline</code> )
$\neq$	<code>\ne</code>	(same as <code>\nequal</code> )
$\neq$	<code>\neq</code>	(same as <code>\nequal</code> )
$\downharpoonright$	<code>\nmid</code>	(same as <code>\nupdownline</code> )
$\models$	<code>\nmodels</code>	(same as <code>\rightmodels</code> )
$\Updownarrow$	<code>\nparallel</code>	(same as <code>\Updownline</code> )
$\perp$	<code>\nperp</code>	(same as <code>\nupvdash</code> )
$\overline{\rightarrow}$	<code>\nrelbar</code>	(same as <code>\leftrighthline</code> )
$\overline{\rightarrow}$	<code>\nRelbar</code>	(same as <code>\Leftrighthline</code> )
$\models$	<code>\nvDash</code>	(same as <code>\rightmodels</code> )
$\vdash$	<code>\nvdash</code>	(same as <code>\rightvdash</code> )
$\Vdash$	<code>\nVdash</code>	(same as <code>\rightVdash</code> )
$\Vdash$	<code>\nVDash</code>	(same as <code>\rightModels</code> )

$\approx$	<code>\approx</code>	$\equiv$	<code>\equiv</code>	$\models$	<code>\rightmodels</code>
$\approx$	<code>\approxeq</code>	$\doteq$	<code>\fallingdotseq</code>	$\Vdash$	<code>\rightVdash</code>
$\cong$	<code>\backcong</code>	$\frown$	<code>\frown</code>	$\Vdash$	<code>\rightVDash</code>
$\propto$	<code>\backpropto</code>	$\frown$	<code>\frown</code>	$\vdash$	<code>\rightvdash</code>
$\sim$	<code>\backsim</code>	$\frown$	<code>\frown</code>	$\Vdash$	<code>\rightvDash</code>
$\in$	<code>\backsimeq</code>	$\in$	<code>\in</code>	$\doteq$	<code>\risingdotseq</code>
$\bowtie$	<code>\between</code>	$\dashv$	<code>\leftassert</code>	$\mid$	<code>\shortmid</code>
$\bowtie$	<code>\bowtie</code>	$\dashv$	<code>\leftAssert</code>	$\parallel$	<code>\shortparallel</code>
$\bumpeq$	<code>\bumpeq</code>	$\vdash$	<code>\leftfootline</code>	$\sim$	<code>\sim</code>
$\Bumpeq$	<code>\Bumpeq</code>	$\doteq$	<code>\leftmodels</code>	$\simeq$	<code>\simeq</code>
$\bumpeq$	<code>\bumpeq</code>	$\vdash$	<code>\leftvdash</code>	$\smile$	<code>\smile</code>
$\circeq$	<code>\circeq</code>	$\doteq$	<code>\leftvDash</code>	$\equiv$	<code>\smileeq</code>
$\coloneq$	<code>\coloneq</code>	$\dashv$	<code>\leftVdash</code>	$\times$	<code>\smilefrown</code>
$\cong$	<code>\cong</code>	$\doteq$	<code>\leftVDash</code>	$\stareq$	<code>\stareq</code>
$\crossing$	<code>\crossing</code>	$\vdash$	<code>\longleftfootline</code>	$\succ$	<code>\succ</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\Longleftarrow$	<code>\Longmapsfrom</code>	$\succapprox$	<code>\succapprox</code>
$\curlyeqsucc$	<code>\curlyeqsucc</code>	$\rightarrow$	<code>\longmapsfrom</code>	$\succcurlyeq$	<code>\succcurlyeq</code>
$\dashv$	<code>\dashv</code>	$\vdash$	<code>\longrightfootline</code>	$\succeq$	<code>\succeq</code>
$\Ddashv$	<code>\Ddashv</code>	$\mid$	<code>\mid</code>	$\succeqq$	<code>\succeqq</code>
$\dot\cong$	<code>\dotcong</code>	$\owns$	<code>\owns</code>	$\succsim$	<code>\succsim</code>
$\doteq$	<code>\doteq</code>	$\parallel$	<code>\parallel</code>	$\thickapprox$	<code>\thickapprox</code>
$\Doteq$	<code>\Doteq</code>	$\prec$	<code>\prec</code>	$\thicksim$	<code>\thicksim</code>
$\dot{-}$	<code>\dotsminusdots</code>	$\approx$	<code>\precapprox</code>	$\tripleapprox$	<code>\tripleapprox</code>
$\Downarrow$	<code>\downAssert</code>	$\prec$	<code>\precapprox</code>	$\Uparrow$	<code>\upassert</code>

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$\top$	<code>\downassert</code>	$\preceq$	<code>\preceq</code>	$\perp$	<code>\upAssert</code>
$\pi$	<code>\downmodels</code>	$\preceqq$	<code>\preceqq</code>	$\perp$	<code>\upmodels</code>
$\overline{\pi}$	<code>\downvDash</code>	$\preccurlyeq$	<code>\preccurlyeq</code>	$\perp$	<code>\upvdash</code>
$\overline{\top}$	<code>\downVdash</code>	$\precneq$	<code>\precneq</code>	$\perp$	<code>\upvDash</code>
$\overline{\top}$	<code>\downvdash</code>	$\precneqq$	<code>\precneqq</code>	$\perp$	<code>\upVdash</code>
$\overline{\pi}$	<code>\downVDash</code>	$\precnsim$	<code>\precnsim</code>	$\perp$	<code>\upVDash</code>
$\equiv$	<code>\eqcirc</code>	$\prec$	<code>\prec</code>	$\equiv$	<code>\vDash</code>
$\equiv$	<code>\eqcolon</code>	$\propto$	<code>\propto</code>	$\equiv$	<code>\veeeq</code>
$\cdot$	<code>\eqdot</code>	$\vdash$	<code>\rightassert</code>	$\vdash$	<code>\Vdash</code>
$\sim$	<code>\eqsim</code>	$\Vdash$	<code>\rightAssert</code>	$\triangleq$	<code>\wedg eq</code>
$=$	<code>\equal</code>	$\dashv$	<code>\rightfootline</code>		

FdSymbol defines synonyms for many of the preceding symbols:

$\approx$	<code>\approxident</code>	$\dashv$	<code>\dashv</code>	$\vdash$	<code>\shortrighttack</code>
$\equiv$	<code>\arceq</code>	$\doteqdot$	<code>\doteqdot</code>	$\perp$	<code>\shortuptack</code>
$\Vdash$	<code>\Assert</code>	$\equiv$	<code>\eqqcolon</code>	$\frown$	<code>\smallfrown</code>
$\vdash$	<code>\assert</code>	$\hat{=}$	<code>\hateq</code>	$\smile$	<code>\smallsmile</code>
$\asymp$	<code>\asymp</code>	$\Join$	<code>\Join</code>	$\propto$	<code>\varpropto</code>
$\overline{\top}$	<code>\Barv</code>	$\longdashv$	<code>\longdashv</code>	$\perp$	<code>\vBar</code>
$\overline{\pi}$	<code>\barV</code>	$\models$	<code>\models</code>	$\perp$	<code>\Vbar</code>
$\circ$	<code>\closure</code>	$\ni$	<code>\ni</code>	$\models$	<code>\vDash</code>
$\coloneqq$	<code>\coloneqq</code>	$\perp$	<code>\perp</code>	$\models$	<code>\VDash</code>
$\dashv$	<code>\dashv</code>	$\propto$	<code>\propfrom</code>	$\models$	<code>\Vdash</code>
$\DashV$	<code>\DashV</code>	$\top$	<code>\shortdowntack</code>	$\vdash$	<code>\vdash</code>
$\Dashv$	<code>\Dashv</code>	$\dashv$	<code>\shortlefttack</code>	$\vdash$	<code>\vDash</code>
				$\longdashv$	<code>\vlongdash</code>

TABLE 147: FdSymbol Negated Binary Relations

$\napprox$	<code>\backsimneqq</code>	$\napprox$	<code>\nin</code>	$\napprox$	<code>\nsim</code>
$\napprox$	<code>\napprox</code>	$\nleftassert$	<code>\nleftAssert</code>	$\napprox$	<code>\nsimeq</code>
$\napprox$	<code>\napproxeq</code>	$\nleftassert$	<code>\nleftassert</code>	$\napprox$	<code>\nsmile</code>
$\napprox$	<code>\nbackcong</code>	$\nleftfootline$	<code>\nleftfootline</code>	$\napprox$	<code>\nsmileeq</code>
$\napprox$	<code>\nbacksim</code>	$\nleftmodels$	<code>\nleftmodels</code>	$\napprox$	<code>\nsmilefrown</code>
$\napprox$	<code>\nbacksimeq</code>	$\nleftvDash$	<code>\nleftvDash</code>	$\napprox$	<code>\nstareq</code>
$\napprox$	<code>\nbumpeq</code>	$\nleftvdash$	<code>\nleftvdash</code>	$\napprox$	<code>\nsucc</code>
$\napprox$	<code>\nBumpeq</code>	$\nleftVdash$	<code>\nleftVdash</code>	$\napprox$	<code>\nsuccapprox</code>
$\napprox$	<code>\nbumpeq</code>	$\nleftVDash$	<code>\nleftVDash</code>	$\napprox$	<code>\nsucccurlyeq</code>
$\napprox$	<code>\ncirceq</code>	$\nlongleftfootline$	<code>\nlongleftfootline</code>	$\napprox$	<code>\nsucceq</code>

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$\ncong$	<code>\ncong</code>	$\nlongmapsfrom$	<code>\nLongmapsfrom</code>	$\nsucceqq$	<code>\nsucceqq</code>
$\ncurlyeqprec$	<code>\ncurlyeqprec</code>	$\nlongmapsfrom$	<code>\nlongmapsfrom</code>	$\nsuccsim$	<code>\nsuccsim</code>
$\ncurlyeqsucc$	<code>\ncurlyeqsucc</code>	$\nlongrightfootline$	<code>\nlongrightfootline</code>	$\ntriplesim$	<code>\ntriplesim</code>
$\ndashVv$	<code>\ndashVv</code>	$\nmid$	<code>\nmid</code>	$\nupassert$	<code>\nupassert</code>
$\ndashv$	<code>\ndashv</code>	$\nowns$	<code>\nowns</code>	$\nupAssert$	<code>\nupAssert</code>
$\ndoteq$	<code>\ndoteq</code>	$\nparallel$	<code>\nparallel</code>	$\nupmodels$	<code>\nupmodels</code>
$\nDoteq$	<code>\nDoteq</code>	$\nprec$	<code>\nprec</code>	$\nupVDash$	<code>\nupVDash</code>
$\ndownassert$	<code>\ndownassert</code>	$\nprecapprox$	<code>\nprecapprox</code>	$\nupvDash$	<code>\nupvDash</code>
$\ndownAssert$	<code>\ndownAssert</code>	$\nprec curlyeq$	<code>\nprec curlyeq</code>	$\nupVdash$	<code>\nupVdash</code>
$\ndownmodels$	<code>\ndownmodels</code>	$\npreceq$	<code>\npreceq</code>	$\nupvdash$	<code>\nupvdash</code>
$\ndownvdash$	<code>\ndownvdash</code>	$\npreceqq$	<code>\npreceqq</code>	$\nvDash$	<code>\nvDash</code>
$\ndownVdash$	<code>\ndownVdash</code>	$\nprec sim$	<code>\nprec sim</code>	$\nvveeq$	<code>\nvveeq</code>
$\ndownvDash$	<code>\ndownvDash</code>	$\nrighthassert$	<code>\nrighthassert</code>	$\nVvdash$	<code>\nVvdash</code>
$\neqcirc$	<code>\neqcirc</code>	$\nrighthAssert$	<code>\nrighthAssert</code>	$\nwedgeq$	<code>\nwedgeq</code>
$\neqdot$	<code>\neqdot</code>	$\nrighthfootline$	<code>\nrighthfootline</code>	$\nprecneq$	<code>\nprecneq</code>
$\neqsim$	<code>\neqsim</code>	$\nrighthmodels$	<code>\nrighthmodels</code>	$\nprecneqq$	<code>\nprecneqq</code>
$\nequal$	<code>\nequal</code>	$\nrighthvdash$	<code>\nrighthvdash</code>	$\nsimneqq$	<code>\nsimneqq</code>
$\nequiv$	<code>\nequiv</code>	$\nrighthVdash$	<code>\nrighthVdash</code>	$\succnapprox$	<code>\succnapprox</code>
$\nfallingdotseq$	<code>\nfallingdotseq</code>	$\nrighthvDash$	<code>\nrighthvDash</code>	$\succneq$	<code>\succneq</code>
$\nfrown$	<code>\nfrown</code>	$\nrighthVDash$	<code>\nrighthVDash</code>	$\succneqq$	<code>\succneqq</code>
$\nfrown eq$	<code>\nfrown eq</code>	$\nrisingdotseq$	<code>\nrisingdotseq</code>	$\succnsim$	<code>\succnsim</code>
$\nfrown smile$	<code>\nfrown smile</code>	$\nshortmid$	<code>\nshortmid</code>		
		$\nshortparallel$	<code>\nshortparallel</code>		

FdSymbol defines synonyms for many of the preceding symbols:

$\napproxident$	<code>\napproxident</code>	$\ndashV$	<code>\ndashV</code>	$\nshorttrighthtack$	<code>\nshorttrighthtack</code>
$\narceq$	<code>\narceq</code>	$\ne$	<code>\ne</code>	$\nshortuptack$	<code>\nshortuptack</code>
$\nAssert$	<code>\nAssert</code>	$\neq$	<code>\neq</code>	$\nsime$	<code>\nsime</code>
$\nassert$	<code>\nassert</code>	$\nhateq$	<code>\nhateq</code>	$\nvBar$	<code>\nvBar</code>
$\nasymp$	<code>\nasymp</code>	$\nlongdashv$	<code>\nlongdashv</code>	$\nVbar$	<code>\nVbar</code>
$\nBarv$	<code>\nBarv</code>	$\nmodels$	<code>\nmodels</code>	$\nVdash$	<code>\nVdash</code>
$\nbarV$	<code>\nbarV</code>	$\nni$	<code>\nni</code>	$\nvDash$	<code>\nvDash</code>
$\nclosure$	<code>\nclosure</code>	$\notin$	<code>\notin</code>	$\nVDash$	<code>\nVDash</code>
$\nDashV$	<code>\nDashV</code>	$\nperp$	<code>\nperp</code>	$\nvdash$	<code>\nvdash</code>
$\nDashv$	<code>\nDashv</code>	$\nshortdowntack$	<code>\nshortdowntack</code>	$\nvlongdash$	<code>\nvlongdash</code>
$\ndashv$	<code>\ndashv</code>	$\nshortlefttack$	<code>\nshortlefttack</code>		

TABLE 150: boisk Binary Relations

$\approx$	<code>\ac</code>	$\parallel$	<code>\fatslash</code>	$\curlywedge$	<code>\scurel</code>
$\approx$	<code>\approxeq</code>	$\ni$	<code>\forkv</code>	$\mid$	<code>\shortmid</code>
$\models$	<code>\arceq</code>	$\frown$	<code>\frown</code>	$\parallel$	<code>\shortparallel</code>
$\backsimeq$	<code>\backsim</code>	$\ggcurly$	<code>\ggcurly</code>	$\sim$	<code>\simrdots</code>
$\backsimeq$	<code>\backsimeq</code>	$\#$	<code>\hash</code>	$\smallfrown$	<code>\smallfrown</code>
$\in$	<code>\bagmember</code>	$\inplus$	<code>\inplus</code>	$\smallsmile$	<code>\smallsmile</code>
$\because$	<code>\because</code>	$\kernelcontraction$	<code>\kernelcontraction</code>	$\smile$	<code>\smile</code>
$\between$	<code>\between</code>	$\llcurly$	<code>\llcurly</code>	$\strictfi$	<code>\strictfi</code>
$\bumpeq$	<code>\bumpeq</code>	$\multimap$	<code>\multimap</code>	$\strictif$	<code>\strictif</code>
$\Bumpeq$	<code>\Bumpeq</code>	$\multimapboth$	<code>\multimapboth</code>	$\succapprox$	<code>\succapprox</code>
$\circeq$	<code>\circeq</code>	$\multimapbothvert$	<code>\multimapbothvert</code>	$\succcurlyeq$	<code>\succcurlyeq</code>
$\CircledEq$	<code>\CircledEq</code>	$\multimapdot$	<code>\multimapdot</code>	$\succnapprox$	<code>\succnapprox</code>
$\cong$	<code>\cong</code>	$\multimapdotboth$	<code>\multimapdotboth</code>	$\succneqq$	<code>\succneqq</code>
$\corresponds$	<code>\corresponds</code>	$\multimapdotbothA$	<code>\multimapdotbothA</code>	$\succnsim$	<code>\succnsim</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\multimapdotbothAvert$	<code>\multimapdotbothAvert</code>	$\succsim$	<code>\succsim</code>
$\curlyeqsucc$	<code>\curlyeqsucc</code>	$\multimapdotbothB$	<code>\multimapdotbothB</code>	$\therefore$	<code>\therefore</code>
$\dashV$	<code>\dashV</code>	$\multimapdotbothBvert$	<code>\multimapdotbothBvert</code>	$\thickapprox$	<code>\thickapprox</code>
$\DashV$	<code>\DashV</code>	$\multimapdotbothvert$	<code>\multimapdotbothvert</code>	$\thicksim$	<code>\thicksim</code>
$\dashVv$	<code>\dashVv</code>	$\multimapdotinv$	<code>\multimapdotinv</code>	$\topfork$	<code>\topfork</code>
$\dfourier$	<code>\dfourier</code>	$\multimapinv$	<code>\multimapinv</code>	$\triangleq$	<code>\triangleq</code>
$\Dfourier$	<code>\Dfourier</code>	$\niplus$	<code>\niplus</code>	$\varhash$	<code>\varhash</code>
$\disin$	<code>\disin</code>	$\nisd$	<code>\nisd</code>	$\varisins$	<code>\varisins</code>
$\doteq$	<code>\doteq</code>	$\Perp$	<code>\Perp</code>	$\varnis$	<code>\varnis</code>
$\doteqdot$	<code>\doteqdot</code>	$\pitchfork$	<code>\pitchfork</code>	$\varpropto$	<code>\varpropto</code>
$\dotminus$	<code>\dotminus</code>	$\precapprox$	<code>\precapprox</code>	$\Vdash$	<code>\Vdash</code>
$\dotsim$	<code>\dotsim</code>	$\preccurlyeq$	<code>\preccurlyeq</code>	$\vDash$	<code>\vDash</code>
$\eqbumped$	<code>\eqbumped</code>	$\precnapprox$	<code>\precnapprox</code>	$\VDash$	<code>\VDash</code>
$\eqcirc$	<code>\eqcirc</code>	$\precneqq$	<code>\precneqq</code>	$\veeeq$	<code>\veeeq</code>
$\eqsim$	<code>\eqsim</code>	$\precnsim$	<code>\precnsim</code>	$\Vvdash$	<code>\Vvdash</code>
$\equalparallel$	<code>\equalparallel</code>	$\precsim$	<code>\precsim</code>	$\ztransf$	<code>\ztransf</code>
$\fallingdotseq$	<code>\fallingdotseq</code>	$\prurel$	<code>\prurel</code>	$\Ztransf$	<code>\Ztransf</code>
$\fatbslash$	<code>\fatbslash</code>	$\risingdotseq$	<code>\risingdotseq</code>		

TABLE 152: boisk Negated Binary Relations

$\ncong$	<code>\ncong</code>	$\npreceq$	<code>\npreceq</code>	$\nVDash$	<code>\nVDash</code>
$\neq$	<code>\neq</code>	$\nshortmid$	<code>\nshortmid</code>	$\nVdash$	<code>\nVdash</code>
$\nequiv$	<code>\nequiv</code>	$\nshortparallel$	<code>\nshortparallel</code>	$\nvDash$	<code>\nvDash</code>
$\nmid$	<code>\nmid</code>	$\nsim$	<code>\nsim</code>	$\nvDash$	<code>\nvDash</code>
$\nparallel$	<code>\nparallel</code>	$\nsucc$	<code>\nsucc</code>		
$\nprec$	<code>\nprec</code>	$\nsucceq$	<code>\nsucceq</code>		

TABLE 153: stix Binary Relations

$\approx$	<code>\approx</code>	$\#$	<code>\eqvparsl</code>	$\rightarrow$	<code>\rightfishtail</code>
$\approx$	<code>\approxeq</code>	$\equiv$	<code>\fallingdotseq</code>	$\Rightarrow$	<code>\rightimply</code>
$\approx$	<code>\approxeqq</code>	$\bowtie$	<code>\fbowtie</code>	$\rhd$	<code>\righttail</code>
$\approx$	<code>\approxident</code>	$\downarrow$	<code>\forksnot</code>	$\equiv$	<code>\risingdotseq</code>
$\approx$	<code>\arceq</code>	$\oslash$	<code>\forkv</code>	$\sqsubset$	<code>\rsqhook</code>
$\vdash$	<code>\assert</code>	$\frown$	<code>\frown</code>	$\rightarrow$	<code>\ruledelayed</code>
$\approx$	<code>\asteq</code>	$\mathbb{H}$	<code>\gleichstark</code>	$\simeq$	<code>\scurel</code>
$\asymp$	<code>\asymp</code>	$\hat{\approx}$	<code>\hatapprox</code>	$\dashv$	<code>\shortdowntack</code>
$\backcong$	<code>\backcong</code>	$\bullet \circ$	<code>\imageof</code>	$\dashv$	<code>\shortlefttack</code>
$\backsim$	<code>\backsim</code>	$\in$	<code>\in</code>	$\mid$	<code>\shortmid</code>
$\backsimeq$	<code>\backsimeq</code>	$\dot{\in}$	<code>\isindot</code>	$\equiv$	<code>\shortparallel</code>
$\in$	<code>\bagmember</code>	$\in$	<code>\isinE</code>	$\vdash$	<code>\shortuptack</code>
$\bar{\vee}$	<code>\Barv</code>	$\in$	<code>\isinobar</code>	$\sim$	<code>\sim</code>
$\bar{\vee}$	<code>\barV</code>	$\in$	<code>\isins</code>	$\simeq$	<code>\simeq</code>
$\between$	<code>\between</code>	$\in$	<code>\isinvb</code>	$\approx$	<code>\simminussim</code>
$\nabla$	<code>\bNot</code>	$\sim$	<code>\kernelcontraction</code>	$\neq$	<code>\simneqq</code>
$\bowtie$	<code>\bowtie</code>	$\leftarrow$	<code>\leftdbltail</code>	$\sim$	<code>\simdots</code>
$\bumpeq$	<code>\Bumpeq</code>	$\rightarrow$	<code>\leftfishtail</code>	$\smile$	<code>\smallfrown</code>
$\bumpeq$	<code>\bumpeq</code>	$\rightarrow$	<code>\lefttail</code>	$\in$	<code>\smallin</code>
$\bumpeq$	<code>\bumpeq</code>	$\bowtie$	<code>\lfbowtie</code>	$\ni$	<code>\smallni</code>
$\circ$	<code>\cirbot</code>	$\times$	<code>\lftimes</code>	$\smile$	<code>\smallsmile</code>
$\approx$	<code>\circeq</code>	$\longdashv$	<code>\longdashv</code>	$\#$	<code>\smeparsl</code>
$\circ$	<code>\cirmid</code>	$\sqsubset$	<code>\lsqhook</code>	$\smile$	<code>\smile</code>
$\circ$	<code>\closure</code>	$\equiv$	<code>\measeq</code>	$\equiv$	<code>\stareq</code>
$\equiv$	<code>\Coloneq</code>	$\mid$	<code>\mid</code>	$\succ$	<code>\succ</code>
$\equiv$	<code>\coloneq</code>	$\circ$	<code>\midcir</code>	$\succ$	<code>\Succ</code>
$\cong$	<code>\cong</code>	$\oslash$	<code>\mlcp</code>	$\approx$	<code>\succapprox</code>
$\cong$	<code>\congdot</code>	$\models$	<code>\models</code>	$\approx$	<code>\succcurlyeq</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\circ$	<code>\multimap</code>	$\succ$	<code>\succeq</code>
$\curlyeqsucc$	<code>\curlyeqsucc</code>	$\circ$	<code>\multimapinv</code>	$\approx$	<code>\succeqq</code>
$\dashcolon$	<code>\dashcolon</code>	$\ni$	<code>\ni</code>	$\approx$	<code>\succnapprox</code>
$\dashv$	<code>\dashv</code>	$\ni$	<code>\niobar</code>	$\approx$	<code>\succneq</code>
$\dashv$	<code>\dashV</code>	$\ni$	<code>\nis</code>	$\approx$	<code>\succneqq</code>
$\Dashv$	<code>\Dashv</code>	$\ni$	<code>\nisd</code>	$\approx$	<code>\succnsim</code>
$\DashV$	<code>\DashV</code>	$\neg$	<code>\Not</code>	$\approx$	<code>\succsim</code>
$\DashVDash$	<code>\DashVDash</code>	$/$	<code>\notchar</code>	$\approx$	<code>\thickapprox</code>
$\dashVdash$	<code>\dashVdash</code>	$\circ \bullet$	<code>\origof</code>	$\sim$	<code>\thicksim</code>
$\ddot{\equiv}$	<code>\ddotseq</code>	$\parallel$	<code>\parallel</code>	$\oslash$	<code>\topfork</code>
$\in$	<code>\disin</code>	$\neq$	<code>\parsim</code>	$\rightarrow$	<code>\upfishtail</code>
$\doteq$	<code>\Doteq</code>	$\perp$	<code>\perp</code>	$\in$	<code>\upin</code>
$\doteq$	<code>\doteq</code>	$\oslash$	<code>\pitchfork</code>	$\in$	<code>\varisinobar</code>
$\dotequiv$	<code>\dotequiv</code>	$\prec$	<code>\prec</code>	$\in$	<code>\varisins</code>

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$\sim$	<code>\dotsim</code>	$\preccurlyeq$	<code>\Prec</code>	$\varinjlim$	<code>\varniobar</code>
$\dotso$	<code>\dotsminusdots</code>	$\approx$	<code>\precapprox</code>	$\varprojlim$	<code>\varnis</code>
$\downarrow$	<code>\downfishtail</code>	$\preccurlyeq$	<code>\preccurlyeqeq</code>	$\propto$	<code>\varpropto</code>
$\circlearrowleft$	<code>\dualmap</code>	$\preceq$	<code>\preceq</code>	$\dashv$	<code>\varVdash</code>
$\#$	<code>\eparsl</code>	$\preceq$	<code>\preceqeq</code>	$\vDash$	<code>\vBar</code>
$\#$	<code>\eqcirc</code>	$\preccurlyeq$	<code>\precnapprox</code>	$\Vdash$	<code>\Vbar</code>
$\equiv$	<code>\eqcolon</code>	$\precneq$	<code>\precneq</code>	$\vdash$	<code>\vBarv</code>
$\stackrel{\text{def}}{=}$	<code>\eqdef</code>	$\precneqq$	<code>\precneqq</code>	$\Vdash$	<code>\Vdash</code>
$\dot{=}$	<code>\eqdot</code>	$\precnsim$	<code>\precnsim</code>	$\vdash$	<code>\vdash</code>
$=$	<code>\eqeq</code>	$\precsim$	<code>\precsim</code>	$\Vdash$	<code>\vDash</code>
$=$	<code>\eqeqeq</code>	$\propto$	<code>\propto</code>	$\Vdash$	<code>\VDash</code>
$\approx$	<code>\eqqsim</code>	$\prurel$	<code>\prurel</code>	$\Vdash$	<code>\VDash</code>
$\sim$	<code>\eqsim</code>	$\pullback$	<code>\pullback</code>	$\vdots$	<code>\vdots</code>
$\#$	<code>\equalparallel</code>	$\pushout$	<code>\pushout</code>	$\vee$	<code>\veeq</code>
$\equiv$	<code>\equiv</code>	$\questeq$	<code>\questeq</code>	$\wedge$	<code>\veeonwedge</code>
$\equiv$	<code>\Equiv</code>	$\revnmid$	<code>\revnmid</code>	$\mid$	<code>\vertoverlay</code>
$\equiv$	<code>\equivDD</code>	$\rftimes$	<code>\rftimes</code>	$\longdash$	<code>\vlongdash</code>
$\#$	<code>\equivVert</code>	$\rftimes$	<code>\rftimes</code>	$\Vdash$	<code>\Vdash</code>
$\#$	<code>\equivVvert</code>	$\rightdbltail$	<code>\rightdbltail</code>	$\triangleq$	<code>\wedseq</code>

stix defines `\owns` as a synonym for `\ni` and `\doteqdot` as a synonym for `\Doteq`.

TABLE 155: stix Negated Binary Relations

$\nexists$	<code>\forks</code>	$\nparallel$	<code>\nhpar</code>	$\nsime$	<code>\nsime</code>
$\approx$	<code>\napprox</code>	$\nmid$	<code>\nmid</code>	$\nsucc$	<code>\nsucc</code>
$\approx$	<code>\napproxeqq</code>	$\nni$	<code>\nni</code>	$\nsucccurlyeq$	<code>\nsucccurlyeq</code>
$\asymp$	<code>\nasymp</code>	$\notin$	<code>\notin</code>	$\nsucceq$	<code>\nsucceq</code>
$\nbumpeq$	<code>\nbumpeq</code>	$\nparallel$	<code>\nparallel</code>	$\nvarisinobar$	<code>\nvarisinobar</code>
$\nbumpeq$	<code>\nbumpeq</code>	$\nprec$	<code>\nprec</code>	$\nvarniobar$	<code>\nvarniobar</code>
$\ncong$	<code>\ncong</code>	$\npreccurlyeq$	<code>\npreccurlyeq</code>	$\nvDash$	<code>\nvDash</code>
$\ncongdot$	<code>\ncongdot</code>	$\npreceq$	<code>\npreceq</code>	$\nvDash$	<code>\nvDash</code>
$\neq$	<code>\neq</code>	$\nshortmid$	<code>\nshortmid</code>	$\nVDash$	<code>\nVDash</code>
$\neqsim$	<code>\neqsim</code>	$\nshortparallel$	<code>\nshortparallel</code>	$\nVdash$	<code>\nVdash</code>
$\nequiv$	<code>\nequiv</code>	$\nsim$	<code>\nsim</code>		

stix defines `\neq` as a synonym for `\neq`, `\nsimeq` as a synonym for `\nsime`, and `\nforksnot` as a synonym for `\forks`.

TABLE 156: mathtools Binary Relations

$::\approx$	<code>\Colonapprox</code>	$:-$	<code>\coloneq</code>	$-::$	<code>\Eqcolon</code>
$\approx$	<code>\colonapprox</code>	$\sim$	<code>\colonsim</code>	$=:$	<code>\eqqcolon</code>
$:=$	<code>\coloneqq</code>	$::\sim$	<code>\Colonsim</code>	$=::$	<code>\Eqqcolon</code>
$::=$	<code>\Coloneqq</code>	$::$	<code>\dblcolon</code>		
$::-$	<code>\Coloneq</code>	$-:$	<code>\eqcolon</code>		

Similar symbols can be defined using `mathtools`'s `\vcentcolon`, which produces a colon centered on the font's math axis:

$$\begin{array}{ccc} \overline{\overline{\frac{def}{abc}}} & \text{vs.} & \overline{\overline{\frac{def}{abc}}} \\ \text{"=:="} & & \text{"=\vcentcolon="} \end{array}$$

TABLE 157: turnstile Binary Relations

$\overline{\overline{\frac{def}{abc}}}$	<code>\dddtstile{abc}{def}</code>	$\frac{def}{abc}$	<code>\nntstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\stdtstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dddststile{abc}{def}</code>	$\frac{def}{abc}   $	<code>\nnttstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\sttstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\ddtstile{abc}{def}</code>	$\frac{def}{abc}  $	<code>\nsdtstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\sttstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\ddttstile{abc}{def}</code>	$\frac{def}{abc} $	<code>\nsststile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\stttstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dndtstile{abc}{def}</code>	$\frac{def}{abc}$	<code>\nststile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tddtstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dnststile{abc}{def}</code>	$\frac{def}{abc}   $	<code>\nsttstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tddststile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dntstile{abc}{def}</code>	$\frac{def}{abc}  $	<code>\ntdtstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tdtstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dnttstile{abc}{def}</code>	$\frac{def}{abc}$	<code>\ntststile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tdttstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dsdtstile{abc}{def}</code>	$\frac{def}{abc}   $	<code>\nttstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tndtstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dsststile{abc}{def}</code>	$\frac{def}{abc}  $	<code>\ntttstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tnststile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dststile{abc}{def}</code>	$\frac{def}{abc}$	<code>\sddtstile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tntstile{abc}{def}</code>
$\overline{\overline{\frac{def}{abc}}}$	<code>\dsttstile{abc}{def}</code>	$\frac{def}{abc}   $	<code>\sdststile{abc}{def}</code>	$\overline{\overline{\frac{def}{abc}}}$	<code>\tnttstile{abc}{def}</code>

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$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\dtdtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\sdtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\tsdtstile{abc}{def}</code>
$\frac{\frac{def}{abc}}{abc}$	<code>\dtststile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\sdtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\tsststile{abc}{def}</code>
$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\dttstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\sndtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\tststile{abc}{def}</code>
$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\dtttstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\snststile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\tsttstile{abc}{def}</code>
$\frac{\frac{def}{abc}}{abc}$	<code>\nddtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\sntstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\ttdtstile{abc}{def}</code>
$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\ndststile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\snttstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\ttststile{abc}{def}</code>
$\frac{\frac{def}{abc}}{abc}$	<code>\ndtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\ssdtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\tttstile{abc}{def}</code>
$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\ndttstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\ssststile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\ttttstile{abc}{def}</code>
$\frac{\frac{def}{abc}}{abc}$	<code>\nndtstile{abc}{def}</code>	$\frac{\frac{def}{abc}}{abc}$	<code>\sststile{abc}{def}</code>		
$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\nnststile{abc}{def}</code>	$\frac{\frac{def}{abc}}{\frac{abc}{abc}}$	<code>\ssttstile{abc}{def}</code>		

See the turnstile package note on page 460.

TABLE 159: trsym Binary Relations

$\circ \dashv \circ$	<code>\InversTransformHoriz</code>	$\circ \dashv \bullet$	<code>\TransformHoriz</code>
$\circ \dashv$	<code>\InversTransformVert</code>	$\circ \dashv$	<code>\TransformVert</code>

TABLE 160: trfsigns Binary Relations

$\circ \frown$	<code>\dfourier</code>	$\frown \circ$	<code>\Dfourier</code>
$\circ \text{---}$	<code>\fourier</code>	$\text{---} \circ$	<code>\Fourier</code>
$\circ \text{---} \bullet$	<code>\laplace</code>	$\bullet \text{---} \circ$	<code>\Laplace</code>
$\circ \frown \bullet$	<code>\ztransf</code>	$\bullet \frown \circ$	<code>\Ztransf</code>

TABLE 161: pdfMsym Binary Relations

$\Leftarrow$	<code>\leftPP</code>	$\Longleftarrow$	<code>\longgroundedarrow</code>	$\Rrightarrow$	<code>\roundedarrow</code>
$\Longleftarrow$	<code>\longleftPP</code>	$\Longrightarrow$	<code>\longsquaredarrow</code>	$\Rrightarrow$	<code>\squaredarrow</code>
$\Longleftarrow$	<code>\longrightPP</code>	$\Longleftarrow$	<code>\rightPP</code>		

See the pdfMsym package note on page 456.

TABLE 162: cml Binary Relations

$\circ$	<code>\coh</code>	$\frown$	<code>\scoh</code>
$\succ$	<code>\incoh</code>	$\smile$	<code>\sincoh</code>
$\perp$	<code>\Perp</code>	$\lrcorner$	<code>\simperp</code>
$\multimap$	<code>\multimapboth</code>		

TABLE 163: colonequals Binary Relations

$\approx$	<code>\approxcolon</code>	$\colon-$	<code>\coloncolonminus</code>	$=\colon$	<code>\equalscoloncolon</code>
$\approx\colon$	<code>\approxcoloncolon</code>	$\colon\sim$	<code>\coloncolonsim</code>	$-\colon$	<code>\minuscolon</code>
$\colon\approx$	<code>\colonapprox</code>	$\colon=$	<code>\colonequals</code>	$-\colon$	<code>\minuscoloncolon</code>
$\colon$	<code>\coloncolon</code>	$\colon-$	<code>\coloncolonminus</code>	$:$	<code>\ratio</code>
$\colon\approx$	<code>\coloncolonapprox</code>	$\colon\sim$	<code>\colonsim</code>	$\sim\colon$	<code>\simcolon</code>
$\colon=$	<code>\coloncolonequals</code>	$\colon=$	<code>\equalscolon</code>	$\sim\colon$	<code>\simcoloncolon</code>

TABLE 164: fourier Binary Relations

$\nparallel$	<code>\nparallelslant</code>	$\parallel$	<code>\parallelslant</code>
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TABLE 165: logix Binary Relations

$\equiv$	<code>\ClsEquiv</code>	$\neq$	<code>\NotClsEquiv</code>	$\nrightarrow$	<code>\NotPre</code>	$\prec$	<code>\Pre</code>
$\supset$	<code>\ClsImpl</code>	$\nrightarrow$	<code>\NotClsImpl</code>	$\nrightarrow$	<code>\NotPreq</code>	$\preceq$	<code>\Preq</code>
$\models$	<code>\Conseq</code>	$\nmodels$	<code>\NotConseq</code>	$\nrightarrow$	<code>\NotRule</code>	$\vdash$	<code>\Rule</code>
$\models$	<code>\DTrpTurn</code>	$\nmodels$	<code>\NotDTrpTurn</code>	$\nrightarrow$	<code>\NotSeq</code>	$\succ$	<code>\Seq</code>
$\models$	<code>\DTurnDWavy</code>	$\nmodels$	<code>\NotDTurnDWavy</code>	$\nrightarrow$	<code>\NotSuc</code>	$\succ$	<code>\Suc</code>
$\models$	<code>\DTurnWavy</code>	$\nmodels$	<code>\NotDTurnWavy</code>	$\nrightarrow$	<code>\NotSucq</code>	$\succeq$	<code>\Sucq</code>
$\models$	<code>\Model</code>	$\nmodels$	<code>\NotModel</code>	$\nrightarrow$	<code>\NotTrpTurn</code>	$\models$	<code>\TrpTurn</code>
$\multimap$	<code>\MulMap</code>	$\nmultimap$	<code>\NotMulMap</code>	$\nrightarrow$	<code>\NotTurn</code>	$\models$	<code>\Turn</code>
$\multimap$	<code>\MulMapDual</code>	$\nmultimap$	<code>\NotMulMapDual</code>	$\nrightarrow$	<code>\NotTurnDWavy</code>	$\models$	<code>\TurnDWavy</code>
$\multimap$	<code>\MulMapInv</code>	$\nmultimap$	<code>\NotMulMapInv</code>	$\nrightarrow$	<code>\NotTurnWavy</code>	$\models$	<code>\TurnWavy</code>

See the logix package note on page 454.

TABLE 166: logix Set Symbols

$\in$	<code>\In</code>	$\nexists$	<code>\NotOwns</code>	$:$	<code>\Of</code>	$\emptyset$	<code>\VoidBunch</code>
$\notin$	<code>\NotIn</code>	$\emptyset$	<code>\NullSet</code>	$\ni$	<code>\Owns</code>		

See the logix package note on page 454.

TABLE 167: Subset and Superset Relations

$\sqsubset$	<code>\sqsubset*</code>	$\sqsupseteq$	<code>\sqsupseteq</code>	$\supset$	<code>\supset</code>
$\sqsubseteq$	<code>\sqsubseteq</code>	$\subset$	<code>\subset</code>	$\supseteq$	<code>\supseteq</code>
$\sqsupset$	<code>\sqsupset*</code>	$\subseteq$	<code>\subseteq</code>		

\* Not predefined by the  $\text{\LaTeX}2_{\epsilon}$  core. Use the `latexsym` package to expose this symbol.

TABLE 168:  $\mathcal{AMS}$  Subset and Superset Relations

$\not\subseteq$	<code>\nsubseteq</code>	$\subseteqq$	<code>\subseteqq</code>	$\supsetneqq$	<code>\supsetneqq</code>
$\not\supseteq$	<code>\nsupseteq</code>	$\subsetneq$	<code>\subsetneq</code>	$\varsubsetneq$	<code>\varsubsetneq</code>
$\not\supseteqq$	<code>\nsupseteqq</code>	$\subsetneqq$	<code>\subsetneqq</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\sqsubset$	<code>\sqsubset</code>	$\Supset$	<code>\Supset</code>	$\varsupsetneq$	<code>\varsupsetneq</code>
$\sqsupset$	<code>\sqsupset</code>	$\supseteqq$	<code>\supseteqq</code>	$\varsupsetneqq$	<code>\varsupsetneqq</code>
$\Subset$	<code>\Subset</code>	$\supsetneq$	<code>\supsetneq</code>		

TABLE 169: `stmaryd` Subset and Superset Relations

$\oplus$	<code>\subsetplus</code>	$\oplus$	<code>\supsetplus</code>
$\oplus$	<code>\subsetpluseq</code>	$\oplus$	<code>\supsetpluseq</code>

TABLE 170: `wasysym` Subset and Superset Relations

$\sqsubset$	<code>\sqsubset</code>	$\sqsupset$	<code>\sqsupset</code>
-------------	------------------------	-------------	------------------------

TABLE 171: `txfonts/pxfonts` Subset and Superset Relations

$\not\subseteq$	<code>\nqsubset</code>	$\not\supseteq$	<code>\nqsupseteq</code>	$\not\supset$	<code>\nSupset</code>
$\not\subseteq$	<code>\nqsubseteq</code>	$\not\subseteq$	<code>\nSubset</code>		
$\not\supset$	<code>\nqsupset</code>	$\not\subseteq$	<code>\nsubseteqq</code>		



TABLE 172: mathabx Subset and Superset Relations

$\subsetneq$	<code>\nsqsubset</code>	$\supsetneq$	<code>\nsupset</code>	$\sqsupseteq$	<code>\sqsupseteq</code>	$\supseteq$	<code>\supseteq</code>
$\subseteq$	<code>\nsqSubset</code>	$\supseteq$	<code>\nSupset</code>	$\sqsupseteqq$	<code>\sqsupseteqq</code>	$\supseteqq$	<code>\supseteqq</code>
$\subsetneqq$	<code>\nsqsubseteq</code>	$\supsetneqq$	<code>\nsupseteq</code>	$\sqsupsetneq$	<code>\sqsupsetneq</code>	$\supsetneq$	<code>\supsetneq</code>
$\subseteqq$	<code>\nsqsubseteqq</code>	$\supseteqq$	<code>\nsupseteqq</code>	$\sqsupsetneqq$	<code>\sqsupsetneqq</code>	$\supsetneqq$	<code>\supsetneqq</code>
$\supsetneq$	<code>\nsqsupset</code>	$\sqsubset$	<code>\sqSubset</code>	$\subset$	<code>\subset</code>	$\varsubsetneq$	<code>\varsubsetneq</code>
$\supseteq$	<code>\nsqSupset</code>	$\sqsubseteq$	<code>\sqSubset</code>	$\Subset$	<code>\Subset</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\supseteqq$	<code>\nsqsupseteq</code>	$\sqsubseteq$	<code>\sqsubsubseteq</code>	$\subseteq$	<code>\subseteq</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\supseteqq$	<code>\nsqsupseteqq</code>	$\sqsubseteqq$	<code>\sqsubsubseteqq</code>	$\subseteqq$	<code>\subseteqq</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\subsetneq$	<code>\nsubset</code>	$\sqsubsetneq$	<code>\sqsubsetneq</code>	$\subsetneq$	<code>\subsetneq</code>	$\varsubsetneq$	<code>\varsubsetneq</code>
$\subseteq$	<code>\nSubset</code>	$\sqsubseteqq$	<code>\sqsubsetneqq</code>	$\subseteqq$	<code>\subseteqq</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\supseteq$	<code>\nsubseteq</code>	$\supseteq$	<code>\sqSupset</code>	$\supseteq$	<code>\supseteq</code>	$\varsupseteq$	<code>\varsupseteq</code>
$\supseteqq$	<code>\nsubseteqq</code>	$\supseteqq$	<code>\sqsupset</code>	$\Supset$	<code>\Supset</code>	$\varsupseteqq$	<code>\varsupseteqq</code>

TABLE 173: MnSymbol Subset and Superset Relations

$\sqsubset$	<code>\nSqsubset</code>	$\subsetneq$	<code>\nsubseteq</code>	$\sqsubsetneq$	<code>\sqsubsetneq</code>	$\subseteq$	<code>\subseteq</code>
$\subsetneq$	<code>\nsqsubset</code>	$\subseteqq$	<code>\nsubseteqq</code>	$\sqsubsetneqq$	<code>\sqsubsetneqq</code>	$\subseteqq$	<code>\subseteqq</code>
$\supsetneq$	<code>\nsqsubsupseteq</code>	$\supseteq$	<code>\nSupset</code>	$\sqsupseteq$	<code>\sqsupseteq</code>	$\varsubsetneq$	<code>\varsubsetneq</code>
$\supseteqq$	<code>\nsqsubsupseteqq</code>	$\supseteqq$	<code>\nSupseteq</code>	$\sqsupseteqq$	<code>\sqsupseteqq</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\supseteq$	<code>\nSqsupset</code>	$\supseteqq$	<code>\nSupseteq</code>	$\sqsupseteq$	<code>\sqsupseteq</code>	$\supseteq$	<code>\supseteq</code>
$\supseteqq$	<code>\nsqsupseteq</code>	$\supseteqq$	<code>\nSupseteqq</code>	$\sqsupseteqq$	<code>\sqsupseteqq</code>	$\supseteqq$	<code>\supseteqq</code>
$\supseteqq$	<code>\nsqsupseteqq</code>	$\sqsubseteq$	<code>\Sqsubset</code>	$\sqsupsetneq$	<code>\sqsupsetneq</code>	$\supseteq$	<code>\supseteq</code>
$\supseteqq$	<code>\nsqsupseteqq</code>	$\sqsubseteq$	<code>\sqsubset</code>	$\sqsupsetneqq$	<code>\sqsupsetneqq</code>	$\supseteqq$	<code>\supseteqq</code>
$\subseteq$	<code>\nSubset</code>	$\sqsubseteq$	<code>\sqsubsubseteq</code>	$\Subset$	<code>\Subset</code>	$\supseteqneq$	<code>\supseteqneq</code>
$\subseteqq$	<code>\nsubset</code>	$\sqsubseteqq$	<code>\sqsubsubseteqq</code>	$\subset$	<code>\subset</code>	$\supseteqneqq$	<code>\supseteqneqq</code>

MnSymbol additionally defines `\varsubsetneq` as a synonym for `\subsetneq`, `\varsubsetneqq` as a synonym for `\subsetneqq`, `\varsupseteq` as a synonym for `\supseteq`, and `\varsupseteqq` as a synonym for `\supseteqq`.

TABLE 174: FdSymbol Subset and Superset Relations

$\nsubseteq$	<code>\nssubset</code>	$\not\subseteq$	<code>\nsubseteqq</code>	$\sqsubset$	<code>\sqsubsetneq</code>	$\subseteq$	<code>\subseteqq</code>
$\nSsubset$	<code>\nSsubset</code>	$\nsubseteqq$	<code>\nsubseteqqq</code>	$\sqsubsetneq$	<code>\sqsubsetneqq</code>	$\subseteqq$	<code>\subseteqqq</code>
$\nsubseteqq$	<code>\nssubseteq</code>	$\not\supseteq$	<code>\n supset</code>	$\sqsupset$	<code>\sqsupseteq</code>	$\supseteq$	<code>\supseteqq</code>
$\nSsubseteqq$	<code>\nSsubseteqqq</code>	$\not\Supseteq$	<code>\nSupseteq</code>	$\sqsupseteq$	<code>\sqsupseteqq</code>	$\supseteqq$	<code>\supseteqqq</code>
$\not\supseteq$	<code>\nssupseteq</code>	$\not\supseteqq$	<code>\n supseteqq</code>	$\sqsupseteqq$	<code>\sqsupseteqqq</code>	$\supseteq$	<code>\supseteq</code>
$\not\Supseteq$	<code>\nSsupseteq</code>	$\not\supseteqq$	<code>\n supseteqqq</code>	$\sqsupseteqqq$	<code>\sqsupseteqqqq</code>	$\Supseteq$	<code>\Supseteq</code>
$\not\supseteqq$	<code>\nssupseteqq</code>	$\not\supseteqqq$	<code>\n supseteqqq</code>	$\sqsupseteqqq$	<code>\sqsupseteqqqq</code>	$\supseteqq$	<code>\supseteqqq</code>
$\not\Supseteqq$	<code>\nSsupseteqq</code>	$\not\supseteqqqq$	<code>\n supseteqqqq</code>	$\sqsupseteqqqq$	<code>\sqsupseteqqqqq</code>	$\supseteqqq$	<code>\supseteqqqq</code>
$\subset$	<code>\subset</code>	$\subsetneq$	<code>\subsetneq</code>	$\subsetneq$	<code>\subsetneq</code>	$\supsetneq$	<code>\supsetneq</code>
$\Subset$	<code>\Subset</code>	$\sqsubsetneqq$	<code>\sqsubsetneqq</code>	$\Subset$	<code>\Subset</code>	$\supsetneqq$	<code>\supsetneqq</code>

FdSymbol additionally defines `\varsubsetneqq` as a synonym for `\subsetneqq`, `\varsubsetneq` as a synonym for `\subsetneq`, `\varsupsetneqq` as a synonym for `\supsetneqq`, and `\varsupsetneq` as a synonym for `\supsetneq`.

TABLE 175: boisik Subset and Superset Relations

$\subset$	<code>\subset</code>	$\sqsubset$	<code>\sqsubset</code>	$\subsetplus$	<code>\subsetplus</code>	$\supsetplus$	<code>\supsetplus</code>
$\subseteq$	<code>\subseteq</code>	$\sqsubseteq$	<code>\sqsubseteq</code>	$\subseteqplus$	<code>\subseteqplus</code>	$\varsubsetneq$	<code>\varsubsetneq</code>
$\sqsubseteq$	<code>\sqsubseteq</code>	$\sqsupset$	<code>\sqsupset</code>	$\Supset$	<code>\Supset</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\not\supseteq$	<code>\not\supseteq</code>	$\Subset$	<code>\Subset</code>	$\supseteqq$	<code>\supseteqq</code>	$\varsupsetneq$	<code>\varsupsetneq</code>
$\not\supseteqq$	<code>\not\supseteqq</code>	$\subseteqq$	<code>\subseteqq</code>	$\supseteq$	<code>\supseteq</code>	$\varsupsetneqq$	<code>\varsupsetneqq</code>
$\not\supseteqqq$	<code>\not\supseteqqq</code>	$\subsetneq$	<code>\subsetneq</code>	$\supseteqq$	<code>\supseteqq</code>		
$\sqsubset$	<code>\sqsubset</code>	$\subsetneqq$	<code>\subsetneqq</code>	$\supsetplus$	<code>\supsetplus</code>		

TABLE 176: stix Subset and Superset Relations

$\subset$	<code>\bsolhsb</code>	$\sqsupseteq$	<code>\sqsupseteq</code>	$\supset$	<code>\supset</code>
$\subset$	<code>\subset</code>	$\sqsupsetneq$	<code>\sqsupsetneq</code>	$\supsetlarr$	<code>\supsetlarr</code>
$\subset$	<code>\csbe</code>	$\subedot$	<code>\subedot</code>	$\supmult$	<code>\supmult</code>
$\subset$	<code>\csup</code>	$\submult$	<code>\submult</code>	$\Supset$	<code>\Supset</code>
$\subset$	<code>\csupe</code>	$\subrarr$	<code>\subrarr</code>	$\supseteq$	<code>\supseteq</code>
$\leftarrow$	<code>\leftarrowsubset</code>	$\Subset$	<code>\Subset</code>	$\supsetapprox$	<code>\supsetapprox</code>
$\nsubseteq$	<code>\nssubset</code>	$\subset$	<code>\subset</code>	$\supsetcirc^*$	<code>\supsetcirc^*</code>
$\nsubseteqq$	<code>\nssubseteq</code>	$\subsetapprox$	<code>\subsetapprox</code>	$\supsetdot$	<code>\supsetdot</code>
$\not\supseteq$	<code>\nssupseteq</code>	$\subsetcirc^*$	<code>\subsetcirc^*</code>	$\supseteq$	<code>\supseteq</code>
$\not\supseteqq$	<code>\nssupseteqq</code>	$\subsetdot$	<code>\subsetdot</code>	$\supseteqq$	<code>\supseteqq</code>
$\subset$	<code>\subset</code>	$\subseteq$	<code>\subseteq</code>	$\supsetneq$	<code>\supsetneq</code>

(continued on next page)

(continued from previous page)

$\not\subseteq$	<code>\nsubseteq</code>	$\subseteq$	<code>\subseteq</code>	$\supsetneq$	<code>\supsetneq</code>
$\nsubseteqq$	<code>\nsubseteqq</code>	$\subsetneq$	<code>\subsetneq</code>	$\supsetplus$	<code>\supsetplus</code>
$\not\supset$	<code>\nsupset</code>	$\not\supseteq$	<code>\notsupseteq</code>	$\supsim$	<code>\supsim</code>
$\not\supseteq$	<code>\nsupseteq</code>	$\supsetplus$	<code>\supsetplus</code>	$\supsub$	<code>\supsub</code>
$\nsubseteqq$	<code>\nsubseteqq</code>	$\subsim$	<code>\subsim</code>	$\supsup$	<code>\supsup</code>
$\Rightarrow$	<code>\rightrightarrowsupset</code>	$\subsub$	<code>\subsub</code>	$\varsubsetneq$	<code>\varsubsetneq</code>
$\sqsubset$	<code>\sqsubset</code>	$\subsup$	<code>\subsup</code>	$\varsubsetneqq$	<code>\varsubsetneqq</code>
$\sqsubseteq$	<code>\sqsubseteq</code>	$\supdsub$	<code>\supdsub</code>	$\varsupsetneq$	<code>\varsupsetneq</code>
$\sqsupseteq$	<code>\sqsupseteq</code>	$\supedot$	<code>\supedot</code>	$\varsupsetneqq$	<code>\varsupsetneqq</code>
$\sqsupset$	<code>\sqsupset</code>	$\supsol$	<code>\supsol</code>		

\* Defined as an ordinary character, not as a binary relation.

TABLE 178: logix Subset and Superset Relations

$\sqsubseteq$	<code>\FntSbset</code>	$\not\sqsubseteq$	<code>\NotStrctFntSbset</code>	$\not\sqsupset$	<code>\NotWkSbnch</code>	$\sqsubset$	<code>\StrctSbmap</code>
$\not\sqsubseteq$	<code>\NotFntSbset</code>	$\not\sqsupset$	<code>\NotStrctSbmap</code>	$\sqsupset$	<code>\Sbmap</code>	$\sqsubset$	<code>\StrctSbnch</code>
$\not\sqsupset$	<code>\NotSbmap</code>	$\not\sqsupseteq$	<code>\NotStrctSbnch</code>	$\sqsubseteq$	<code>\Sbnch</code>	$\sqsubset$	<code>\StrctSbset</code>
$\not\sqsupseteq$	<code>\NotSbnch</code>	$\not\sqsupseteq$	<code>\NotStrctSbset</code>	$\sqsubseteq$	<code>\Sbset</code>	$\sqsubseteq$	<code>\StrctWkSbnch</code>
$\not\sqsupseteq$	<code>\NotSbset</code>	$\not\sqsupseteq$	<code>\NotStrctWkSbnch</code>	$\sqsubseteq$	<code>\StrctFntSbset</code>	$\sqsubseteq$	<code>\WkSbnch</code>

See the logix package note on page 454.

TABLE 179: Inequalities

$\geq$	<code>\geq</code>	$\gg$	<code>\gg</code>	$\leq$	<code>\leq</code>	$\ll$	<code>\ll</code>	$\neq$	<code>\neq</code>
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TABLE 180:  $\mathcal{AMS}$  Inequalities

$\gtrsim$	<code>\eqslantgtr</code>	$\gtrdot$	<code>\gtrdot</code>	$\lesseqgtr$	<code>\lesseqgtr</code>	$\ngeq$	<code>\ngeq</code>
$\lessgtr$	<code>\eqslantless</code>	$\gtreqless$	<code>\gtreqless</code>	$\lesseqqgtr$	<code>\lesseqqgtr</code>	$\ngeqq$	<code>\ngeqq</code>
$\geqq$	<code>\geqq</code>	$\gtreqqless$	<code>\gtreqqless</code>	$\lessgtr$	<code>\lessgtr</code>	$\ngeqslant$	<code>\ngeqslant</code>
$\geqslant$	<code>\geqslant</code>	$\gtrless$	<code>\gtrless</code>	$\lesssim$	<code>\lesssim</code>	$\ngtr$	<code>\ngtr</code>
$\ggg$	<code>\ggg</code>	$\gtrsim$	<code>\gtrsim</code>	$\lll$	<code>\lll</code>	$\nleq$	<code>\nleq</code>
$\gtrapprox$	<code>\gnapprox</code>	$\gvertneqq$	<code>\gvertneqq</code>	$\lnapprox$	<code>\lnapprox</code>	$\nleqq$	<code>\nleqq</code>
$\gneq$	<code>\gneq</code>	$\leqq$	<code>\leqq</code>	$\lneq$	<code>\lneq</code>	$\nleqslant$	<code>\nleqslant</code>
$\gneqq$	<code>\gneqq</code>	$\leqslant$	<code>\leqslant</code>	$\lneqq$	<code>\lneqq</code>	$\nless$	<code>\nless</code>
$\gnsim$	<code>\gnsim</code>	$\lessapprox$	<code>\lessapprox</code>	$\lnsim$	<code>\lnsim</code>		
$\gtrapprox$	<code>\gtrapprox</code>	$\lessdot$	<code>\lessdot</code>	$\lvertneqq$	<code>\lvertneqq</code>		

TABLE 181: wasysym Inequalities

$$\gtrsim \backslash apprge \lesssim \backslash apprle$$

TABLE 182: txfonts/pxfonts Inequalities

$$\begin{array}{llll} \nlessgtr & \backslash ngg & \nlessgtrsim & \nlessssim \\ \nlessgtrapprox & \backslash ngtrapprox & \nlessapprox & \nll \\ \nlessgtrless & \backslash ngtrless & \nlessgtr & \end{array}$$

TABLE 183: mathabx Inequalities

$$\begin{array}{llll} \gtrsim & \backslash eqslantgtr & \gtrless & \backslash gtreqless & \lesssim & \backslash lesssim & \nlessgtr \\ \lessgtr & \backslash eqslantless & \lessless & \backslash gtreqless & \ll & \backslash lll & \nlessgtrapprox \\ \geq & \backslash geq & \gtrless & \backslash gtrless & \lll & \backslash lll & \nlessgtrsim \\ \geq & \backslash geqq & \gtrsim & \backslash gtrsim & \lessapprox & \backslash lnapprox & \nleq \\ \gg & \backslash gg & \gvertneqq & \backslash gvertneqq & \lneq & \backslash lneq & \nleqq \\ \ggg & \backslash ggg & \leq & \backslash leq & \lneqq & \backslash lneqq & \nless \\ \gapprox & \backslash gnapprox & \leqq & \backslash leqq & \lnsim & \backslash lnsim & \nlessapprox \\ \gneq & \backslash gneq & \lessapprox & \backslash lessapprox & \lvertneqq & \backslash lvertneqq & \nlesssim \\ \gneqq & \backslash gneqq & \lessdot & \backslash lessdot & \neqslantgtr & \backslash neqslantgtr & \nvareq \\ \gnsim & \backslash gnsim & \lesseqgtr & \backslash lesseqgtr & \neqslantless & \backslash neqslantless & \nvarleq \\ \gtrapprox & \backslash gtrapprox & \lesseqqgtr & \backslash lesseqqgtr & \ngeq & \backslash ngeq & \vareq \\ \gtrdot & \backslash gtrdot & \lessgtr & \backslash lessgtr & \ngeqq & \backslash ngeqq & \varleq \end{array}$$

`mathabx` defines `\leqslant` and `\le` as synonyms for `\leq`, `\geqslant` and `\ge` as synonyms for `\geq`, `\nleqslant` as a synonym for `\nleq`, and `\ngeqslant` as a synonym for `\ngeq`.

TABLE 184: MnSymbol Inequalities

$\gg$	<code>\eqslantgtr</code>	$\gtrless$	<code>\gtreqqlless</code>	$\lesssim$	<code>\lessssim</code>	$\ngtrless$	<code>\ngtreqqlless</code>
$\lessgtr$	<code>\eqslantless</code>	$\gtrless$	<code>\gtrless</code>	$\ll$	<code>\ll</code>	$\ngtreqlessslant$	<code>\ngtreqlessslant</code>
$\geq$	<code>\geq</code>	$\gtrneqqless$	<code>\gtrneqqless</code>	$\lll$	<code>\lll</code>	$\ngtreqqlless$	<code>\ngtreqqlless</code>
$\geqslant$	<code>\geqclosed</code>	$\gtrsim$	<code>\gtrsim</code>	$\lnapprox$	<code>\lnapprox</code>	$\ngtrless$	<code>\ngtrless</code>
$\geqdot$	<code>\geqdot</code>	$\leq$	<code>\leq</code>	$\lneqq$	<code>\lneqq</code>	$\nleq$	<code>\nleq</code>
$\geqq$	<code>\geqq</code>	$\leqclosed$	<code>\leqclosed</code>	$\lnsim$	<code>\lnsim</code>	$\nleqclosed$	<code>\nleqclosed</code>
$\geqslant$	<code>\geqslant</code>	$\leqdot$	<code>\leqdot</code>	$\neqslantgtr$	<code>\neqslantgtr</code>	$\nleqdot$	<code>\nleqdot</code>
$\geqslantdot$	<code>\geqslantdot</code>	$\leqq$	<code>\leqq</code>	$\neqslantless$	<code>\neqslantless</code>	$\nleqq$	<code>\nleqq</code>
$\gg$	<code>\gg</code>	$\leqslant$	<code>\leqslant</code>	$\ngeq$	<code>\ngeq</code>	$\nleqslant$	<code>\nleqslant</code>
$\ggg$	<code>\ggg</code>	$\leqslantdot$	<code>\leqslantdot</code>	$\ngeqclosed$	<code>\ngeqclosed</code>	$\nleqslantdot$	<code>\nleqslantdot</code>
$\gapprox$	<code>\gapprox</code>	$<$	<code>\less</code>	$\ngeqdot$	<code>\ngeqdot</code>	$\nless$	<code>\nless</code>
$\gneqq$	<code>\gneqq</code>	$\lessapprox$	<code>\lessapprox</code>	$\ngeqq$	<code>\ngeqq</code>	$\nlessclosed$	<code>\nlessclosed</code>
$\gnsim$	<code>\gnsim</code>	$\lessclosed$	<code>\lessclosed</code>	$\ngeqslant$	<code>\ngeqslant</code>	$\nlessdot$	<code>\nlessdot</code>
$>$	<code>\gtr</code>	$\lessdot$	<code>\lessdot</code>	$\ngeqslantdot$	<code>\ngeqslantdot</code>	$\nlesseqgtr$	<code>\nlesseqgtr</code>
$\gtrapprox$	<code>\gtrapprox</code>	$\lesseqgtr$	<code>\lesseqgtr</code>	$\ngg$	<code>\ngg</code>	$\nlesseqgtrslant$	<code>\nlesseqgtrslant</code>
$\gtrclosed$	<code>\gtrclosed</code>	$\lesseqgtrslant$	<code>\lesseqgtrslant</code>	$\nggg$	<code>\nggg</code>	$\nlesseqqgtr$	<code>\nlesseqqgtr</code>
$>$	<code>\gtrdot</code>	$\lesseqqgtr$	<code>\lesseqqgtr</code>	$\ngtr$	<code>\ngtr</code>	$\nlessgtr$	<code>\nlessgtr</code>
$\gtreqless$	<code>\gtreqless</code>	$\lessgtr$	<code>\lessgtr</code>	$\ngtrclosed$	<code>\ngtrclosed</code>	$\nll$	<code>\nll</code>
$\gtreqlessslant$	<code>\gtreqlessslant</code>	$\lessneqqgtr$	<code>\lessneqqgtr</code>	$\ngtrdot$	<code>\ngtrdot</code>	$\nlll$	<code>\nlll</code>

MnSymbol additionally defines synonyms for some of the preceding symbols:

$\gggtr$	<code>\gggtr</code>	(same as <code>\ggg</code> )
$\gvertneqq$	<code>\gvertneqq</code>	(same as <code>\gneqq</code> )
$\lhd$	<code>\lhd</code>	(same as <code>\lessclosed</code> )
$\lllless$	<code>\lllless</code>	(same as <code>\lll</code> )
$\lvertneqq$	<code>\lvertneqq</code>	(same as <code>\lneqq</code> )
$\ntrianglelefteq$	<code>\ntrianglelefteq</code>	(same as <code>\nleqclosed</code> )
$\ntriangleleft$	<code>\ntriangleleft</code>	(same as <code>\nlessclosed</code> )
$\ntrianglerighteq$	<code>\ntrianglerighteq</code>	(same as <code>\ngeqclosed</code> )
$\ntriangleright$	<code>\ntriangleright</code>	(same as <code>\ngtrclosed</code> )
$\rhd$	<code>\rhd</code>	(same as <code>\gtrclosed</code> )
$\trianglelefteq$	<code>\trianglelefteq</code>	(same as <code>\leqclosed</code> )
$\trianglerighteq$	<code>\trianglerighteq</code>	(same as <code>\geqclosed</code> )
$\unlhd$	<code>\unlhd</code>	(same as <code>\leqclosed</code> )
$\unrhd$	<code>\unrhd</code>	(same as <code>\geqclosed</code> )
$\vartriangleleft$	<code>\vartriangleleft</code>	(same as <code>\lessclosed</code> )
$\vartriangleright$	<code>\vartriangleright</code>	(same as <code>\gtrclosed</code> )

TABLE 185: FdSymbol Inequalities

$\geq$	<code>\eqslantgtr</code>	$\leq$	<code>\leqslantdot</code>	$\nless$	<code>\ngtrapprox</code>
$\leq$	<code>\eqslantless</code>	$\leq$	<code>\leqslcc</code>	$\ngtrcc$	<code>\ngtrcc</code>
$\geq$	<code>\geq</code>	$<$	<code>\less</code>	$\ngtrclosed$	<code>\ngtrclosed</code>
$\geq$	<code>\geqclosed</code>	$\approx$	<code>\lessapprox</code>	$\ngtrdot$	<code>\ngtrdot</code>
$\geq$	<code>\geqdot</code>	$\triangleleft$	<code>\lesscc</code>	$\ngtreqlless$	<code>\ngtreqlless</code>
$\geq$	<code>\geqq</code>	$\triangleleft$	<code>\lessclosed</code>	$\ngtreqqless$	<code>\ngtreqqless</code>
$\geq$	<code>\geqslant</code>	$<$	<code>\lessdot</code>	$\ngtreqslantless$	<code>\ngtreqslantless</code>
$\geq$	<code>\geqslantdot</code>	$\leq$	<code>\lesseqgtr</code>	$\ngtrless$	<code>\ngtrless</code>
$\geq$	<code>\geqslcc</code>	$\leq$	<code>\lesseqqgtr</code>	$\ngtrsim$	<code>\ngtrsim</code>
$\gg$	<code>\gg</code>	$\leq$	<code>\lesseqslantgtr</code>	$\nleq$	<code>\nleq</code>
$\ggg$	<code>\ggg</code>	$\leq$	<code>\lessgtr</code>	$\nleqclosed$	<code>\nleqclosed</code>
$\approx$	<code>\gnapprox</code>	$\less$	<code>\lesssim</code>	$\nleqdot$	<code>\nleqdot</code>
$\neq$	<code>\gneq</code>	$\ll$	<code>\ll</code>	$\nleqq$	<code>\nleqq</code>
$\neq$	<code>\gneqq</code>	$\lll$	<code>\lll</code>	$\nleqslant$	<code>\nleqslant</code>
$\approx$	<code>\gnsim</code>	$\approx$	<code>\lnapprox</code>	$\nleqslantdot$	<code>\nleqslantdot</code>
$>$	<code>\gtr</code>	$\neq$	<code>\lneq</code>	$\nleqslcc$	<code>\nleqslcc</code>
$\approx$	<code>\gtrapprox</code>	$\neq$	<code>\lneqq</code>	$\nless$	<code>\nless</code>
$\triangleright$	<code>\gtrcc</code>	$\neq$	<code>\lnsim</code>	$\nlessapprox$	<code>\nlessapprox</code>
$\triangleright$	<code>\gtrclosed</code>	$\neq$	<code>\neqslantgtr</code>	$\nlesscc$	<code>\nlesscc</code>
$>$	<code>\gtrdot</code>	$\neq$	<code>\neqslantless</code>	$\nlessclosed$	<code>\nlessclosed</code>
$\approx$	<code>\gtreqless</code>	$\neq$	<code>\ngeq</code>	$\nlessdot$	<code>\nlessdot</code>
$\approx$	<code>\gtreqqless</code>	$\neq$	<code>\ngeqclosed</code>	$\nlesseqgtr$	<code>\nlesseqgtr</code>
$\approx$	<code>\gtreqslantless</code>	$\neq$	<code>\ngeqdot</code>	$\nlesseqqgtr$	<code>\nlesseqqgtr</code>
$\approx$	<code>\gtrless</code>	$\neq$	<code>\ngeqq</code>	$\nlesseqslantgtr$	<code>\nlesseqslantgtr</code>
$\approx$	<code>\gtrsim</code>	$\neq$	<code>\ngeqslant</code>	$\nlessgtr$	<code>\nlessgtr</code>
$\leq$	<code>\leq</code>	$\neq$	<code>\ngeqslantdot</code>	$\nlesssim$	<code>\nlesssim</code>
$\leq$	<code>\leqclosed</code>	$\neq$	<code>\ngeqslcc</code>	$\nll$	<code>\nll</code>
$\leq$	<code>\leqdot</code>	$\ngg$	<code>\ngg</code>	$\nlll$	<code>\nlll</code>
$\leq$	<code>\leqq</code>	$\ggg$	<code>\ggg</code>		
$\leq$	<code>\leqslant</code>	$\ngtr$	<code>\ngtr</code>		

FdSymbol defines synonyms for some of the preceding symbols:

$\geq$	<code>\ge</code>	$\leq$	<code>\lesdot</code>	$\ngtcc$	<code>\ngtcc</code>
$\geq$	<code>\gescc</code>	$\leq$	<code>\lesg</code>	$\ngtreqllesslant$	<code>\ngtreqllesslant</code>

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$\gg$	<code>\gesdot</code>	$\lesseqgtrslant$	<code>\lesseqgtrslant</code>	$\nlescc$	<code>\nlescc</code>
$\ggesl$	<code>\gesl</code>	$\lhd$	<code>\lhd</code>	$\nlesdot$	<code>\nlesdot</code>
$\gggtr$	<code>\gggtr</code>	$\llless$	<code>\llless</code>	$\nlesg$	<code>\nlesg</code>
$\gtcc$	<code>\gtcc</code>	$\ltcc$	<code>\ltcc</code>	$\nlesseqgtrslant$	<code>\nlesseqgtrslant</code>
$\gtreqlessslant$	<code>\gtreqlessslant</code>	$\lvertneqq$	<code>\lvertneqq</code>	$\nltcc$	<code>\nltcc</code>
$\gvertneqq$	<code>\gvertneqq</code>	$\ngescc$	<code>\ngescc</code>	$\rhd$	<code>\rhd</code>
$\le$	<code>\le</code>	$\ngesdot$	<code>\ngesdot</code>	$\unlhd$	<code>\unlhd</code>
$\lescc$	<code>\lescc</code>	$\ngesl$	<code>\ngesl</code>	$\unrhd$	<code>\unrhd</code>

TABLE 188: boisik Inequalities

$\geqslant$	<code>\eqslantgtr</code>	$\gtcir$	<code>\gtcir</code>	$\lesseqqgtr$	<code>\lesseqqgtr</code>	$\ngeq$	<code>\ngeq</code>
$\leqslant$	<code>\eqslantless</code>	$\gtrapprox$	<code>\gtrapprox</code>	$\lessgtr$	<code>\lessgtr</code>	$\ngeqq$	<code>\ngeqq</code>
$\geqq$	<code>\geqq</code>	$\gtreqless$	<code>\gtreqless</code>	$\lesssim$	<code>\lesssim</code>	$\ngeqslant$	<code>\ngeqslant</code>
$\geqslant$	<code>\geqslant</code>	$\gtreqqless$	<code>\gtreqqless</code>	$\lll$	<code>\lll</code>	$\ngtr$	<code>\ngtr</code>
$\ggg$	<code>\ggg</code>	$\gtrless$	<code>\gtrless</code>	$\lnapprox$	<code>\lnapprox</code>	$\nleq$	<code>\nleq</code>
$\glj$	<code>\glj</code>	$\gtrsim$	<code>\gtrsim</code>	$\lneq$	<code>\lneq</code>	$\nleqq$	<code>\nleqq</code>
$\gnapprox$	<code>\gnapprox</code>	$\gvertneqq$	<code>\gvertneqq</code>	$\lneqq$	<code>\lneqq</code>	$\nleqslant$	<code>\nleqslant</code>
$\gneq$	<code>\gneq</code>	$\leqq$	<code>\leqq</code>	$\lnsim$	<code>\lnsim</code>	$\nless$	<code>\nless</code>
$\gneqq$	<code>\gneqq</code>	$\leqslant$	<code>\leqslant</code>	$\Lt$	<code>\Lt</code>		
$\gnsim$	<code>\gnsim</code>	$\lessapprox$	<code>\lessapprox</code>	$\ltcir$	<code>\ltcir</code>		
$\Gt$	<code>\Gt</code>	$\lesseqgtr$	<code>\lesseqgtr</code>	$\lvertneqq$	<code>\lvertneqq</code>		

TABLE 189: stix Inequalities

$\geq$	<code>\egsdot</code>	$\gtquest$	<code>\gtquest</code>	$\lnsim$	<code>\lnsim</code>
$\leq$	<code>\elsdot</code>	$\gtrapprox$	<code>\gtrapprox</code>	$\lsime$	<code>\lsime</code>
$\geq$	<code>\eqgtr</code>	$\gtrarr$	<code>\gtrarr</code>	$\lsimg$	<code>\lsimg</code>
$\leq$	<code>\eqless</code>	$\gtrdot$	<code>\gtrdot</code>	$\Lt$	<code>\Lt</code>
$\geq$	<code>\eqqgtr</code>	$\gtreqless$	<code>\gtreqless</code>	$\ltcc$	<code>\ltcc</code>

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$\leqslant$	<code>\eqqless</code>	$\gtrless$	<code>\gtreqqless</code>	$\lessapprox$	<code>\ltcir</code>
$\gtrless$	<code>\eqqslantgtr</code>	$\gtrless$	<code>\gtrless</code>	$\lessapprox$	<code>\ltlarr</code>
$\lessapprox$	<code>\eqqslantless</code>	$\gtrsim$	<code>\gtrsim</code>	$\lessapprox$	<code>\ltquest</code>
$\gtrsim$	<code>\eqslantgtr</code>	$\ncong$	<code>\gvertneqq</code>	$\lessapprox$	<code>\lvertneqq</code>
$\lessapprox$	<code>\eqslantless</code>	$\gtrsim$	<code>\lat</code>	$\lessapprox$	<code>\neqslantgtr</code>
$\geq$	<code>\geq</code>	$\gtrsim$	<code>\late</code>	$\lessapprox$	<code>\neqslantless</code>
$\geqq$	<code>\geqq</code>	$\leftarrow$	<code>\leftarrowless</code>	$\lessapprox$	<code>\ngeq</code>
$\gtrless$	<code>\geqqslant</code>	$\leq$	<code>\leq</code>	$\lessapprox$	<code>\ngeqq</code>
$\gtrsim$	<code>\geqslant</code>	$\leqq$	<code>\leqq</code>	$\lessapprox$	<code>\ngeqslant</code>
$\gtrsim$	<code>\gescc</code>	$\leqqslant$	<code>\leqqslant</code>	$\lessapprox$	<code>\ngg</code>
$\gtrsim$	<code>\gesdot</code>	$\leqslant$	<code>\leqslant</code>	$\lessapprox$	<code>\ngtr</code>
$\gtrsim$	<code>\gesdoto</code>	$\lescc$	<code>\lescc</code>	$\lessapprox$	<code>\ngtrless</code>
$\gtrsim$	<code>\gesdoto1</code>	$\lesdot$	<code>\lesdot</code>	$\lessapprox$	<code>\ngtrsim</code>
$\gtrsim$	<code>\gesles</code>	$\lesdoto$	<code>\lesdoto</code>	$\lessapprox$	<code>\nleq</code>
$\gtrsim$	<code>\gg</code>	$\lesdotor$	<code>\lesdotor</code>	$\lessapprox$	<code>\nleqq</code>
$\gtrsim$	<code>\ggg</code>	$\lesges$	<code>\lesges</code>	$\lessapprox$	<code>\nleqslant</code>
$\gtrsim$	<code>\gggnest</code>	$\lessapprox$	<code>\lessapprox</code>	$\lessapprox$	<code>\nless</code>
$\times$	<code>\gla</code>	$\lessdot$	<code>\lessdot</code>	$\lessapprox$	<code>\nlessgtr</code>
$\gtrsim$	<code>\glE</code>	$\lesseqgtr$	<code>\lesseqgtr</code>	$\lessapprox$	<code>\nlesssim</code>
$\times$	<code>\glj</code>	$\lesseqqgtr$	<code>\lesseqqgtr</code>	$\lessapprox$	<code>\nll</code>
$\gtrsim$	<code>\gnapprox</code>	$\lessgtr$	<code>\lessgtr</code>	$\lessapprox$	<code>\partialmeetcontraction</code>
$\gtrsim$	<code>\gneq</code>	$\lessssim$	<code>\lessssim</code>	$\gtrsim$	<code>\rightarrowgtr</code>
$\gtrsim$	<code>\gneqq</code>	$\lgE$	<code>\lgE</code>	$\gtrsim$	<code>\simE</code>
$\gtrsim$	<code>\gnsim</code>	$\ll$	<code>\ll</code>	$\gtrsim$	<code>\simgtr</code>
$\gtrsim$	<code>\gsime</code>	$\lll$	<code>\lll</code>	$\gtrsim$	<code>\simlE</code>
$\gtrsim$	<code>\gsiml</code>	$\lllnest$	<code>\lllnest</code>	$\gtrsim$	<code>\simless</code>
$\gtrsim$	<code>\Gt</code>	$\lnapprox$	<code>\lnapprox</code>	$\lessapprox$	<code>\smt</code>
$\gtrsim$	<code>\gtcc</code>	$\lneq$	<code>\lneq</code>	$\lessapprox$	<code>\smte</code>
$\gtrsim$	<code>\gtcir</code>	$\lneqq$	<code>\lneqq</code>		

stix defines `\le` as a synonym for `\leq`, `\ge` as a synonym for `\geq`, `\llless` as a synonym for `\lll`, `\gggtr` as a synonym for `\ggg`, `\nle` as a synonym for `\nleq`, and `\nge` as a synonym for `\ngeq`.



TABLE 191: logix Inequalities and Equalities

$\odot$	<code>\CircEq</code>	$>$	<code>\Gr</code>	$\nless$	<code>\NotLs</code>	$>$	<code>\SbGr</code>
$\otimes$	<code>\CircGr</code>	$\geq$	<code>\Gre</code>	$\nless$	<code>\NotLse</code>	$\geq$	<code>\SbGre</code>
$\oslash$	<code>\CircGre</code>	$<$	<code>\Ls</code>	$\nless$	<code>\NotSbGr</code>	$<$	<code>\SbLs</code>
$\ominus$	<code>\CircLs</code>	$\leq$	<code>\Lse</code>	$\nless$	<code>\NotSbGre</code>	$\leq$	<code>\SbLse</code>
$\oslash$	<code>\CircLse</code>	$\neq$	<code>\NotEq</code>	$\nless$	<code>\NotSbLs</code>	$\approx$	<code>\Sm</code>
$\cong$	<code>\CircSm</code>	$\nless$	<code>\NotGr</code>	$\nless$	<code>\NotSbLse</code>		
$=$	<code>\Eq</code>	$\nless$	<code>\NotGre</code>	$\nless$	<code>\NotSm</code>		

See the logix package note on page 454.

TABLE 192:  $\mathcal{AMS}$  Triangle Relations

$\blacktriangleleft$	<code>\blacktriangleleft</code>	$\nless$	<code>\ntriangleright</code>	$\supseteq$	<code>\trianglerighteq</code>
$\blacktriangleright$	<code>\blacktriangleright</code>	$\nless$	<code>\ntrianglerighteq</code>	$\triangleleft$	<code>\vartriangleleft</code>
$\triangleleft$	<code>\triangleleft</code>	$\trianglelefteq$	<code>\trianglelefteq</code>	$\triangleright$	<code>\vartriangleright</code>
$\trianglelefteq$	<code>\trianglelefteq</code>	$\trianglelefteq$	<code>\trianglelefteq</code>		

TABLE 193: stmaryrd Triangle Relations

$\trianglelefteqslant$	<code>\trianglelefteqslant</code>	$\trianglerighteqslant$	<code>\trianglerighteqslant</code>
$\ntrianglelefteqslant$	<code>\ntrianglelefteqslant</code>	$\ntrianglerighteqslant$	<code>\ntrianglerighteqslant</code>

TABLE 194: mathabx Triangle Relations

$\triangleleft$	<code>\triangleleft</code>	$\triangleleft$	<code>\vartriangleleft</code>
$\trianglelefteq$	<code>\trianglelefteq</code>	$\trianglelefteq$	<code>\vartriangleright</code>
$\triangleright$	<code>\triangleright</code>	$\triangleright$	<code>\vartriangleright</code>
$\trianglerighteq$	<code>\trianglerighteq</code>	$\trianglerighteq$	<code>\trianglerighteq</code>

TABLE 195: MnSymbol Triangle Relations

▼	<code>\filledmedtriangledown</code>	△	<code>\largetriangleup</code>	▽	<code>\smalltriangledown</code>
◄	<code>\filledmedtriangleleft</code>	▽	<code>\medtriangledown</code>	◄	<code>\smalltriangleleft</code>
►	<code>\filledmedtriangleright</code>	◄	<code>\medtriangleleft</code>	►	<code>\smalltriangleright</code>
▲	<code>\filledmedtriangleup</code>	▷	<code>\medtriangleright</code>	▲	<code>\smalltriangleup</code>
▼	<code>\filledtriangledown</code>	△	<code>\medtriangleup</code>	≐	<code>\triangleeq</code>
◄	<code>\filledtriangleleft</code>	≐	<code>\ntriangleeq</code>	◄	<code>\trianglelefteq</code>
►	<code>\filledtriangleright</code>	◄	<code>\ntriangleleft</code>	►	<code>\trianglerighteq</code>
▲	<code>\filledtriangleup</code>	◄	<code>\ntrianglelefteq</code>	◄	<code>\vartriangleleft</code>
▽	<code>\largetriangledown</code>	◄	<code>\ntriangleright</code>	►	<code>\vartriangleright</code>
◄	<code>\largetriangleleft</code>	◄	<code>\ntrianglerighteq</code>		
►	<code>\largetriangleright</code>	⊗	<code>\otriangle</code>		

MnSymbol additionally defines synonyms for many of the preceding symbols: `\triangleeq` is a synonym for `\triangleeq`; `\lhd` and `\lessclosed` are synonyms for `\vartriangleleft`; `\rhd` and `\gtrclosed` are synonyms for `\vartriangleright`; `\unlhd` and `\leqclosed` are synonyms for `\trianglelefteq`; `\unrhd` and `\geqclosed` are synonyms for `\trianglerighteq`; `\blacktriangledown`, `\blacktriangleleft`, `\blacktriangleright`, and `\blacktriangle` [*sic*] are synonyms for, respectively, `\filledmedtriangledown`, `\filledmedtriangleleft`, `\filledmedtriangleright`, and `\filledmedtriangleup`; `\triangleright` is a synonym for `\medtriangleright`; `\triangle`, `\vartriangle`, and `\bigtriangleup` are synonyms for `\medtriangleup`; `\triangleleft` is a synonym for `\medtriangleleft`; `\triangledown` and `\bigtriangledown` are synonyms for `\medtriangledown`; `\nlessclosed` is a synonym for `\ntriangleleft`; `\ngtrclosed` is a synonym for `\ntriangleright`; `\nleqclosed` is a synonym for `\ntrianglelefteq`; and `\ngeqclosed` is a synonym for `\ntrianglerighteq`.

The title “Triangle Relations” is a bit of a misnomer here as only `\triangleeq` and `\ntriangleeq` are defined as TeX relations (class 3 symbols). The `\largetriangle`— symbols are defined as TeX “ordinary” characters (class 0) and all of the remaining characters are defined as TeX binary operators (class 2).

TABLE 196: FdSymbol Triangle Relations

$\geq$	<code>\geqclosed</code>	$\nabla$	<code>\medtriangledown</code>	$\blacktriangleleft$	<code>\smallblacktriangleleft</code>
$\triangleright$	<code>\gtrclosed</code>	$\triangleleft$	<code>\medtriangleleft</code>	$\blacktriangleright$	<code>\smallblacktriangleright</code>
$\bigtriangledown$	<code>\largetriangledown</code>	$\triangleright$	<code>\medtriangleright</code>	$\blacktriangleup$	<code>\smallblacktriangleup</code>
$\bigtriangleup$	<code>\largetriangleup</code>	$\triangle$	<code>\medtriangleup</code>	$\triangledown$	<code>\smalltriangledown</code>
$\leq$	<code>\leqclosed</code>	$\nless$	<code>\ngeqclosed</code>	$\triangleleft$	<code>\smalltriangleleft</code>
$\lessclosed$	<code>\lessclosed</code>	$\ngtrclosed$	<code>\ngtrclosed</code>	$\triangleright$	<code>\smalltriangleright</code>
$\blacktriangledown$	<code>\medblacktriangledown</code>	$\nleqclosed$	<code>\nleqclosed</code>	$\triangle$	<code>\smalltriangleup</code>
$\blacktriangleleft$	<code>\medblacktriangleleft</code>	$\nlessclosed$	<code>\nlessclosed</code>	$\trianglelefteq$	<code>\trianglelefteq</code>
$\blacktriangleright$	<code>\medblacktriangleright</code>	$\ntrianglerighteq$	<code>\ntrianglerighteq</code>		
$\blacktriangleup$	<code>\medblacktriangleup</code>	$\smallblacktriangledown$	<code>\smallblacktriangledown</code>		

FdSymbol defines synonyms for almost all of the preceding symbols:

$\bigtriangledown$	<code>\bigtriangledown</code>	$\ntrianglelefteq$	<code>\ntrianglelefteq</code>	$\trianglelefteq$	<code>\trianglelefteq</code>
$\bigtriangleup$	<code>\bigtriangleup</code>	$\ntriangleright$	<code>\ntriangleright</code>	$\triangleright$	<code>\triangleright</code>
$\blacktriangle$	<code>\blacktriangle</code>	$\ntrianglerighteq$	<code>\ntrianglerighteq</code>	$\trianglerighteq$	<code>\trianglerighteq</code>
$\blacktriangledown$	<code>\blacktriangledown</code>	$\triangle$	<code>\triangle</code>	$\vartriangle$	<code>\vartriangle</code>
$\blacktriangleleft$	<code>\blacktriangleleft</code>	$\triangledown$	<code>\triangledown</code>	$\vartriangleleft$	<code>\vartriangleleft</code>
$\blacktriangleright$	<code>\blacktriangleright</code>	$\triangleleft$	<code>\triangleleft</code>	$\vartriangleright$	<code>\vartriangleright</code>
$\ntriangleleft$	<code>\ntriangleleft</code>	$\trianglelefteq$	<code>\trianglelefteq</code>		

The title “Triangle Relations” is a bit of a misnomer here as only `\trianglelefteq` and `\ntrianglelefteq` are defined as T<sub>E</sub>X relations (class 3 symbols). The `\largetriangle` symbols are defined as T<sub>E</sub>X “ordinary” characters (class 0) and all of the remaining characters are defined as T<sub>E</sub>X binary operators (class 2).

TABLE 197: boisik Triangle Relations

$\ntriangleleft$	<code>\ntriangleleft</code>	$\trianglelefteq$	<code>\trianglelefteq</code>	$\vartriangleleft$	<code>\vartriangleleft</code>
$\ntrianglelefteq$	<code>\ntrianglelefteq</code>	$\trianglelefteqslant$	<code>\trianglelefteqslant</code>	$\vartriangle$	<code>\vartriangle</code>
$\ntriangleright$	<code>\ntriangleright</code>	$\triangleright$	<code>\triangleright</code>	$\vartriangleleft$	<code>\vartriangleleft</code>
$\ntrianglerighteq$	<code>\ntrianglerighteq</code>	$\trianglerighteq$	<code>\trianglerighteq</code>	$\vartriangleright$	<code>\vartriangleright</code>
$\triangleleft$	<code>\triangleleft</code>	$\trianglerighteqslant$	<code>\trianglerighteqslant</code>		

TABLE 198: stix Triangle Relations

$\lverttrianglelefteq$	<code>\lverttrianglelefteq</code>	$\nvartriangleright$	<code>\nvartriangleright</code>	$\vartriangle$	<code>\vartriangle</code>
$\lverttrivb$	<code>\lverttrivb</code>	$\rvertltri$	<code>\rvertltri</code>	$\vartriangleleft$	<code>\vartriangleleft</code>
$\ntrianglelefteq$	<code>\ntrianglelefteq</code>	$\trianglelefteq$	<code>\trianglelefteq</code>	$\vartriangleright$	<code>\vartriangleright</code>
$\ntrianglerighteq$	<code>\ntrianglerighteq</code>	$\trianglelefteq$	<code>\trianglelefteq</code>	$\vartriangleright$	<code>\vartriangleright</code>
$\nvartriangleleft$	<code>\nvartriangleleft</code>	$\trianglerighteq$	<code>\trianglerighteq</code>		

TABLE 199: Arrows

$\Downarrow$	<code>\Downarrow</code>	$\longleftarrow$	<code>\longleftarrow</code>	$\nwarrow$	<code>\nwarrow</code>
$\downarrow$	<code>\downarrow</code>	$\Longleftarrow$	<code>\Longleftarrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\hookleftarrow$	<code>\hookleftarrow</code>	$\longleftrightarrow$	<code>\longleftrightarrow</code>	$\rightarrow$	<code>\rightarrow</code>
$\hookrightarrow$	<code>\hookrightarrow</code>	$\Longleftrightarrow$	<code>\Longleftrightarrow</code>	$\searrow$	<code>\searrow</code>
$\leadsto$	<code>\leadsto*</code>	$\mapsto$	<code>\mapsto</code>	$\swarrow$	<code>\swarrow</code>
$\leftarrow$	<code>\leftarrow</code>	$\Longrightarrow$	<code>\Longrightarrow</code>	$\Uparrow$	<code>\Uparrow</code>
$\Leftarrow$	<code>\Leftarrow</code>	$\longrightarrow$	<code>\longrightarrow</code>	$\Uparrow$	<code>\Uparrow</code>
$\Leftrightarrow$	<code>\Leftrightarrow</code>	$\mapsto$	<code>\mapsto</code>	$\updownarrow$	<code>\updownarrow</code>
$\leftrightarrow$	<code>\leftrightarrow</code>	$\nearrow$	<code>\nearrow<sup>\dagger</sup></code>	$\Updownarrow$	<code>\Updownarrow</code>

\* Not predefined by the  $\text{\LaTeX} 2_{\epsilon}$  core. Use the `latexsym` package to expose this symbol.

<sup>\dagger</sup> See the note beneath Table 333 for information about how to put a diagonal arrow across a mathematical expression (as in “ $\nabla \cdot \vec{B}$ ”).

TABLE 200: Harpoons

$\leftharpoonup$	<code>\leftharpoonup</code>	$\rightharpoonup$	<code>\rightharpoonup</code>	$\leftharpoonup \rightleftharpoons \rightharpoonup$	<code>\leftharpoonup \rightleftharpoons \rightharpoonup</code>
$\leftharpoonup$	<code>\leftharpoonup</code>	$\rightharpoonup$	<code>\rightharpoonup</code>		

TABLE 201: textcomp Text-mode Arrows

$\downarrow$	<code>\textdownarrow</code>	$\rightarrow$	<code>\textrightarrow</code>
$\leftarrow$	<code>\textleftarrow</code>	$\uparrow$	<code>\textuparrow</code>

TABLE 202:  $\mathcal{AMS}$  Arrows

$\circlearrowleft$	<code>\circlearrowleft</code>	$\leftrightsquigarrow$	<code>\leftrightsquigarrow</code>	$\rightleftarrows$	<code>\rightleftarrows</code>
$\circlearrowright$	<code>\circlearrowright</code>	$\leftrightsquigarrow$	<code>\leftrightsquigarrow</code>	$\rightleftarrows$	<code>\rightleftarrows</code>
$\curvearrowleft$	<code>\curvearrowleft</code>	$\Lleftarrow$	<code>\Lleftarrow</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\curvearrowright$	<code>\curvearrowright</code>	$\Lleftarrow$	<code>\Lleftarrow</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\dashleftarrow$	<code>\dashleftarrow</code>	$\Lleftarrow$	<code>\Lleftarrow</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\dashrightarrow$	<code>\dashrightarrow</code>	$\Lleftarrow$	<code>\Lleftarrow</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\downdownarrows$	<code>\downdownarrows</code>	$\Lleftarrow$	<code>\Lleftarrow</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\leftarrowtail$	<code>\leftarrowtail</code>	$\rightarrowtail$	<code>\rightarrowtail</code>		

TABLE 203:  $\mathcal{AMS}$  Negated Arrows

$\nleftarrow$	<code>\nleftarrow</code>	$\nrightarrow$	<code>\nrightarrow</code>	$\nleftrightarrow$	<code>\nleftrightarrow</code>
$\nleftarrow$	<code>\nleftarrow</code>	$\nrightarrow$	<code>\nrightarrow</code>	$\nleftrightarrow$	<code>\nleftrightarrow</code>

TABLE 204:  $\mathcal{AMS}$  Harpoons

$\Downarrow$	<code>\downharpoonleft</code>	$\Leftrightarrow$	<code>\leftrightharpoons</code>	$\Uparrow$	<code>\upharpoonleft</code>
$\Uparrow$	<code>\downharpoonright</code>	$\Rrightarrow$	<code>\rightleftharpoons</code>	$\Downarrow$	<code>\upharpoonright</code>

TABLE 205: stmaryrd Arrows

$\triangleleft$	<code>\leftarrowtriangle</code>	$\Leftarrow$	<code>\Mapsfrom</code>	$\leftarrow$	<code>\shortleftarrow</code>
$\Leftrightarrow$	<code>\leftrightharroweq</code>	$\mapsto$	<code>\mapsfrom</code>	$\rightarrow$	<code>\shortrightarrow</code>
$\triangleleft$	<code>\leftrightharrowtriangle</code>	$\mapsto$	<code>\Mapsto</code>	$\Uparrow$	<code>\shortuparrow</code>
$\lightning$	<code>\lightning</code>	$\nearrow$	<code>\nnearrow</code>	$\searrow$	<code>\ssearrow</code>
$\Longleftarrow$	<code>\Longmapsfrom</code>	$\nwarrow$	<code>\nnwarrow</code>	$\swarrow$	<code>\sswarrow</code>
$\longleftarrow$	<code>\longmapsfrom</code>	$\rightarrowtriangle$	<code>\rightarrowtriangle</code>		
$\Longrightarrow$	<code>\Longmapsto</code>	$\downarrow$	<code>\shortdownarrow</code>		

TABLE 206: txfonts/pxfonts Arrows

$\boxdotleft$	<code>\boxdotLeft</code>	$\circrightarrow$	<code>\circleddotright</code>	$\diamondleftarrow$	<code>\Diamondleft</code>
$\boxdotleftarrow$	<code>\boxdotleft</code>	$\circleftarrow$	<code>\circleleft</code>	$\diamondrightarrow$	<code>\Diamondright</code>
$\boxrightarrow$	<code>\boxdotright</code>	$\circrightarrow$	<code>\circcleright</code>	$\diamondrightarrow$	<code>\DiamondRight</code>
$\boxrightarrow$	<code>\boxdotRight</code>	$\dashrightarrow$	<code>\dashleftrightharrow</code>	$\leftrightsquigarrow$	<code>\leftsquigarrow</code>
$\boxleftarrow$	<code>\boxLeft</code>	$\diamondleftarrow$	<code>\DiamondddotLeft</code>	$\nearrow$	<code>\Nearrow</code>
$\boxleftarrow$	<code>\boxleft</code>	$\diamondleftarrow$	<code>\Diamondddotleft</code>	$\nwarrow$	<code>\Nwarrow</code>
$\boxrightarrow$	<code>\boxright</code>	$\diamondrightarrow$	<code>\Diamondddotright</code>	$\Rightarrow$	<code>\Rrightarrow</code>
$\boxrightarrow$	<code>\boxRight</code>	$\diamondrightarrow$	<code>\DiamondddotRight</code>	$\searrow$	<code>\Searrow</code>
$\circleftarrow$	<code>\circleddotleft</code>	$\diamondleftarrow$	<code>\DiamondLeft</code>	$\swarrow$	<code>\Swarrow</code>

TABLE 207: mathabx Arrows

$\circlearrowleft$	<code>\circlearrowleft</code>	$\leftarrow$	<code>\leftarrow</code>	$\nwarrow$	<code>\nwarrow</code>
$\circlearrowright$	<code>\circlearrowright</code>	$\leftleftarrows$	<code>\leftleftarrows</code>	$\restriction$	<code>\restriction</code>
$\curvearrowleft$	<code>\curvearrowbotleft</code>	$\rightarrow$	<code>\rightarrow</code>	$\rightarrow$	<code>\rightarrow</code>
$\curvearrowright$	<code>\curvearrowbotleft</code>	$\leftrightarrows$	<code>\leftrightarrows</code>	$\rightleftarrows$	<code>\rightleftarrows</code>
$\curvearrowleft$	<code>\curvearrowbotright</code>	$\leftrightsquigarrow$	<code>\leftrightsquigarrow</code>	$\rightsquigarrow$	<code>\rightsquigarrow</code>
$\curvearrowright$	<code>\curvearrowleft</code>	$\leftsquigarrow$	<code>\leftsquigarrow</code>	$\righttoleftarrow$	<code>\righttoleftarrow</code>
$\curvearrowleft$	<code>\curvearrowleft</code>	$\lefttorightarrow$	<code>\lefttorightarrow</code>	$\Rsh$	<code>\Rsh</code>
$\curvearrowright$	<code>\curvearrowleft</code>	$\looparrowleft$	<code>\looparrowleft</code>	$\searrow$	<code>\searrow</code>
$\dls$	<code>\dls</code>	$\looparrowright$	<code>\looparrowright</code>	$\swarrow$	<code>\swarrow</code>
$\downdownarrows$	<code>\downdownarrows</code>	$\Lsh$	<code>\Lsh</code>	$\updownarrows$	<code>\updownarrows</code>
$\downtoup$	<code>\downtoup</code>	$\nearrow$	<code>\nearrow</code>	$\uptodownarrow$	<code>\uptodownarrow</code>
$\drsh$	<code>\drsh</code>			$\upuparrows$	<code>\upuparrows</code>

TABLE 208: mathabx Negated Arrows

$\nLeftarrow$	<code>\nLeftarrow</code>	$\nleftrightarrow$	<code>\nleftrightarrow</code>	$\nrightarrow$	<code>\nrightarrow</code>
$\nleftarrow$	<code>\nleftarrow</code>	$\nLeftrightarrow$	<code>\nLeftrightarrow</code>	$\nRightarrow$	<code>\nRightarrow</code>

TABLE 209: mathabx Harpoons

$\bar{\leftarrow}$	<code>\barleftarrow</code>	$\leftharpoonup$	<code>\leftharpoonup</code>	$\bar{\rightarrow}$	<code>\barrightarrow</code>
$\bar{\Rightarrow}$	<code>\barRightarrow</code>	$\leftharpoons$	<code>\leftharpoons</code>	$\bar{\Rightarrow}$	<code>\barRightarrow</code>
$\Downharpoonright$	<code>\Downharpoonright</code>	$\leftrightharpoonup$	<code>\leftrightharpoonup</code>	$\Updownharpoonright$	<code>\Updownharpoonright</code>
$\downharpoonleft$	<code>\downharpoonleft</code>	$\leftrightharpoons$	<code>\leftrightharpoons</code>	$\upharpoonleft$	<code>\upharpoonleft</code>
$\downharpoonright$	<code>\downharpoonright</code>	$\rightbarharpoonup$	<code>\rightbarharpoonup</code>	$\upharpoonright$	<code>\upharpoonright</code>
$\Downupharpoonright$	<code>\Downupharpoonright</code>	$\rightharpoonupdown$	<code>\rightharpoonupdown</code>	$\Upupharpoonright$	<code>\Upupharpoonright</code>
$\leftbarharpoonup$	<code>\leftbarharpoonup</code>	$\rightarrow$	<code>\rightarrow</code>		
$\leftharpoonupdown$	<code>\leftharpoonupdown</code>	$\rightarrow$	<code>\rightarrow</code>		

TABLE 210: MnSymbol Arrows

$\curvearrowright$	<code>\curvearrowright</code>	$\longleftarrow$	<code>\longleftarrow</code>	$\hookrightarrow$	<code>\hookrightarrow</code>
$\curvearrowleft$	<code>\curvearrowleft</code>	$\Longleftarrow$	<code>\Longleftarrow</code>	$\uparrow$	<code>\uparrow</code>
$\curvearrowrightsw$	<code>\curvearrowrightsw</code>	$\longleftrightarrow$	<code>\longleftrightarrow</code>	$\rightarrow$	<code>\rightarrow</code>
$\curvearrowrightnw$	<code>\curvearrowrightnw</code>	$\Longleftrightarrow$	<code>\Longleftrightarrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\curvearrowrightleft$	<code>\curvearrowrightleft</code>	$\mapsto$	<code>\mapsto</code>	$\rightarrowtail$	<code>\rightarrowtail</code>
$\curvearrowrightsw$	<code>\curvearrowrightsw</code>	$\longrightarrow$	<code>\longrightarrow</code>	$\rightleftarrows$	<code>\rightleftarrows</code>
$\curvearrowrightnw$	<code>\curvearrowrightnw</code>	$\Longrightarrow$	<code>\Longrightarrow</code>	$\rightsquigarrow$	<code>\rightsquigarrow</code>
$\curvearrowrightupdown$	<code>\curvearrowrightupdown</code>	$\looparrowleft$	<code>\looparrowleft</code>	$\mapsto$	<code>\mapsto</code>
$\dashedownarrow$	<code>\dashedownarrow</code>	$\looparrowright$	<code>\looparrowright</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dashedleftarrow$	<code>\dashedleftarrow</code>	$\Lsh$	<code>\Lsh</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dashednearrow$	<code>\dashednearrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dashednwarrow$	<code>\dashednwarrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dashedrightarrow$	<code>\dashedrightarrow</code>	$\nearrowtail$	<code>\nearrowtail</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dashedsearrow$	<code>\dashedsearrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dashedswarrow$	<code>\dashedswarrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\dasheduparrow$	<code>\dasheduparrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\Downarrow$	<code>\Downarrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\downarrow$	<code>\downarrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\downarrowtail$	<code>\downarrowtail</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\downdownarrows$	<code>\downdownarrows</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\downlsquigarrow$	<code>\downlsquigarrow</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\downmapsto$	<code>\downmapsto</code>	$\nearrow$	<code>\nearrow</code>	$\Rightarrow$	<code>\Rightarrow</code>

(continued on next page)

*(continued from previous page)*

	<code>\downrsquigarrow</code>		<code>\narrowtail</code>		<code>\squigarrownesw</code>
	<code>\downuparrows</code>		<code>\nwlsquigarrow</code>		<code>\squigarrownwse</code>
	<code>\lcirclearrowdown</code>		<code>\nwmapsto</code>		<code>\squigarrowrightleft</code>
	<code>\lcirclearrowleft</code>		<code>\nwnwarrows</code>		<code>\squigarrowsenw</code>
	<code>\lcirclearrowright</code>		<code>\nwrsquigarrow</code>		<code>\squigarrowswne</code>
	<code>\lcirclearrowup</code>		<code>\nwsearrow</code>		<code>\squigarrowupdown</code>
	<code>\lcurvearrowdown</code>		<code>\Nwsearrow</code>		<code>\swarrow</code>
	<code>\lcurvearrowleft</code>		<code>\nwsearrows</code>		<code>\Sswarrow</code>
	<code>\lcurvearrowne</code>		<code>\partialvarldlcircleleftint*</code>		<code>\swarrowtail</code>
	<code>\lcurvearrownw</code>		<code>\partialvarldlcirclerightint*</code>		<code>\swlsquigarrow</code>
	<code>\lcurvearrowright</code>		<code>\partialvarldrcircleleftint*</code>		<code>\swmapsto</code>
	<code>\lcurvearrowse</code>		<code>\partialvarldrcirclerightint*</code>		<code>\swnearrows</code>
	<code>\lcurvearrowsw</code>		<code>\partialvartlcircleleftint*</code>		<code>\swrsquigarrow</code>
	<code>\lcurvearrowup</code>		<code>\partialvartlcirclerightint*</code>		<code>\swswarrows</code>
	<code>\Leftarrow</code>		<code>\partialvartrcircleleftint*</code>		<code>\twoheaddownarrow</code>
	<code>\leftarrow</code>		<code>\partialvartrcirclerightint*</code>		<code>\twoheadleftarrow</code>
	<code>\leftarrowtail</code>		<code>\rcirclearrowdown</code>		<code>\twoheadnearrow</code>
	<code>\leftleftarrows</code>		<code>\rcirclearrowleft</code>		<code>\twoheadnarrow</code>
	<code>\leftlsquigarrow</code>		<code>\rcirclearrowright</code>		<code>\twoheadrightarrow</code>
	<code>\leftmapsto</code>		<code>\rcirclearrowup</code>		<code>\twoheadsearrow</code>
	<code>\leftrightarrow</code>		<code>\rcurvearrowdown</code>		<code>\twoheadswarrow</code>
	<code>\Leftrightarrow</code>		<code>\rcurvearrowleft</code>		<code>\twoheaduparrow</code>
	<code>\leftrightarrows</code>		<code>\rcurvearrowne</code>		<code>\uparrow</code>
	<code>\leftrsquigarrow</code>		<code>\rcurvearrownw</code>		<code>\Uparrow</code>
	<code>\hookdownarrow</code>		<code>\rcurvearrowright</code>		<code>\uparrowtail</code>
	<code>\hookleftarrow</code>		<code>\rcurvearrowse</code>		<code>\updownarrow</code>
	<code>\hooknearrow</code>		<code>\rcurvearrowsw</code>		<code>\Updownarrow</code>
	<code>\hooknarrow</code>		<code>\rcurvearrowup</code>		<code>\updownarrows</code>
	<code>\hookrightarrow</code>		<code>\rhookdownarrow</code>		<code>\uplsquigarrow</code>
	<code>\hooksearrow</code>		<code>\rhookleftarrow</code>		<code>\upmapsto</code>
	<code>\hookswarrow</code>		<code>\rhooknearrow</code>		<code>\uprsquigarrow</code>
	<code>\hookuparrow</code>		<code>\rhooknarrow</code>		<code>\upuparrows</code>
	<code>\lightning</code>		<code>\rhookrightarrow</code>		
	<code>\Lleftarrow</code>		<code>\rhooksearrow</code>		

MnSymbol additionally defines synonyms for some of the preceding symbols:

	<code>\ccirclearrowleft</code>	(same as <code>\rcirclearrowup</code> )
	<code>\ccirclearrowright</code>	(same as <code>\lcirclearrowup</code> )
	<code>\ccurvearrowleft</code>	(same as <code>\rcurvearrowleft</code> )
	<code>\ccurvearrowright</code>	(same as <code>\lcurvearrowright</code> )
	<code>\dashleftarrow</code>	(same as <code>\dashedleftarrow</code> )
	<code>\dashrightarrow</code>	(same as <code>\dashedrightarrow</code> )
	<code>\hookleftarrow</code>	(same as <code>\rhookleftarrow</code> )
	<code>\hookrightarrow</code>	(same as <code>\lhookrightarrow</code> )
	<code>\leadsto</code>	(same as <code>\rightlsquigarrow</code> )
	<code>\leftrightsquigarrow</code>	(same as <code>\squigarrowleftright</code> )
	<code>\mapsto</code>	(same as <code>\rightmapsto</code> )
	<code>\rightsquigarrow</code>	(same as <code>\rightlsquigarrow</code> )

\* The `\partialvar_____int` macros are intended to be used internally by MnSymbol to produce various types of integrals.

TABLE 212: MnSymbol Negated Arrows

	<code>\ncurvearrowdownup</code>		<code>\nlhooknwarrow</code>		<code>\nrightleftarrows</code>
	<code>\ncurvearrowleftright</code>		<code>\nlhookrightarrow</code>		<code>\nrightlsquigarrow</code>
	<code>\ncurvearrownesw</code>		<code>\nlhooksearrow</code>		<code>\nrightmapsto</code>
	<code>\ncurvearrownwse</code>		<code>\nlhookswarrow</code>		<code>\nrightrightarrow</code>
	<code>\ncurvearrowrightleft</code>		<code>\nlhookuparrow</code>		<code>\nrighttrsquigarrow</code>
	<code>\ncurvearrowsenw</code>		<code>\nLleftarrow</code>		<code>\nRrightarrow</code>
	<code>\ncurvearrowswne</code>		<code>\nnearrow</code>		<code>\nSearrow</code>
	<code>\ncurvearrowupdown</code>		<code>\nNearrow</code>		<code>\nsearrow</code>
	<code>\ndasheddownarrow</code>		<code>\nnearrowtail</code>		<code>\nsearrowtail</code>
	<code>\ndashedleftarrow</code>		<code>\nnelsquigarrow</code>		<code>\nselsquigarrow</code>
	<code>\ndashednearrow</code>		<code>\nnmapsto</code>		<code>\nsemapsto</code>
	<code>\ndashednwarrow</code>		<code>\nnearrows</code>		<code>\nsenwarrows</code>
	<code>\ndashedrightarrow</code>		<code>\nnersquigarrow</code>		<code>\nsersquigarrow</code>
	<code>\ndashedsearrow</code>		<code>\nNeswarrow</code>		<code>\nsesearrows</code>
	<code>\ndashedswarrow</code>		<code>\nneswarrow</code>		<code>\nsquigarrowdownup</code>
	<code>\ndasheduparrow</code>		<code>\nneswarrows</code>		<code>\nsquigarrowleftright</code>
	<code>\ndownarrow</code>		<code>\nNwarrow</code>		<code>\nsquigarrownesw</code>
	<code>\nDownarrow</code>		<code>\nnwarrow</code>		<code>\nsquigarrownwse</code>
	<code>\ndownarrowtail</code>		<code>\nnwarrowtail</code>		<code>\nsquigarrowrightleft</code>
	<code>\ndowndownarrows</code>		<code>\nnwlsquigarrow</code>		<code>\nsquigarrowsenw</code>
	<code>\ndownlsquigarrow</code>		<code>\nnwmapsto</code>		<code>\nsquigarrowswne</code>
	<code>\ndownmapsto</code>		<code>\nnwnwarrows</code>		<code>\nsquigarrowupdown</code>
	<code>\ndownrsquigarrow</code>		<code>\nnwrsquigarrow</code>		<code>\nswarrow</code>
	<code>\ndownuparrows</code>		<code>\nnwsearrow</code>		<code>\nSwarrow</code>
	<code>\nlcircularrowdown</code>		<code>\nNwsearrow</code>		<code>\nswarrowtail</code>
	<code>\nlcircularrowleft</code>		<code>\nnwsearrows</code>		<code>\nswlsquigarrow</code>
	<code>\nlcircularrowright</code>		<code>\nrcircularrowdown</code>		<code>\nswmapsto</code>
	<code>\nlcircularrowup</code>		<code>\nrcircularrowleft</code>		<code>\nswnearrows</code>
	<code>\nlcurvedarrowdown</code>		<code>\nrcircularrowright</code>		<code>\nswrsquigarrow</code>
	<code>\nlcurvedarrowleft</code>		<code>\nrcircularrowup</code>		<code>\nswswarrows</code>
	<code>\nlcurvedarrowne</code>		<code>\nrcurvedarrowdown</code>		<code>\ntwoheaddownarrow</code>
	<code>\nlcurvedarrownw</code>		<code>\nrcurvedarrowleft</code>		<code>\ntwoheadleftarrow</code>
	<code>\nlcurvedarrowright</code>		<code>\nrcurvedarrowne</code>		<code>\ntwoheadnearrow</code>
	<code>\nlcurvedarrowse</code>		<code>\nrcurvedarrownw</code>		<code>\ntwoheadnwarrow</code>
	<code>\nlcurvedarrowsw</code>		<code>\nrcurvedarrowright</code>		<code>\ntwoheadrightarrow</code>
	<code>\nlcurvedarrowup</code>		<code>\nrcurvedarrowse</code>		<code>\ntwoheadsearrow</code>
	<code>\nLeftarrow</code>		<code>\nrcurvedarrowsw</code>		<code>\ntwoheadswarrow</code>
	<code>\nleftarrow</code>		<code>\nrcurvedarrowup</code>		<code>\ntwoheaduparrow</code>

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$\leftarrowtail$	<code>\leftarrowtail</code>	$\downhook$	<code>\nrhookdownarrow</code>	$\uparrow$	<code>\nuparrow</code>
$\Lleftarrow$	<code>\Lleftarrow</code>	$\leftarrowhook$	<code>\nrhookleftarrow</code>	$\Uparrow$	<code>\nUparrow</code>
$\leftleftarrows$	<code>\leftleftarrows</code>	$\nearrowhook$	<code>\nrhooknearrow</code>	$\uparrows$	<code>\nuparrows</code>
$\leftthreetimes$	<code>\leftthreetimes</code>	$\nwarrowhook$	<code>\nrhooknwarrow</code>	$\updownarrow$	<code>\nupdownarrow</code>
$\leftrightsquigarrow$	<code>\leftrightsquigarrow</code>	$\rightarrowhook$	<code>\nrhookrightarrow</code>	$\Updownarrow$	<code>\nUpdownarrow</code>
$\leftmapsto$	<code>\leftmapsto</code>	$\searrowhook$	<code>\nrhooksearrow</code>	$\updownarrows$	<code>\nupdownarrows</code>
$\leftrightharpoonup$	<code>\leftrightharpoonup</code>	$\swarrowhook$	<code>\nrhookswarrow</code>	$\nuplsquigarrow$	<code>\nuplsquigarrow</code>
$\leftrightharpoons$	<code>\leftrightharpoons</code>	$\uphook$	<code>\nrhookuparrow</code>	$\nupmapsto$	<code>\nupmapsto</code>
$\leftrightsquigarrow$	<code>\leftrightsquigarrow</code>	$\rightarrow$	<code>\nrightarrow</code>	$\nuprsquigarrow$	<code>\nuprsquigarrow</code>
$\nlhookdownarrow$	<code>\nlhookdownarrow</code>	$\rightarrowtail$	<code>\nrightarrowtail</code>	$\nupuparrows$	<code>\nupuparrows</code>
$\nlhookleftarrow$	<code>\nlhookleftarrow</code>				
$\nlhooknearrow$	<code>\nlhooknearrow</code>				

MnSymbol additionally defines synonyms for some of the preceding symbols:

$\circlearrowleft$	<code>\ncirclearrowleft</code>	(same as <code>\nrcirclearrowup</code> )
$\circlearrowright$	<code>\ncirclearrowright</code>	(same as <code>\nlcirclearrowup</code> )
$\curvearrowleft$	<code>\ncurvearrowleft</code>	(same as <code>\nrcurvearrowleft</code> )
$\curvearrowright$	<code>\ncurvearrowright</code>	(same as <code>\nlcurvearrowright</code> )
$\dashrightarrow$	<code>\ndasharrow</code>	(same as <code>\ndashedrightarrow</code> )
$\dashleftarrow$	<code>\ndashleftarrow</code>	(same as <code>\ndashedleftarrow</code> )
$\dashrightarrow$	<code>\ndashrightarrow</code>	(same as <code>\ndashedrightarrow</code> )
$\ngets$	<code>\ngets</code>	(same as <code>\nleftarrow</code> )
$\nhookleftarrow$	<code>\nhookleftarrow</code>	(same as <code>\nrhookleftarrow</code> )
$\nhookrightarrow$	<code>\nhookrightarrow</code>	(same as <code>\nlhookrightarrow</code> )
$\nleadsto$	<code>\nleadsto</code>	(same as <code>\nrighttsquigarrow</code> )
$\nleftrightsquigarrow$	<code>\nleftrightsquigarrow</code>	(same as <code>\nsquigarrowleftright</code> )
$\nmapsto$	<code>\nmapsto</code>	(same as <code>\nrightmapsto</code> )
$\nrightsquigarrow$	<code>\nrightsquigarrow</code>	(same as <code>\nrighttsquigarrow</code> )
$\nrightarrow$	<code>\nrightarrow</code>	(same as <code>\nrightarrow</code> )

TABLE 214: MnSymbol Harpoons

$\downharpoonccw^*$	<code>\downharpoonccw^*</code>	$\swarrow$	<code>\neswharpoons</code>	$\searrow$	<code>\seharpooncw</code>
$\downharpooncw^*$	<code>\downharpooncw^*</code>	$\swarrow$	<code>\neswharpoonsenw</code>	$\searrow$	<code>\senwharpoons</code>
$\downharpoonup$	<code>\downharpoonup</code>	$\swarrow$	<code>\nwharpoonccw</code>	$\searrow$	<code>\swharpoonccw</code>
$\leftharpoonccw^*$	<code>\leftharpoonccw^*</code>	$\swarrow$	<code>\nwharpooncw</code>	$\swarrow$	<code>\swharpooncw</code>
$\leftharpooncw^*$	<code>\leftharpooncw^*</code>	$\swarrow$	<code>\nwseharpoonnesw</code>	$\swarrow$	<code>\swneharpoons</code>
$\leftrightharpoonupdown$	<code>\leftrightharpoonupdown</code>	$\swarrow$	<code>\nwseharpoons</code>	$\updownharpoonleftright$	<code>\updownharpoonleftright</code>
$\leftrightharpoons$	<code>\leftrightharpoons</code>	$\swarrow$	<code>\nwseharpoonswne</code>	$\updownharpoonrightleft$	<code>\updownharpoonrightleft</code>
$\leftrightharpoonupdown$	<code>\leftrightharpoonupdown</code>	$\rightarrow$	<code>\rightharpoonccw^*</code>	$\updownharpoons$	<code>\updownharpoons</code>
$\rightharpoonccw$	<code>\rightharpoonccw</code>	$\rightarrow$	<code>\rightharpooncw^*</code>	$\upharpoonccw^*$	<code>\upharpoonccw^*</code>
$\rightharpooncw$	<code>\rightharpooncw</code>	$\rightarrow$	<code>\rightleftharpoons</code>	$\upharpooncw^*$	<code>\upharpooncw^*</code>
$\neswharpoonnwse$	<code>\neswharpoonnwse</code>	$\searrow$	<code>\seharpoonccw</code>		

\* Where marked, the “ccw” suffix can be replaced with “up” and the “cw” suffix can be replaced with “down”. (In addition, `\upharpooncw` can be written as `\restriction`.)

TABLE 215: MnSymbol Negated Harpoons

$\dagger$	<code>\ndownharpoonccw*</code>	$\nrightarrow$	<code>\nneswharpoons</code>	$\nwarrow$	<code>\nseharpooncw</code>
$\dagger$	<code>\ndownharpooncw*</code>	$\nrightarrow$	<code>\nneswharpoonsenw</code>	$\nwarrow$	<code>\nsenwharpoons</code>
$\dagger$	<code>\ndownupharpoons</code>	$\nwarrow$	<code>\nnwharpoonccw</code>	$\nwarrow$	<code>\nswharpoonccw</code>
$\nrightarrow$	<code>\nleftharpoonccw*</code>	$\nwarrow$	<code>\nnwharpooncw</code>	$\nwarrow$	<code>\nswharpooncw</code>
$\nrightarrow$	<code>\nleftharpooncw*</code>	$\nwarrow$	<code>\nnwseharpoonnesw</code>	$\nwarrow$	<code>\nswneharpoons</code>
$\nrightarrow$	<code>\nleftrightharpoondownup</code>	$\nwarrow$	<code>\nnwseharpoons</code>	$\nwarrow$	<code>\nupdownharpoonleftright</code>
$\nrightarrow$	<code>\nleftrightharpoons</code>	$\nwarrow$	<code>\nnwseharpoonswne</code>	$\nwarrow$	<code>\nupdownharpoonrightleft</code>
$\nrightarrow$	<code>\nleftrightharpoonupdown</code>	$\nrightarrow$	<code>\nrightharpoonccw*</code>	$\nwarrow$	<code>\nupdownharpoons</code>
$\nwarrow$	<code>\nneharpoonccw</code>	$\nrightarrow$	<code>\nrightharpooncw*</code>	$\nwarrow$	<code>\nupharpoonccw*</code>
$\nwarrow$	<code>\nneharpooncw</code>	$\nrightarrow$	<code>\nrightharpoons</code>	$\nwarrow$	<code>\nupharpooncw*</code>
$\nwarrow$	<code>\nneswharpoonnwse</code>	$\nwarrow$	<code>\nseharpoonccw</code>		

\* Where marked, the “ccw” suffix can be replaced with “up” and the “cw” suffix can be replaced with “down”. (In addition, `\nupharpooncw` can be written as `\nrestriction`.)

TABLE 216: FdSymbol Arrows

$\circlearrowleft$	<code>\acwcirculararrowdown</code>	$\leftarrow$	<code>\leftarrow</code>	$\Rightarrow$	<code>\rightrightarrows</code>
$\circlearrowleft$	<code>\acwcirculararrowleft</code>	$\leftarrow$	<code>\leftarrowtail</code>	$\rightsquigarrow$	<code>\rightwvearrow</code>
$\circlearrowleft$	<code>\acwcirculararrowright</code>	$\leftarrow$	<code>\leftbkarrow</code>	$\Rightarrow$	<code>\Rrightarrow</code>
$\circlearrowleft$	<code>\acwcirculararrowup</code>	$\Leftarrow$	<code>\leftleftarrows</code>	$\rightarrow$	<code>\Rsh</code>
$\curvearrowleft$	<code>\acwleftarcarrow</code>	$\leftarrow$	<code>\leftmapsto</code>	$\searrow$	<code>\searrow</code>
$\curvearrowleft$	<code>\acwnearcarrow</code>	$\Leftarrow$	<code>\Leftmapsto</code>	$\searrow$	<code>\searrow</code>
$\curvearrowleft$	<code>\acwnwarcarrow</code>	$\Leftrightarrow$	<code>\Leftrightarrow</code>	$\searrow$	<code>\searrowtail</code>
$\curvearrowleft$	<code>\acwoverarcarrow</code>	$\leftrightarrow$	<code>\leftrightharpoon</code>	$\searrow$	<code>\sebkarrow</code>
$\curvearrowright$	<code>\acwrightarcarrow</code>	$\Leftrightarrow$	<code>\leftrightharrows</code>	$\searrow$	<code>\senwarrows</code>
$\curvearrowright$	<code>\acwsearcarrow</code>	$\rightsquigarrow$	<code>\leftrightwvearrow</code>	$\searrow$	<code>\sesearrows</code>
$\curvearrowright$	<code>\acwswarcarrow</code>	$\rightsquigarrow$	<code>\leftwvearrow</code>	$\searrow$	<code>\Swarrow</code>
$\curvearrowright$	<code>\acwunderarcarrow</code>	$\lightning$	<code>\lightning</code>	$\swarrow$	<code>\swarrow</code>
$\curvearrowright$	<code>\bdleftarcarrow</code>	$\Leftarrow$	<code>\Lleftarrow</code>	$\swarrow$	<code>\swarrowtail</code>
$\curvearrowright$	<code>\bdnearcarrow</code>	$\Longleftarrow$	<code>\Longleftarrow</code>	$\swarrow$	<code>\swbkarrow</code>
$\curvearrowright$	<code>\bdnwarcarrow</code>	$\longleftarrow$	<code>\longleftarrow</code>	$\swarrow$	<code>\swnearrows</code>
$\curvearrowright$	<code>\bdoverarcarrow</code>	$\longleftrightarrow$	<code>\longleftarrowrightarrow</code>	$\swarrow$	<code>\swswarrows</code>
$\curvearrowright$	<code>\bdrightarcarrow</code>	$\Longleftrightarrow$	<code>\Longleftrightarrow</code>	$\downarrow$	<code>\twoheaddownarrow</code>
$\curvearrowright$	<code>\bdsearcarrow</code>	$\rightsquigarrow$	<code>\longleftarrowwvearrow</code>	$\leftarrow$	<code>\twoheadleftarrow</code>
$\curvearrowright$	<code>\bdswarcarrow</code>	$\Longmapsto$	<code>\Longmapsto</code>	$\nearrow$	<code>\twoheadnearrow</code>
$\curvearrowright$	<code>\bdunderarcarrow</code>	$\longmapsto$	<code>\longmapsto</code>	$\nearrow$	<code>\twoheadnvarrow</code>
$\circlearrowright$	<code>\cwcirculararrowdown</code>	$\Rightarrow$	<code>\Longmapsto</code>	$\rightarrow$	<code>\twoheadrightarrow</code>
$\circlearrowright$	<code>\cwcirculararrowleft</code>	$\rightarrow$	<code>\longmapsto</code>	$\searrow$	<code>\twoheadsearrow</code>

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	<code>\cwcirclearrowright</code>	$\rightarrow$	<code>\longrightarrow</code>		<code>\twoheadswarrow</code>
	<code>\cwcirclearrowup</code>	$\Rightarrow$	<code>\Longrightarrow</code>		<code>\twoheaduparrow</code>
	<code>\cwleftarcarrow</code>	$\rightsquigarrow$	<code>\longrightwavearrow</code>		<code>\uparrow</code>
	<code>\cwnearcarrow</code>	$\looparrowleft$	<code>\looparrowleft</code>		<code>\Uparrow</code>
	<code>\cwnwarcarrow</code>	$\looparrowright$	<code>\looparrowright</code>		<code>\uparrowtail</code>
	<code>\cwoverarcarrow</code>	$\Lsh$	<code>\Lsh</code>		<code>\upbkarrow</code>
	<code>\cwrightarcarrow</code>	$\nearrow$	<code>\nearrow</code>		<code>\Updownarrow</code>
	<code>\cwsearcarrow</code>	$\nearrow$	<code>\Nearrow</code>		<code>\updownarrow</code>
	<code>\cswwarcarrow</code>	$\nearrowtail$	<code>\nearrowtail</code>		<code>\updownarrows</code>
	<code>\cwunderarcarrow</code>	$\nearrow$	<code>\nebkarrow</code>		<code>\updownwavearrow</code>
	<code>\Ddownarrow</code>	$\nearrow$	<code>\nenearrows</code>		<code>\upmapsto</code>
	<code>\Downarrow</code>	$\nearrow$	<code>\Neswarrow</code>		<code>\Upmapsto</code>
	<code>\downarrow</code>	$\nearrow$	<code>\neswarrow</code>		<code>\upuparrows</code>
	<code>\downarrowtail</code>	$\nearrow$	<code>\neswarrows</code>		<code>\upwavearrow</code>
	<code>\downbkarrow</code>	$\nearrow$	<code>\Nwarrow</code>		<code>\Uuparrow</code>
	<code>\downdownarrows</code>	$\nearrow$	<code>\nwarrow</code>		<code>\vardownwvearrow</code>
	<code>\Downmapsto</code>	$\nearrow$	<code>\nwarrowtail</code>		<code>\varhookdownarrow</code>
	<code>\downmapsto</code>	$\nearrow$	<code>\nwbkarrow</code>		<code>\varhookleftarrow</code>
	<code>\downuparrows</code>	$\nearrow$	<code>\nwnwarrows</code>		<code>\varhooknearrow</code>
	<code>\downwvearrow</code>	$\nearrow$	<code>\Nwsearrow</code>		<code>\varhookknwarrow</code>
	<code>\hookdownarrow</code>	$\nearrow$	<code>\nwsearrow</code>		<code>\varhookrightarrow</code>
	<code>\hookleftarrow</code>	$\nearrow$	<code>\nwsearrows</code>		<code>\varhooksearrow</code>
	<code>\hooknearrow</code>	$\rightarrow$	<code>\Rdsh</code>		<code>\varhookswarrow</code>
	<code>\hooknwarrow</code>	$\Rightarrow$	<code>\Rightarrow</code>		<code>\varhookuparrow</code>
	<code>\hookrightarrow</code>	$\rightarrow$	<code>\rightarrow</code>		<code>\varleftrightwvearrow</code>
	<code>\hooksearrow</code>	$\rightarrow$	<code>\rightarrowtail</code>		<code>\varleftwvearrow</code>
	<code>\hookswarrow</code>	$\rightarrow$	<code>\rightbkarrow</code>		<code>\varrightwvearrow</code>
	<code>\hookuparrow</code>	$\rightarrow$	<code>\rightleftarrows</code>		<code>\varupdownwvearrow</code>
	<code>\Ldsh</code>	$\Rightarrow$	<code>\Rightmapsto</code>		<code>\varupwvearrow</code>
	<code>\Leftarrow</code>	$\rightarrow$	<code>\rightmapsto</code>		

	$\leftrightarrow$	$\leftrightsquigarrow$		$\searrow$
	$\leftarrow$	$\leftrsquigarrow$	$\rightarrow$	$\searrow$
	$\leftarrow$	$\leftsquigarrow$	$\searrow$	$\searrow$
	$\rightarrow$	$\leftupcurvedarrow$	$\nearrow$	$\searrow$
	$\downarrow$	$\hookrightarrow$	$\uparrow$	$\searrow$
	$\leftarrow$	$\hookrightarrow$	$\rightarrow$	$\rightarrow$
	$\nearrow$	$\hookrightarrow$	$\searrow$	$\rightarrow$
	$\searrow$	$\hookrightarrow$	$\rightarrow$	$\rightarrow$
$\dashrightarrow$	$\rightarrow$	$\hookrightarrow$	$\rightarrow$	$\rightarrow$
$\dashleftarrow$	$\searrow$	$\hookrightarrow$	$\leftrightarrow$	$\rightarrow$
$\dashrightarrow$	$\nearrow$	$\hookrightarrow$	$\rightarrow$	$\rightarrow$
$\downarrowcurvedarrow$	$\uparrow$	$\hookrightarrow$	$\rightarrow$	$\rightarrow$
$\downarrowleftcurvedarrow$	$\rightsquigarrow$	$\longleadsto$	$\rightarrow$	$\rightarrow$

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	<code>\downlsquigarrow</code>		<code>\longleftsquigarrow</code>		<code>\rightsquigarrow</code>
	<code>\downrcurvearrow</code>		<code>\longrightsquigarrow</code>		<code>\rightupcurvedarrow</code>
	<code>\downrightcurvedarrow</code>		<code>\mapsdown</code>		<code>\selcurvearrow</code>
	<code>\downrsquigarrow</code>		<code>\Mapsdown</code>		<code>\senwcurvearrow</code>
	<code>\downupcurvearrow</code>		<code>\mapsfrom</code>		<code>\sercurvearrow</code>
	<code>\downupsquigarrow</code>		<code>\Mapsfrom</code>		<code>\swlcurvearrow</code>
	<code>\downzigzagarrow</code>		<code>\mapsto</code>		<code>\swnecurvearrow</code>
	<code>\gets</code>		<code>\Mapsto</code>		<code>\swrcurvearrow</code>
	<code>\hknearrow</code>		<code>\mapsup</code>		<code>\to</code>
	<code>\hknwarrow</code>		<code>\Mapsup</code>		<code>\updowncurvearrow</code>
	<code>\hksearrow</code>		<code>\nelcurvearrow</code>		<code>\updownsquigarrow</code>
	<code>\hkswarrow</code>		<code>\nercurvearrow</code>		<code>\uplcurvearrow</code>
	<code>\leadsto</code>		<code>\neswcurvearrow</code>		<code>\upleftcurvedarrow</code>
	<code>\leftcurvedarrow</code>		<code>\nw lcurvearrow</code>		<code>\uplsquigarrow</code>
	<code>\leftdowncurvedarrow</code>		<code>\nw rcurvearrow</code>		<code>\uprcurvearrow</code>
	<code>\lefttlcurvearrow</code>		<code>\nwsecurvearrow</code>		<code>\uprightcurvearrow</code>
	<code>\lefttlsquigarrow</code>		<code>\rhookdownarrow</code>		<code>\uprsquigarrow</code>
	<code>\lefttrcurvearrow</code>		<code>\rhookleftarrow</code>		
	<code>\lefrightcurvearrow</code>		<code>\rhooknearrow</code>		

TABLE 219: FdSymbol Negated Arrows

	<code>\nacwcirclearrowdown</code>		<code>\nleftarrow</code>		<code>\nRrightarrow</code>
	<code>\nacwcirclearrowleft</code>		<code>\nLeftarrow</code>		<code>\nsearrow</code>
	<code>\nacwcirclearrowright</code>		<code>\nleftarrowtail</code>		<code>\nSearrow</code>
	<code>\nacwcirclearrowup</code>		<code>\nlefttbkarrow</code>		<code>\nsearrowtail</code>
	<code>\nacwleftarcarrow</code>		<code>\nleftleftarrows</code>		<code>\nsebkarrow</code>
	<code>\nacwnearcarrow</code>		<code>\nleftmapsto</code>		<code>\nsenwarrows</code>
	<code>\nacwnwarcarrow</code>		<code>\nLeftmapsto</code>		<code>\nsese arrows</code>
	<code>\nacwoverarcarrow</code>		<code>\nleftrightharpoonright</code>		<code>\nswarrow</code>
	<code>\nacwrightarcarrow</code>		<code>\nLeftrightharpoonright</code>		<code>\nSwarrow</code>
	<code>\nacwsearcarrow</code>		<code>\nleftrightharpoons</code>		<code>\nswarrowtail</code>
	<code>\nacwswarcarrow</code>		<code>\nleftrightwavearrow</code>		<code>\nswbkarrow</code>
	<code>\nacwunderarcarrow</code>		<code>\nleftwavearrow</code>		<code>\nswnearrows</code>
	<code>\nbdleftarcarrow</code>		<code>\nLleftarrow</code>		<code>\nswswarrows</code>
	<code>\nbdnearcarrow</code>		<code>\nlongleftarrow</code>		<code>\ntwoheaddownarrow</code>
	<code>\nbdnwarcarrow</code>		<code>\nLongleftarrow</code>		<code>\ntwoheadleftarrow</code>
	<code>\nbdoverarcarrow</code>		<code>\nlongleftrightharpoonright</code>		<code>\ntwoheadnearrow</code>
	<code>\nbdrightarcarrow</code>		<code>\nLongleftrightharpoonright</code>		<code>\ntwoheadnwarrow</code>

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	<code>\nbdseararrow</code>		<code>\nlongleftwvearrow</code>		<code>\ntwoheadrightarrow</code>
	<code>\nbdswararrow</code>		<code>\nlongmapsfrom</code>		<code>\ntwoheadsearrow</code>
	<code>\nbdunderararrow</code>		<code>\nLongmapsfrom</code>		<code>\ntwoheadswarrow</code>
	<code>\ncwcirculararrowdown</code>		<code>\nlongmapsto</code>		<code>\ntwoheaduparrow</code>
	<code>\ncwcirculararrowleft</code>		<code>\nLongmapsto</code>		<code>\nuparrow</code>
	<code>\ncwcirculararrowright</code>		<code>\nlongrightarrow</code>		<code>\nUparrow</code>
	<code>\ncwcirculararrowup</code>		<code>\nLongrightarrow</code>		<code>\nuparrowtail</code>
	<code>\ncwleftararrow</code>		<code>\nlongrightwvearrow</code>		<code>\nupbkarrow</code>
	<code>\ncwneararrow</code>		<code>\nnearrow</code>		<code>\nupdownarrow</code>
	<code>\ncwnwararrow</code>		<code>\nNearrow</code>		<code>\nUpdownarrow</code>
	<code>\ncwoverararrow</code>		<code>\nnearrowtail</code>		<code>\nupdownarrows</code>
	<code>\ncwrightararrow</code>		<code>\nnbkarrow</code>		<code>\nupdownwvearrow</code>
	<code>\ncwseararrow</code>		<code>\nnenearrows</code>		<code>\nupmapsto</code>
	<code>\ncswararrow</code>		<code>\nneswarrow</code>		<code>\nUpmapsto</code>
	<code>\ncwunderararrow</code>		<code>\nNeswarrow</code>		<code>\nupuparrows</code>
	<code>\nddownarrow</code>		<code>\nneswarrows</code>		<code>\nupwvearrow</code>
	<code>\ndownarrow</code>		<code>\nnwarrow</code>		<code>\nUparrow</code>
	<code>\ndDownarrow</code>		<code>\nNwarrow</code>		<code>\nvardownwvearrow</code>
	<code>\ndownarrowtail</code>		<code>\nnwarrowtail</code>		<code>\nvarhookdownarrow</code>
	<code>\ndownbkarrow</code>		<code>\nnwbkarrow</code>		<code>\nvarhookleftarrow</code>
	<code>\ndowndownarrows</code>		<code>\nnwnwarrows</code>		<code>\nvarhooknearrow</code>
	<code>\ndownmapsto</code>		<code>\nnwsearrow</code>		<code>\nvarhooknwarrow</code>
	<code>\ndDownmapsto</code>		<code>\nNwsearrow</code>		<code>\nvarhookrightarrow</code>
	<code>\ndownuparrows</code>		<code>\nnwsearrows</code>		<code>\nvarhooksearrow</code>
	<code>\ndownwvearrow</code>		<code>\nrightarrow</code>		<code>\nvarhookswarrow</code>
	<code>\nhookdownarrow</code>		<code>\nRightarrow</code>		<code>\nvarhookuparrow</code>
	<code>\nhookleftarrow</code>		<code>\nrightarrowtail</code>		<code>\nvarleftrighthwvearrow</code>
	<code>\nhooknearrow</code>		<code>\nrighthbkarrow</code>		<code>\nvarleftwvearrow</code>
	<code>\nhooknwarrow</code>		<code>\nrightleftarrows</code>		<code>\nvarrightwvearrow</code>
	<code>\nhookrightarrow</code>		<code>\nrightmapsto</code>		<code>\nvarupdownwvearrow</code>
	<code>\nhooksearrow</code>		<code>\nRightmapsto</code>		<code>\nvarupwvearrow</code>
	<code>\nhookswarrow</code>		<code>\nrightrightarrows</code>		
	<code>\nhookuparrow</code>		<code>\nrightwvearrow</code>		

FdSymbol defines synonyms for most of the preceding symbols:

	<code>\nacwgapcirculararrow</code>		<code>\nleftdowncurvedarrow</code>		<code>\nrightcurvedarrow</code>
	<code>\nacwopencirculararrow</code>		<code>\nleftlcurvearrow</code>		<code>\nrightdowncurvedarrow</code>
	<code>\ncirculararrowleft</code>		<code>\nleftlsquigarrow</code>		<code>\nrightlcurvearrow</code>
	<code>\ncirculararrowright</code>		<code>\nleftrcurvearrow</code>		<code>\nrightleftcurvearrow</code>
	<code>\ncurvearrowleft</code>		<code>\nleftrighcurvearrow</code>		<code>\nrightleftsquigarrow</code>
	<code>\ncurvearrowright</code>		<code>\nleftrightsquigarrow</code>		<code>\nrightlsquigarrow</code>
	<code>\ncwgapcirculararrow</code>		<code>\nleftrsquigarrow</code>		<code>\nrightrcurvearrow</code>
	<code>\ncwopencirculararrow</code>		<code>\nleftsquigarrow</code>		<code>\nrightrsquigarrow</code>
	<code>\ndasharrow</code>		<code>\nleftupcurvedarrow</code>		<code>\nrighsquigarrow</code>

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$\dashleftarrow$	<code>\ndashleftarrow</code>	$\leadsto$	<code>\nlongleadsto</code>	$\curvearrowright$	<code>\nrighcupcurvedarrow</code>
$\dashrightarrow$	<code>\ndashrightarrow</code>	$\rightsquigarrow$	<code>\nlongleftsquigarrow</code>	$\curvearrowleft$	<code>\nsecurvearrow</code>
$\downarrow$	<code>\downlcurvearrow</code>	$\rightsquigarrow$	<code>\nlongrightsquigarrow</code>	$\curvearrowright$	<code>\nsenwcurvearrow</code>
$\curvearrowleft$	<code>\ndownleftcurvedarrow</code>	$\downdownarrows$	<code>\nmapsdown</code>	$\curvearrowleft$	<code>\nsercurvearrow</code>
$\rightsquigarrow$	<code>\ndownlsquigarrow</code>	$\downdownarrows$	<code>\nMapsdown</code>	$\curvearrowleft$	<code>\nswlcurvearrow</code>
$\curvearrowright$	<code>\ndownrcurvearrow</code>	$\downdownarrows$	<code>\nmapsfrom</code>	$\curvearrowright$	<code>\nswnecurvearrow</code>
$\curvearrowright$	<code>\ndownrightcurvedarrow</code>	$\downdownarrows$	<code>\nMapsfrom</code>	$\curvearrowright$	<code>\nswrcurvearrow</code>
$\rightsquigarrow$	<code>\ndownrsquigarrow</code>	$\downdownarrows$	<code>\nmapsto</code>	$\rightarrow$	<code>\nto</code>
$\rightsquigarrow$	<code>\ndownupcurvearrow</code>	$\downdownarrows$	<code>\nMapsto</code>	$\updownarrow$	<code>\nupdowncurvearrow</code>
$\rightsquigarrow$	<code>\ndownupsquigarrow</code>	$\downdownarrows$	<code>\nmapsup</code>	$\updownarrow$	<code>\nupdownsquigarrow</code>
$\rightarrow$	<code>\ngets</code>	$\downdownarrows$	<code>\nMapsup</code>	$\updownarrow$	<code>\nuplcurvearrow</code>
$\rightarrow$	<code>\nhknearrow</code>	$\rightarrow$	<code>\nnelcurvearrow</code>	$\rightarrow$	<code>\nupleftcurvedarrow</code>
$\rightarrow$	<code>\nhknwarrow</code>	$\rightarrow$	<code>\nnercurvearrow</code>	$\rightarrow$	<code>\nuplsquigarrow</code>
$\rightarrow$	<code>\nhksearrow</code>	$\rightarrow$	<code>\nneswcurvearrow</code>	$\rightarrow$	<code>\nuprcurvearrow</code>
$\rightarrow$	<code>\nhkswarrow</code>	$\rightarrow$	<code>\nnwlcurvearrow</code>	$\rightarrow$	<code>\nuprightcurvearrow</code>
$\rightarrow$	<code>\nleadsto</code>	$\rightarrow$	<code>\nnwrcurvearrow</code>	$\rightarrow$	<code>\nuprsquigarrow</code>
$\rightarrow$	<code>\nleftcurvedarrow</code>	$\rightarrow$	<code>\nnwsecurvearrow</code>		

TABLE 222: FdSymbol Harpoons

$\downharpoonleft$	<code>\downharpoonleft</code>	$\nearrow$	<code>\neswharpoons</code>	$\searrow$	<code>\seharpoonsw</code>
$\downharpoonright$	<code>\downharpoonright</code>	$\nearrow$	<code>\neswharpoonsenw</code>	$\searrow$	<code>\senwharpoons</code>
$\upharpoonleft$	<code>\downupharpoons</code>	$\nwarrow$	<code>\nwharpoonne</code>	$\swarrow$	<code>\swharpoonnw</code>
$\leftharpoonright$	<code>\leftharpoonrightdown</code>	$\nwarrow$	<code>\nwharpoonsw</code>	$\swarrow$	<code>\swharpoonse</code>
$\leftharpoonup$	<code>\leftharpoonup</code>	$\nwarrow$	<code>\nwseharpoonnesw</code>	$\swarrow$	<code>\swneharpoons</code>
$\leftrightharpoonright$	<code>\leftrightharpoonrightdownup</code>	$\nwarrow$	<code>\nwseharpoons</code>	$\updownarrow$	<code>\updownharpoonleftright</code>
$\leftrightharpoons$	<code>\leftrightharpoons</code>	$\nwarrow$	<code>\nwseharpoonswne</code>	$\updownarrow$	<code>\updownharpoonrightleft</code>
$\leftrightharpoonup$	<code>\leftrightharpoonupdown</code>	$\rightarrow$	<code>\rightharpoonrightdown</code>	$\updownarrow$	<code>\updownharpoons</code>
$\nearrow$	<code>\neharpoonnw</code>	$\rightarrow$	<code>\rightharpoonup</code>	$\updownarrow$	<code>\upharpoonleft</code>
$\nearrow$	<code>\neharpoonse</code>	$\rightarrow$	<code>\rightleftharpoons</code>	$\updownarrow$	<code>\upharpoonright</code>
$\nearrow$	<code>\neswharpoonnwse</code>	$\nwarrow$	<code>\seharpoonne</code>		

FdSymbol defines `\restriction` as a synonym for `\upharpoonright`, `\updownharpoonsleftright` as a synonym for `\updownharpoons`, and `\downupharpoonsleftright` as a synonym for `\downupharpoons`.

TABLE 223: FdSymbol Negated Harpoons

†	<code>\downharpoonleft</code>	⌞	<code>\neswharpoons</code>	⌞	<code>\seharpoonsw</code>
‡	<code>\downharpoonright</code>	⌞	<code>\neswharpoonsenw</code>	⌞	<code>\senwharpoons</code>
‡	<code>\downupharpoons</code>	⌞	<code>\nnwharpoonne</code>	⌞	<code>\nswharpoonnw</code>
↵	<code>\leftharpoondown</code>	⌞	<code>\nnwharpoonsw</code>	⌞	<code>\nswharpoonse</code>
↶	<code>\leftharpoonup</code>	⌞	<code>\nnwseharpoonnesw</code>	⌞	<code>\nswnharpoons</code>
↷	<code>\leftrightharpoondownup</code>	⌞	<code>\nnwseharpoons</code>	‡	<code>\nupdownharpoonleftright</code>
↸	<code>\leftrightharpoons</code>	⌞	<code>\nnwseharpoonswne</code>	‡	<code>\nupdownharpoonrightleft</code>
↹	<code>\leftrightharpoonupdown</code>	↵	<code>\nrightharpoondown</code>	‡	<code>\nupdownharpoons</code>
⌞	<code>\neharpoonnw</code>	↶	<code>\nrightharpoonup</code>	‡	<code>\nupharpoonleft</code>
⌞	<code>\neharpoonse</code>	↷	<code>\nrightharpoons</code>	‡	<code>\nupharpoonright</code>
⌞	<code>\neswharpoonnwse</code>	⌞	<code>\seharpoonne</code>		














































FdSymbol defines `\nrestriction` as a synonym for `\nupharpoonright`, `\ndownupharpoonsleftright` as a synonym for `\ndownupharpoons`, and `\nupdownharpoonsleftright` as a synonym for `\nupdownharpoons`.

TABLE 224: boisik Arrows

↵	<code>\barleftarrow</code>	↵	<code>\Lsh</code>
↵↶	<code>\barleftarrowrightarrowbar</code>	↓	<code>\mapsdown</code>
↵↶↶	<code>\barovernorthwestarrow</code>	↵	<code>\Mapsfrom</code>
↵	<code>\carriagereturn</code>	↵	<code>\mapsfrom</code>
↶	<code>\circlearrowleft</code>	⇒	<code>\Mapsto</code>
↷	<code>\circlearrowright</code>	⇒	<code>\mapsto</code>
↶	<code>\cupleftarrow</code>	↑	<code>\mapsup</code>
↶↶	<code>\curlyveedownarrow</code>	↶	<code>\Nearrow</code>
↶↶	<code>\curlyveeuparrow</code>	↶	<code>\nearrowcorner</code>
↶	<code>\curlywedgedownarrow</code>	↶	<code>\nnearrow</code>
↶	<code>\curlywedgeuparrow</code>	↶	<code>\nnwarrow</code>
↶	<code>\curvearrowbotleft</code>	↶	<code>\Nwarrow</code>
↶↶	<code>\curvearrowbotleftright</code>	↶	<code>\nwarrowcorner</code>
↶	<code>\curvearrowbotright</code>	→	<code>\rightarrowbar</code>
↶	<code>\curvearrowleft</code>	⇒	<code>\rightarrowcircle</code>
↶	<code>\curvearrowleftright</code>	⇒	<code>\rightarrowtail</code>
↶	<code>\curvearrowright</code>	→	<code>\rightarrowTriangle</code>
↶	<code>\dlsh</code>	→	<code>\rightarrowtriangle</code>
↓	<code>\downblackarrow</code>	→	<code>\rightblackarrow</code>
↵	<code>\downdasharrow</code>	→	<code>\rightdasharrow</code>
↵	<code>\downdownarrows</code>	↶	<code>\rightleftarrows</code>
↶	<code>\downtoupward</code>	↶	<code>\rightrightarrows</code>
↵	<code>\downwhitearrow</code>	↶	<code>\rightsquigarrow</code>












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	<code>\downzigzagarrow</code>		<code>\rightthreearrows</code>
	<code>\drsh</code>		<code>\righttleftarrow</code>
	<code>\eqleftrightarrow</code>		<code>\rightwhitearrow</code>
	<code>\hookleftarrow</code>		<code>\rightwhiteroundarrow</code>
	<code>\hookrightarrow</code>		<code>\Rrightarrow</code>
	<code>\leftarrowtail</code>		<code>\Rsh</code>
	<code>\leftarrowTriangle</code>		<code>\Searrow</code>
	<code>\leftarrowtriangle</code>		<code>\ssearrow</code>
	<code>\leftblackarrow</code>		<code>\sswarrow</code>
	<code>\leftdasharrow</code>		<code>\Svarrow</code>
	<code>\leftleftarrows</code>		<code>\twoheaddownarrow</code>
	<code>\leftrightarrows</code>		<code>\twoheadleftarrow</code>
	<code>\leftrightharrows</code>		<code>\twoheadrightarrow</code>
	<code>\leftrightharrowsTriangle</code>		<code>\twoheaduparrow</code>
	<code>\leftrightharrowstriangle</code>		<code>\twoheadwhiteuparrow</code>
	<code>\lefttrightblackarrow</code>		<code>\twoheadwhiteuparrowpedestal</code>
	<code>\leftrightsquigarrow</code>		<code>\upblackarrow</code>
	<code>\leftsquigarrow</code>		<code>\updasharrow</code>
	<code>\lefttorightarrow</code>		<code>\updownarrowbar</code>
	<code>\leftwhitearrow</code>		<code>\updownblackarrow</code>
	<code>\leftwhiteroundarrow</code>		<code>\updownwhitearrow</code>
	<code>\leftzigzagarrow</code>		<code>\uptodownarrow</code>
	<code>\linefeed</code>		<code>\upuparrows</code>
	<code>\Lleftarrow</code>		<code>\upwhitearrow</code>
	<code>\looparrowdownleft</code>		<code>\whitearrowupfrombar</code>
	<code>\looparrowdownright</code>		<code>\whitearrowuppedestal</code>
	<code>\looparrowleft</code>		<code>\whitearrowuppedestalthbar</code>
	<code>\looparrowright</code>		<code>\whitearrowuppedestallvbar</code>

Many of these symbols are defined only if the `arrows` package option is specified.

TABLE 226: `boisik` Negated Arrows

	<code>\nHdownarrow</code>		<code>\nLeftrightarrow</code>		<code>\nRightarrow</code>
	<code>\nHuparrow</code>		<code>\nleftrightarrow</code>		<code>\nVleftarrow</code>
	<code>\nLeftarrow</code>		<code>\nLeftrightarrow</code>		<code>\nVrightarrow</code>
	<code>\nleftarrow</code>		<code>\nrightarrow</code>		

Many of these symbols are defined only if the `arrows` package option is specified.



TABLE 227: boisik Harpoons

$\downarrow$	<code>\downharpoonleft</code>	$\Leftrightarrow$	<code>\leftrightharpoons</code>	$\uparrow$	<code>\upharpoonleft</code>
$\searrow$	<code>\downharpoonright</code>	$\rightarrow$	<code>\rightharpoondown</code>	$\uparrow$	<code>\upharpoonright</code>
$\nwarrow$	<code>\leftharpoondown</code>	$\rightarrow$	<code>\rightharpoonup</code>		
$\nearrow$	<code>\leftharpoonup</code>	$\Leftrightarrow$	<code>\rightleftharpoons</code>		

TABLE 228: stix Arrows

$\circlearrowleft$	<code>\acwcirculararrow</code>	$\mapsto$	<code>\longmapsto</code>
$\circlearrowright$	<code>\acwgapcirculararrow</code>	$\Longmapsto$	<code>\Longmapsto</code>
$\curvearrowleft$	<code>\acwleftarcarrow</code>	$\longrightarrow$	<code>\longrightarrow</code>
$\curvearrowright$	<code>\acwoverarcarrow</code>	$\Longrightarrow$	<code>\Longrightarrow</code>
$\underarcarrow$	<code>\acwunderarcarrow</code>	$\rightsquigarrow$	<code>\longrightsquigarrow</code>
$\bar{\leftarrow}$	<code>\barleftarrow</code>	$\looparrowleft$	<code>\looparrowleft</code>
$\bar{\leftarrow\rightarrow}$	<code>\barleftarrowrightarrowbar*</code>	$\looparrowright$	<code>\looparrowright</code>
$\bar{\rightarrow}$	<code>\barrightarrowdiamond</code>	$\Lsh$	<code>\Lsh</code>
$\bar{\uparrow}$	<code>\baruparrow</code>	$\mapsto$	<code>\mapsdown</code>
$\bsimilarrowleft$	<code>\bsimilarleftarrow</code>	$\Mapsfrom$	<code>\Mapsfrom</code>
$\bsimilarrowright$	<code>\bsimilarrightarrow</code>	$\mapsto$	<code>\mapsfrom</code>
$\lleftarrow$	<code>\carriagereturn*</code>	$\mapsto$	<code>\mapsto</code>
$\ccwundercurvearrow$	<code>\ccwundercurvearrow</code>	$\Mapsto$	<code>\Mapsto</code>
$\circlearrowleft$	<code>\circlearrowleft</code>	$\uparrow$	<code>\mapsto</code>
$\circlearrowright$	<code>\circlearrowright</code>	$\nearrow$	<code>\Nearrow</code>
$\circleonleftarrow$	<code>\circleonleftarrow</code>	$\nearrow$	<code>\nearrow</code>
$\circleonrightarrow$	<code>\circleonrightarrow</code>	$\nearrow$	<code>\neovnearrow*</code>
$\curvearrowleft$	<code>\curvearrowleft</code>	$\nearrow$	<code>\neovsearrow*</code>
$\curvearrowleftplus$	<code>\curvearrowleftplus</code>	$\nearrow$	<code>\neswarrow</code>
$\curvearrowright$	<code>\curvearrowright</code>	$\nwarrow$	<code>\nwarrow</code>
$\curvearrowrightminus$	<code>\curvearrowrightminus</code>	$\nwarrow$	<code>\Nwarrow</code>
$\cwccirculararrow$	<code>\cwccirculararrow</code>	$\nwarrow$	<code>\nwovnearrow*</code>
$\cwgapcirculararrow$	<code>\cwgapcirculararrow</code>	$\nwarrow$	<code>\nwsearrow</code>
$\cwrightarcarrow$	<code>\cwrightarcarrow</code>	$\nwarrow$	<code>\rdiagovsearrow*</code>
$\cwundercurvearrow$	<code>\cwundercurvearrow</code>	$\Rdsh$	<code>\Rdsh</code>
$\dbkarow$	<code>\dbkarow</code>	$\Rightarrow$	<code>\Rightarrow</code>
$\Downarrow$	<code>\Downarrow</code>	$\rightarrow$	<code>\rightarrow</code>
$\Downarrow$	<code>\Downarrow</code>	$\rightarrow$	<code>\rightarrowapprox</code>
$\diamondleftarrow$	<code>\diamondleftarrow</code>	$\rightarrow$	<code>\rightarrowbackapprox</code>
$\diamondleftarrowbar$	<code>\diamondleftarrowbar</code>	$\rightarrow$	<code>\rightarrowbar</code>
$\downarrow$	<code>\downarrow</code>	$\rightarrow$	<code>\rightarrowbsimilar</code>
$\Downarrow$	<code>\Downarrow</code>	$\rightarrow$	<code>\rightarrowdiamond</code>
$\downarrowbar$	<code>\downarrowbar</code>	$\oplus$	<code>\rightarrowonoplus</code>

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$\downarrow$	<code>\downarrowbarred</code>	$\rightarrow$	<code>\rightarrowplus</code>
$\dashrightarrow$	<code>\downdasharrow*</code>	$\rightarrowleftarrow$	<code>\rightarrowshortleftarrow</code>
$\Downarrow$	<code>\downdownarrows</code>	$\rightsquigarrow$	<code>\rightarrowsimilar</code>
$\curvearrowright$	<code>\downrightcurvedarrow*</code>	$\rightarrowtail$	<code>\rightarrowtail</code>
$\Uparrow$	<code>\downuparrows</code>	$\rightarrowtriangle$	<code>\rightarrowtriangle</code>
$\Downarrow$	<code>\downwhitearrow*</code>	$\rightarrowx$	<code>\rightarrowx</code>
$\zigzagarrow$	<code>\downzigzagarrow</code>	$\rightarrowbkarrow$	<code>\rightarrowbkarrow</code>
$\rightarrow$	<code>\draftingarrow*</code>	$\rightarrowcurvedarrow$	<code>\rightarrowcurvedarrow</code>
$\rightarrow\rightarrow$	<code>\drbkarow</code>	$\rightarrowdasharrow*$	<code>\rightarrowdasharrow*</code>
$\Leftarrow$	<code>\equalleftarrow</code>	$\rightarrowdotarrow$	<code>\rightarrowdotarrow</code>
$\Rightarrow$	<code>\equalrightarrow</code>	$\rightarrowdowncurvedarrow$	<code>\rightarrowdowncurvedarrow</code>
$\nearrow$	<code>\fdiagovnearrow*</code>	$\leftrightarrow$	<code>\rightleftarrows</code>
$\nearrow$	<code>\hknearrow</code>	$\rightarrowrightarrow$	<code>\rightrightarrows</code>
$\nearrow$	<code>\hknwarrow</code>	$\rightsquigarrow$	<code>\rightsquigarrow</code>
$\nearrow$	<code>\hksearrow</code>	$\rightarrowrightarrowrightarrow$	<code>\rightthreearrows</code>
$\nearrow$	<code>\hkswarrow</code>	$\rightarrowwvearrow$	<code>\rightarrowwvearrow</code>
$\hookleftarrow$	<code>\hookleftarrow</code>	$\rightarrowwhitearrow*$	<code>\rightarrowwhitearrow*</code>
$\hookrightarrow$	<code>\hookrightarrow</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\Ldash$	<code>\Ldash</code>	$\Rrightarrow$	<code>\Rrightarrow</code>
$\leftarrow$	<code>\leftarrow</code>	$\Rsh$	<code>\Rsh</code>
$\Leftarrow$	<code>\Leftarrow</code>	$\searrow$	<code>\searrow</code>
$\leftarrowapprox$	<code>\leftarrowapprox</code>	$\searrow$	<code>\searrow</code>
$\leftarrowbackapprox$	<code>\leftarrowbackapprox</code>	$\seovnearrow*$	<code>\seovnearrow*</code>
$\leftarrowbsimilar$	<code>\leftarrowbsimilar</code>	$\shortrightarrowleftarrow$	<code>\shortrightarrowleftarrow</code>
$\leftarrowonoplus$	<code>\leftarrowonoplus</code>	$\simleftarrow$	<code>\similarleftarrow</code>
$\leftarrowplus$	<code>\leftarrowplus</code>	$\simrightarrow$	<code>\similarrightarrow</code>
$\leftarrowshortrightarrow$	<code>\leftarrowshortrightarrow</code>	$\swarrow$	<code>\swarrow</code>
$\leftarrowsimilar$	<code>\leftarrowsimilar</code>	$\swarrow$	<code>\swarrow</code>
$\leftarrowtail$	<code>\leftarrowtail</code>	$\toea$	<code>\toea</code>
$\leftarrowtriangle$	<code>\leftarrowtriangle</code>	$\tona$	<code>\tona</code>
$\rightarrowx$	<code>\rightarrowx</code>	$\tosa$	<code>\tosa</code>
$\rightarrowbkarrow$	<code>\rightarrowbkarrow</code>	$\towa$	<code>\towa</code>
$\rightarrowcurvedarrow$	<code>\rightarrowcurvedarrow</code>	$\twoheadrightarrow$	<code>\twoheadrightarrow</code>
$\rightarrowdasharrow*$	<code>\rightarrowdasharrow*</code>	$\twoheadleftarrow$	<code>\twoheadleftarrow</code>
$\rightarrowdbkarrow$	<code>\rightarrowdbkarrow</code>	$\twoheadleftarrowtail$	<code>\twoheadleftarrowtail</code>
$\rightarrowdotarrow$	<code>\rightarrowdotarrow</code>	$\twoheadleftdbkarrow$	<code>\twoheadleftdbkarrow</code>
$\rightarrowdowncurvedarrow$	<code>\rightarrowdowncurvedarrow</code>	$\twoheadmapsfrom$	<code>\twoheadmapsfrom</code>
$\rightarrowleftarrows$	<code>\rightarrowleftarrows</code>	$\twoheadmapsto$	<code>\twoheadmapsto</code>
$\rightarrowrightarrow$	<code>\rightarrowrightarrow</code>	$\twoheadrightarrow$	<code>\twoheadrightarrow</code>
$\rightarrowrightarrowcircle$	<code>\rightarrowrightarrowcircle</code>	$\twoheadrightarrowtail$	<code>\twoheadrightarrowtail</code>
$\rightarrowrightarrow$	<code>\rightarrowrightarrow</code>	$\twoheaduparrow$	<code>\twoheaduparrow</code>
$\rightarrowrightarrowtriangle$	<code>\rightarrowrightarrowtriangle</code>	$\twoheaduparrowcircle$	<code>\twoheaduparrowcircle</code>
$\rightsquigarrow$	<code>\rightsquigarrow</code>	$\uparrow$	<code>\uparrow</code>
$\rightsquigarrow$	<code>\rightsquigarrow</code>	$\Uparrow$	<code>\Uparrow</code>
$\rightarrowthreearrows$	<code>\rightarrowthreearrows</code>	$\uparrowbarred$	<code>\uparrowbarred</code>
		$\updasharrow*$	<code>\updasharrow*</code>

*(continued on next page)*

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$\curvearrowleft$	<code>\leftwvearrow</code>	$\Updownarrow$	<code>\Updownarrow</code>
$\Leftrightarrow$	<code>\leftwhitearrow*</code>	$\updownarrow$	<code>\updownarrow</code>
$\lfloor$	<code>\linefeed*</code>	$\updownarrowbar$	<code>\updownarrowbar*</code>
$\Lleftarrow$	<code>\LLeftarrow</code>	$\updownarrow$	<code>\updownarrow</code>
$\Leftarrow$	<code>\Lleftarrow</code>	$\upcurvearrowright$	<code>\uprightcurvearrow*</code>
$\longleftarrow$	<code>\longleftarrow</code>	$\Uparrow$	<code>\upuparrows</code>
$\Longleftarrow$	<code>\Longleftarrow</code>	$\upwhitearrow$	<code>\upwhitearrow*</code>
$\Longleftrightarrow$	<code>\Longleftrightarrow</code>	$\Uparrow$	<code>\Uparrow</code>
$\longleftrightarrow$	<code>\longleftrightarrow</code>	$\Uparrow$	<code>\Uparrow</code>
$\rightsquigarrow$	<code>\longleftsquigarrow</code>	$\varcarriagereturn$	<code>\varcarriagereturn*</code>
$\Longmapsto$	<code>\Longmapsto</code>	$\upwhitearrow$	<code>\whitearrowupfrombar*</code>
$\longmapsto$	<code>\longmapsto</code>		

\* Defined as an ordinary character, not as a binary relation.

stix defines `\acwopencirclearrow` as a synonym for `\circlearrowleft`, `\cwopencirclearrow` as a synonym for `\circlearrowright`, `\leadsto` as a synonym for `\rightsquigarrow`, `\dashleftarrow` as a synonym for `\leftdbkarrow`, and `\dashrightarrow` and `\dasharrow` as synonyms for `\dbkarrow`.

TABLE 230: stix Negated Arrows

$\nHdownarrow$	<code>\nHdownarrow*</code>	$\nVleftarrow$	<code>\nvLeftrightarrow</code>
$\nHuparrow$	<code>\nHuparrow*</code>	$\nVrightarrow$	<code>\nVrightarrow</code>
$\nleftarrow$	<code>\nleftarrow†</code>	$\nVrightarrow$	<code>\nvRightrightarrow</code>
$\nLeftarrow$	<code>\nLeftarrow</code>	$\nrightarrow$	<code>\nvrightarrow</code>
$\nleftrightarrow$	<code>\nleftrightarrow</code>	$\nrightarrowtail$	<code>\nVrightarrowtail</code>
$\nLeftrightarrow$	<code>\nLeftrightarrow</code>	$\nrightarrowtail$	<code>\nvrightarrowtail</code>
$\nRightarrow$	<code>\nRightarrow</code>	$\nVtwoheadleftarrow$	<code>\nvtwoheadleftarrow</code>
$\nrightarrow$	<code>\nrightarrow</code>	$\nVtwoheadleftarrow$	<code>\nvtwoheadleftarrow</code>
$\nleftarrow$	<code>\nleftarrow</code>	$\nVtwoheadleftarrowtail$	<code>\nvtwoheadleftarrowtail</code>
$\nLeftarrow$	<code>\nLeftarrow</code>	$\nVtwoheadleftarrowtail$	<code>\nvtwoheadleftarrowtail</code>
$\nVleftarrow$	<code>\nVleftarrow</code>	$\nVtwoheadrightarrow$	<code>\nvtwoheadrightarrow</code>
$\nVleftarrowtail$	<code>\nVleftarrowtail</code>	$\nVtwoheadrightarrow$	<code>\nvtwoheadrightarrow</code>
$\nvleftarrowtail$	<code>\nvleftarrowtail</code>	$\nVtwoheadrightarrowtail$	<code>\nvtwoheadrightarrowtail</code>
$\nvleftarrow$	<code>\nvleftarrow</code>	$\nVtwoheadrightarrowtail$	<code>\nvtwoheadrightarrowtail</code>
$\nvleftarrow$	<code>\nvleftarrow</code>		

\* Defined as an ordinary character, not as a binary relation.

† stix defines `\ngets` as a synonym for `\nleftarrow`.

TABLE 231: stix Harpoons

$\bar{\downarrow}$	<code>\bardownharpoonleft</code>	$\Leftrightarrow$	<code>\leftrightharpoons</code>
$\bar{\downarrow}$	<code>\bardownharpoonright</code>	$\Rightarrow$	<code>\leftrightharpoonsdown</code>
$\bar{\leftarrow}$	<code>\barlefttharpoonupdown</code>	$\Leftarrow$	<code>\leftrightharpoonsup</code>
$\bar{\leftarrow}$	<code>\barlefttharpoonup</code>	$\Leftarrow$	<code>\leftrightharpoonupdown</code>
$\bar{\rightarrow}$	<code>\barrighttharpoonupdown</code>	$\Leftarrow$	<code>\leftrightharpoonupup</code>
$\bar{\rightarrow}$	<code>\barrighttharpoonup</code>	$\rightarrow$	<code>\rightharpoonupdown</code>
$\bar{\uparrow}$	<code>\barupharpoonleft</code>	$\rightarrow$	<code>\rightharpoonupdownbar</code>
$\bar{\uparrow}$	<code>\barupharpoonright</code>	$\Rightarrow$	<code>\rightharpoonupsupdown</code>
$\dashv$	<code>\dashlefttharpoonupdown</code>	$\rightarrow$	<code>\rightharpoonupup</code>
$\Rightarrow$	<code>\dashrighttharpoonupdown</code>	$\rightarrow$	<code>\rightharpoonupupbar</code>
$\downarrow$	<code>\downharpoonleft</code>	$\Rightarrow$	<code>\rightharpoonupupdash</code>
$\downarrow$	<code>\downharpoonleftbar</code>	$\Rightarrow$	<code>\rightlefttharpoons</code>
$\downarrow$	<code>\downharpoonright</code>	$\Rightarrow$	<code>\rightlefttharpoonsdown</code>
$\downarrow$	<code>\downharpoonrightbar</code>	$\Rightarrow$	<code>\rightlefttharpoonsup</code>
$\Downarrow$	<code>\downharpoonsleftright</code>	$\downarrow$	<code>\updownharpoonleftleft</code>
$\Downarrow$	<code>\downupharpoonsleftright</code>	$\downarrow$	<code>\updownharpoonleftright</code>
$\leftarrow$	<code>\leftharpoonupdown</code>	$\downarrow$	<code>\updownharpoonrightleft</code>
$\leftarrow$	<code>\leftharpoonupdownbar</code>	$\downarrow$	<code>\updownharpoonrightright</code>
$\Leftarrow$	<code>\leftharpoonsupdown</code>	$\Downarrow$	<code>\updownharpoonsleftright</code>
$\leftarrow$	<code>\leftharpoonup</code>	$\uparrow$	<code>\upharpoonleft</code>
$\leftarrow$	<code>\leftharpoonupbar</code>	$\uparrow$	<code>\upharpoonleftbar</code>
$\Rightarrow$	<code>\leftharpoonupdash</code>	$\uparrow$	<code>\upharpoonright*</code>
$\rightarrow$	<code>\leftrightharpoonupdowndown</code>	$\uparrow$	<code>\upharpoonrightbar</code>
$\rightarrow$	<code>\leftrightharpoonupdownup</code>	$\Uparrow$	<code>\upharpoonsleftright</code>

\* stix defines `\restriction` as a synonym for `\upharpoonright`.

TABLE 233: pdfMsym Arrows

$\lightning$	<code>\lightning</code>		
$\Longleftarrow$	<code>\longvarCircleleftarrow</code>	$\Leftrightarrow$	<code>\varCircleleftarrow</code>
$\Longleftarrow$	<code>\longvarcircleleftarrow</code>	$\Leftarrow$	<code>\varcircleleftarrow</code>
$\Longrightarrow$	<code>\longvarCirclerightarrow</code>	$\Rightarrow$	<code>\varCirclerightarrow</code>
$\Longrightarrow$	<code>\longvarcirclerightarrow</code>	$\rightarrow$	<code>\varcirclerightarrow</code>
$\Longleftarrow$	<code>\longvardoubleleftarrow</code>	$\Leftarrow$	<code>\vardoubleleftarrow</code>
$\Longrightarrow$	<code>\longvardoublerightarrow</code>	$\rightarrow$	<code>\vardoublerightarrow</code>
$\Longleftarrow$	<code>\longvardownhookleftarrow</code>	$\leftarrow$	<code>\vardownhookleftarrow</code>

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$\longrightarrow$	<code>\longvardownhookrightarrow</code>	$\hookrightarrow$	<code>\vardownhookrightarrow</code>
$\longleftarrow$	<code>\longvarLeftarrow</code>	$\Leftarrow$	<code>\varLeftarrow</code>
$\leftarrow$	<code>\longvarleftarrow</code>	$\leftarrow$	<code>\varleftarrow</code>
$\longleftrightarrow$	<code>\longvarleftarrows</code>	$\longleftrightarrow$	<code>\varleftarrows</code>
$\rightleftarrows$	<code>\longvarleftrightharrow</code>	$\rightleftarrows$	<code>\varleftrightharrow</code>
$\Leftrightarrow$	<code>\longvarleftrightharrows</code>	$\Leftrightarrow$	<code>\varleftrightharrows</code>
$\Lleftarrow$	<code>\longvarLleftarrow</code>	$\Lleftarrow$	<code>\varLleftarrow</code>
$\Lleftrightarrow$	<code>\longvarLleftRrightarrow</code>	$\Lleftrightarrow$	<code>\varLleftRrightarrow</code>
$\longmapsto$	<code>\longvarmapsfrom</code>	$\mapsto$	<code>\varmapsfrom</code>
$\mapsto$	<code>\longvarmapsto</code>	$\mapsto$	<code>\varmapsto</code>
$\Rrightarrow$	<code>\longvarRibbonleftarrow</code>	$\Rrightarrow$	<code>\varRibbonleftarrow</code>
$\Rleftarrow$	<code>\longvarRibbonrightarrow</code>	$\Rleftarrow$	<code>\varRibbonrightarrow</code>
$\Rightarrow$	<code>\longvarRightarrow</code>	$\Rightarrow$	<code>\varRightarrow</code>
$\rightarrow$	<code>\longvarrrightarrow</code>	$\rightarrow$	<code>\varrrightarrow</code>
$\Rightarrow$	<code>\longvarrrightarrows</code>	$\Rightarrow$	<code>\varrrightarrows</code>
$\Leftrightarrow$	<code>\longvarrrightleftarrows</code>	$\Leftrightarrow$	<code>\varrrightleftarrows</code>
$\Rightarrow$	<code>\longvarRrightarrow</code>	$\Rightarrow$	<code>\varRrightarrow</code>
$\Leftarrow$	<code>\longvarSquareleftarrow</code>	$\Leftarrow$	<code>\varSquareleftarrow</code>
$\Rightarrow$	<code>\longvarSquarerightarrow</code>	$\Rightarrow$	<code>\varSquarerightarrow</code>
$\hookleftarrow$	<code>\longvaruphookleftarrow</code>	$\hookleftarrow$	<code>\varuphookleftarrow</code>
$\hookrightarrow$	<code>\longvaruphookrightarrow</code>	$\hookrightarrow$	<code>\varuphookrightarrow</code>

See the pdfMsym package note on page 456.

TABLE 235: pdfMsym Harpoons

$\longleftarrow$	<code>\longvarleftharp</code>	$\leftarrow$	<code>\varleftharp</code>
$\longrightarrow$	<code>\longvarleftrightharp</code>	$\rightarrow$	<code>\varleftrightharp</code>
$\rightarrow$	<code>\longvarrrightharp</code>	$\rightarrow$	<code>\varrrightharp</code>
$\longrightarrow$	<code>\longvarrrightleftharp</code>	$\rightarrow$	<code>\varrrightleftharp</code>

See the pdfMsym package note on page 456.

TABLE 236: chemarrow Arrows

$\rightarrow$	<code>\chemarrow</code>
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TABLE 237: fge Arrows

$\Rightarrow$	<code>\fgerightarrow</code>	$\uparrow$	<code>\fgeuparrow</code>
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TABLE 238: newcomputermodern Arrows

$\Leftrightarrow$  `\twoheadhookleftarrow`     $\Rrightarrow$  `\twoheadhookrightarrow`

`newcomputermodern` additionally provides many of the other arrows appearing in this chapter. See the `newcomputermodern` package note on page 455.

TABLE 239: newcomputermodern Negated Arrows

$\nleftrightarrow$  `\nleftleftarrows`     $\nrightarrow$  `\nrightrightarrows`

`newcomputermodern` additionally provides many of the other negated arrows appearing in this chapter. See the `newcomputermodern` package note on page 455.

TABLE 240: old-arrows Arrows

$\downarrow$	<code>\downarrow</code>	$\longleftrightarrow$	<code>\longlefttrightarrow</code>	$\nearrow$	<code>\nwarrow</code>
$\hookleftarrow$	<code>\hookleftarrow</code>	$\longmapsto^*$	<code>\longmapsfrom^*</code>	$\rightarrow$	<code>\rightarrow</code>
$\hookrightarrow$	<code>\hookrightarrow</code>	$\longmapsto$	<code>\longmapsto</code>	$\searrow$	<code>\searrow</code>
$\leftarrow$	<code>\leftarrow</code>	$\longrightarrow$	<code>\longrightarrow</code>	$\swarrow$	<code>\swarrow</code>
$\leftrightarrow$	<code>\leftrightarrow</code>	$\mapsfrom^*$	<code>\mapsfrom^*</code>	$\uparrow$	<code>\uparrow</code>
$\longhookrightarrow$	<code>\longhookrightarrow</code>	$\mapsto$	<code>\mapsto</code>	$\updownarrow$	<code>\updownarrow</code>
$\longleftarrow$	<code>\longleftarrow</code>	$\nearrow$	<code>\nearrow</code>		

See the `old-arrows` package note on page 455.

\* Requires `stmaryrd`.

TABLE 241: old-arrows Harpoons

$\leftharpoonup$  `\longleftharpoonup`     $\rightharpoonup$  `\longrightharpoonup`  
 $\leftharpoonup$  `\longleftharpoonup`     $\rightharpoonup$  `\longrightharpoonup`

See the `old-arrows` package note on page 455.

TABLE 242: logix Arrows

$\dashleftarrow$	<code>\DashArrowLeft</code>	$\Rightarrow$	<code>\LmtImpl</code>	$\leftrightarrow$	<code>\RplcFree</code>
$\dashrightarrow$	<code>\DashArrowRight</code>	$\looparrowleft$	<code>\LoopArrowLeft</code>	$\leftarrow$	<code>\RplcFreeLeft</code>
$\rightarrowtail$	<code>\Entail</code>	$\looparrowright$	<code>\LoopArrowRight</code>	$\rightarrow$	<code>\RplcFreeRight</code>
$\longleftrightarrow$	<code>\EntailEquiv</code>	$\rightarrowtail$	<code>\LParFunc</code>	$\rightarrowtail$	<code>\SEntail</code>
$\longleftrightarrow$	<code>\Equiv</code>	$\rightarrowtail$	<code>\LWkEntail</code>	$\longleftrightarrow$	<code>\SEntailEquiv</code>
$\fisharrowleft$	<code>\FishArrowLeft</code>	$\longleftrightarrow$	<code>\LWkEntailEquiv</code>	$\longleftrightarrow$	<code>\SEquiv</code>
$\fisharrowright$	<code>\FishArrowRight</code>	$\xrightarrow{+}$	<code>\MapParInGndMul</code>	$\rightarrow$	<code>\SFunc</code>
$\flatarrowleft$	<code>\FlatArrowLeft</code>	$\xrightarrow{+}$	<code>\MapParInGndOne</code>	$\updownarrow$	<code>\ShftAccent</code>
$\flatarrowright$	<code>\FlatArrowRight</code>	$\xrightarrow{+}$	<code>\MapParInGndSng</code>	$\downarrow$	<code>\ShftSubscr</code>
$\forkarrowleft$	<code>\ForkArrowLeft</code>	$\xrightarrow{+}$	<code>\MapParInMul</code>	$\uparrow$	<code>\ShftSuper</code>
$\forkarrowright$	<code>\ForkArrowRight</code>	$\xrightarrow{+}$	<code>\MapParInOne</code>	$\rightarrow$	<code>\SImpl</code>
$\rightarrow$	<code>\Func</code>	$\xrightarrow{+}$	<code>\MapParInSng</code>	$\mapsto$	<code>\SMapTo</code>
$\xrightarrow{+}$	<code>\FunParInGndMul</code>	$\xrightarrow{+}$	<code>\MapParOnGndMul</code>	$\longleftrightarrow$	<code>\SMtEquiv</code>
$\xrightarrow{+}$	<code>\FunParInGndOne</code>	$\xrightarrow{+}$	<code>\MapParOnGndOne</code>	$\Rightarrow$	<code>\SMtImpl</code>
$\xrightarrow{+}$	<code>\FunParInGndSng</code>	$\xrightarrow{+}$	<code>\MapParOnGndSng</code>	$\rightarrowtail$	<code>\SParFunc</code>
$\xrightarrow{+}$	<code>\FunParInMul</code>	$\xrightarrow{+}$	<code>\MapParOnMul</code>	$\rightarrowtail$	<code>\SWkEntail</code>
$\xrightarrow{+}$	<code>\FunParInOne</code>	$\xrightarrow{+}$	<code>\MapParOnOne</code>	$\longleftrightarrow$	<code>\SWkEntailEquiv</code>
$\xrightarrow{+}$	<code>\FunParInSng</code>	$\xrightarrow{+}$	<code>\MapParOnSng</code>	$\rightarrowtail$	<code>\VEntail</code>
$\xrightarrow{+}$	<code>\FunParOnGndMul</code>	$\mapsto$	<code>\MapTo</code>	$\longleftrightarrow$	<code>\VEntailEquiv</code>
$\xrightarrow{+}$	<code>\FunParOnGndOne</code>	$\xrightarrow{+}$	<code>\MapTotInGndMul</code>	$\longleftrightarrow$	<code>\VEquiv</code>
$\xrightarrow{+}$	<code>\FunParOnGndSng</code>	$\xrightarrow{+}$	<code>\MapTotInGndOne</code>	$\rightarrowtail$	<code>\VFunc</code>
$\xrightarrow{+}$	<code>\FunParOnMul</code>	$\xrightarrow{+}$	<code>\MapTotInGndSng</code>	$\rightarrowtail$	<code>\VImpl</code>
$\xrightarrow{+}$	<code>\FunParOnOne</code>	$\xrightarrow{+}$	<code>\MapTotInMul</code>	$\mapsto$	<code>\VMapTo</code>
$\xrightarrow{+}$	<code>\FunParOnSng</code>	$\xrightarrow{+}$	<code>\MapTotInOne</code>	$\longleftrightarrow$	<code>\VMtEquiv</code>
$\xrightarrow{+}$	<code>\FunTotInGndMul</code>	$\xrightarrow{+}$	<code>\MapTotInSng</code>	$\Rightarrow$	<code>\VMtImpl</code>
$\xrightarrow{+}$	<code>\FunTotInGndOne</code>	$\xrightarrow{+}$	<code>\MapTotOnGndMul</code>	$\rightarrowtail$	<code>\VParFunc</code>
$\xrightarrow{+}$	<code>\FunTotInGndSng</code>	$\xrightarrow{+}$	<code>\MapTotOnGndOne</code>	$\rightarrowtail$	<code>\VWkEntail</code>
$\xrightarrow{+}$	<code>\FunTotInMul</code>	$\xrightarrow{+}$	<code>\MapTotOnGndSng</code>	$\longleftrightarrow$	<code>\VWkEntailEquiv</code>
$\xrightarrow{+}$	<code>\FunTotInOne</code>	$\xrightarrow{+}$	<code>\MapTotOnMul</code>	$\rightsquigarrow$	<code>\WavyArrowLeft</code>
$\xrightarrow{+}$	<code>\FunTotInSng</code>	$\xrightarrow{+}$	<code>\MapTotOnOne</code>	$\rightsquigarrow$	<code>\WavyArrowRight</code>
$\xrightarrow{+}$	<code>\FunTotOnGndMul</code>	$\xrightarrow{+}$	<code>\MapTotOnSng</code>	$\rightarrowtail$	<code>\WkEntail</code>
$\xrightarrow{+}$	<code>\FunTotOnGndOne</code>	$\longleftrightarrow$	<code>\MtEquiv</code>	$\longleftrightarrow$	<code>\WkEntailEquiv</code>
$\xrightarrow{+}$	<code>\FunTotOnGndSng</code>	$\Rightarrow$	<code>\MtImpl</code>	$\rightarrowtail$	<code>\XEntail</code>
$\xrightarrow{+}$	<code>\FunTotOnMul</code>	$\rightarrowtail$	<code>\ParFunc</code>	$\longleftrightarrow$	<code>\XEntailEquiv</code>
$\xrightarrow{+}$	<code>\FunTotOnOne</code>	$\leftrightarrow$	<code>\RplcAll</code>	$\longleftrightarrow$	<code>\XEquiv</code>
$\xrightarrow{+}$	<code>\FunTotOnSng</code>	$\leftrightarrow$	<code>\RplcAllBnd</code>	$\rightarrowtail$	<code>\XFunc</code>
$\hookleftarrow$	<code>\HookArrowLeft</code>	$\leftarrow$	<code>\RplcAllBndLeft</code>	$\rightarrowtail$	<code>\XImpl</code>
$\hookrightarrow$	<code>\HookArrowRight</code>	$\rightarrow$	<code>\RplcAllBndRight</code>	$\mapsto$	<code>\XMapTo</code>
$\rightarrow$	<code>\Impl</code>	$\leftarrow$	<code>\RplcAllLeft</code>	$\longleftrightarrow$	<code>\XMtEquiv</code>
$\rightarrow$	<code>\LEntail</code>	$\rightarrow$	<code>\RplcAllRight</code>	$\Rightarrow$	<code>\XMtImpl</code>
$\longleftrightarrow$	<code>\LEntailEquiv</code>	$\leftrightarrow$	<code>\RplcAny</code>	$\rightarrowtail$	<code>\XParFunc</code>
$\longleftrightarrow$	<code>\LEquiv</code>	$\leftarrow$	<code>\RplcAnyLeft</code>	$\rightarrowtail$	<code>\XWkEntail</code>
$\rightarrow$	<code>\LFunc</code>	$\rightarrow$	<code>\RplcAnyRight</code>	$\longleftrightarrow$	<code>\XWkEntailEquiv</code>

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$\rightarrow$	<code>\LImpl</code>	$\leftrightarrow$	<code>\RplcEquiv</code>	$\Leftrightarrow$	<code>\ZigArrowLeft</code>
$\mapsto$	<code>\LMapTo</code>	$\leftarrow$	<code>\RplcEquivLeft</code>	$\Rrightarrow$	<code>\ZigArrowRight</code>
$\Leftrightarrow$	<code>\LMtEquiv</code>	$\rightarrow$	<code>\RplcEquivRight</code>		

See the logix package note on page 454.

TABLE 244: logix Negated Arrows

$\nrightarrow$	<code>\NotEntail</code>	$\nleftrightarrow$	<code>\NotSEntail</code>	$\nrightarrow$	<code>\NotVWkEntail</code>
$\nleftrightarrow$	<code>\NotEntailEquiv</code>	$\nleftrightarrow$	<code>\NotSEntailEquiv</code>	$\nleftrightarrow$	<code>\NotVWkEntailEquiv</code>
$\nleftrightarrow$	<code>\NotEquiv</code>	$\nleftrightarrow$	<code>\NotSEquiv</code>	$\nrightarrow$	<code>\NotWkEntail</code>
$\nrightarrow$	<code>\NotImpl</code>	$\nrightarrow$	<code>\NotSImpl</code>	$\nleftrightarrow$	<code>\NotWkEntailEquiv</code>
$\nrightarrow$	<code>\NotLEntail</code>	$\nleftrightarrow$	<code>\NotSMtEquiv</code>	$\nrightarrow$	<code>\NotXEntail</code>
$\nleftrightarrow$	<code>\NotLEntailEquiv</code>	$\nrightarrow$	<code>\NotSMtImpl</code>	$\nleftrightarrow$	<code>\NotXEntailEquiv</code>
$\nleftrightarrow$	<code>\NotLEquiv</code>	$\nrightarrow$	<code>\NotSWkEntail</code>	$\nleftrightarrow$	<code>\NotXEquiv</code>
$\nrightarrow$	<code>\NotLImpl</code>	$\nleftrightarrow$	<code>\NotSWkEntailEquiv</code>	$\nrightarrow$	<code>\NotXImpl</code>
$\nleftrightarrow$	<code>\NotLMtEquiv</code>	$\nrightarrow$	<code>\NotVEntail</code>	$\nleftrightarrow$	<code>\NotXMtEquiv</code>
$\nrightarrow$	<code>\NotLMtImpl</code>	$\nleftrightarrow$	<code>\NotVEntailEquiv</code>	$\nrightarrow$	<code>\NotXMtImpl</code>
$\nrightarrow$	<code>\NotLWkEntail</code>	$\nleftrightarrow$	<code>\NotVEquiv</code>	$\nrightarrow$	<code>\NotXWkEntail</code>
$\nleftrightarrow$	<code>\NotLWkEntailEquiv</code>	$\nrightarrow$	<code>\NotVImpl</code>	$\nleftrightarrow$	<code>\NotXWkEntailEquiv</code>
$\nleftrightarrow$	<code>\NotMtEquiv</code>	$\nleftrightarrow$	<code>\NotVMtEquiv</code>		
$\nrightarrow$	<code>\NotMtImpl</code>	$\nrightarrow$	<code>\NotVMtImpl</code>		

See the logix package note on page 454.

TABLE 245: logix Harpoons

$\leftharpoonup$	<code>\HarpoonDnLeft</code>	$\rightharpoonup$	<code>\HarpoonUpLeft</code>
$\rightharpoonleft$	<code>\HarpoonDnRight</code>	$\rightharpoonright$	<code>\HarpoonUpRight</code>

See the logix package note on page 454.

TABLE 246: logix Implications and Equivalences

$\varepsilon\rightarrow$	<code>\InEquiv</code>	$\varepsilon\rightarrow$	<code>\SInEquiv</code>	$\longleftrightarrow$	<code>\VWkEquiv</code>	$\varepsilon\rightarrow$	<code>\XInEquiv</code>
$\rightarrow$	<code>\InImpl</code>	$\rightarrow$	<code>\SInImpl</code>	$\rightarrow$	<code>\VWkImpl</code>	$\rightarrow$	<code>\XInImpl</code>
$\varepsilon\rightarrow$	<code>\LinEquiv</code>	$\varepsilon\rightarrow$	<code>\SWkEquiv</code>	$\longleftrightarrow$	<code>\VWkMtEquiv</code>	$\varepsilon\rightarrow$	<code>\XWkEquiv</code>
$\rightarrow$	<code>\LinImpl</code>	$\rightarrow$	<code>\SWkImpl</code>	$\Longrightarrow$	<code>\VWkMtImpl</code>	$\rightarrow$	<code>\XWkImpl</code>
$\longleftrightarrow$	<code>\LWkEquiv</code>	$\longleftrightarrow$	<code>\SWkMtEquiv</code>	$\longleftrightarrow$	<code>\WkEquiv</code>	$\longleftrightarrow$	<code>\XWkMtEquiv</code>
$\rightarrow$	<code>\LWkImpl</code>	$\Rightarrow$	<code>\SWkMtImpl</code>	$\rightarrow$	<code>\WkImpl</code>	$\Longrightarrow$	<code>\XWkMtImpl</code>
$\longleftrightarrow$	<code>\LWkMtEquiv</code>	$\varepsilon\rightarrow$	<code>\VInEquiv</code>	$\longleftrightarrow$	<code>\WkMtEquiv</code>		
$\Longrightarrow$	<code>\LWkMtImpl</code>	$\rightarrow$	<code>\VInImpl</code>	$\Longrightarrow$	<code>\WkMtImpl</code>		

See the logix package note on page 454.



TABLE 247: logix Negated Implications and Equivalences

$\nrightarrow$	<code>\NotInEquiv</code>	$\nleftrightarrow$	<code>\NotSwkEquiv</code>	$\nleftrightarrow$	<code>\NotWkEquiv</code>
$\nrightarrow$	<code>\NotInImpl</code>	$\nrightarrow$	<code>\NotSwkImpl</code>	$\nrightarrow$	<code>\NotWkImpl</code>
$\nleftrightarrow$	<code>\NotLinEquiv</code>	$\nleftrightarrow$	<code>\NotSwkMtEquiv</code>	$\nleftrightarrow$	<code>\NotWkMtEquiv</code>
$\nrightarrow$	<code>\NotLinImpl</code>	$\nrightarrow$	<code>\NotSwkMtImpl</code>	$\nrightarrow$	<code>\NotWkMtImpl</code>
$\nleftrightarrow$	<code>\NotLWkEquiv</code>	$\nleftrightarrow$	<code>\NotVinEquiv</code>	$\nleftrightarrow$	<code>\NotXInEquiv</code>
$\nrightarrow$	<code>\NotLWkImpl</code>	$\nrightarrow$	<code>\NotVinImpl</code>	$\nrightarrow$	<code>\NotXInImpl</code>
$\nleftrightarrow$	<code>\NotLWkMtEquiv</code>	$\nleftrightarrow$	<code>\NotVWkEquiv</code>	$\nleftrightarrow$	<code>\NotXWkEquiv</code>
$\nrightarrow$	<code>\NotLWkMtImpl</code>	$\nrightarrow$	<code>\NotVWkImpl</code>	$\nrightarrow$	<code>\NotXWkImpl</code>
$\nleftrightarrow$	<code>\NotSInEquiv</code>	$\nleftrightarrow$	<code>\NotVWkMtEquiv</code>	$\nleftrightarrow$	<code>\NotXWkMtEquiv</code>
$\nrightarrow$	<code>\NotSInImpl</code>	$\nrightarrow$	<code>\NotVWkMtImpl</code>	$\nrightarrow$	<code>\NotXWkMtImpl</code>

See the logix package note on page 454.

TABLE 248: esrelation Restrictions

$\downarrow$	<code>\restrictbarb</code>	$\downarrow$	<code>\restrictmallet</code>	$\downarrow$	<code>\restrictwand</code>
$\uparrow$	<code>\restrictbarbup</code>	$\uparrow$	<code>\restrictmalletup</code>	$\uparrow$	<code>\restrictwandup</code>

TABLE 249: MnSymbol Spoons

$\downarrow$	<code>\downfilledspoon</code>	$\nwarrow$	<code>\nnespoon</code>	$\nwarrow$	<code>\nwfilledspoon</code>
$\downarrow$	<code>\downspoon</code>	$\nwarrow$	<code>\nnwfilledspoon</code>	$\nwarrow$	<code>\nwspoon</code>
$\leftarrow$	<code>\leftfilledspoon</code>	$\nwarrow$	<code>\nnwspoon</code>	$\rightarrow$	<code>\rightfilledspoon</code>
$\leftarrow$	<code>\leftspoon</code>	$\rightarrow$	<code>\nrighfilledspoon</code>	$\rightarrow$	<code>\rightspoon*</code>
$\downarrow$	<code>\downfilledspoon</code>	$\rightarrow$	<code>\nrighspoon*</code>	$\searrow$	<code>\sefilledspoon</code>
$\downarrow$	<code>\downspoon</code>	$\searrow$	<code>\nsefilledspoon</code>	$\searrow$	<code>\sespoon</code>
$\nearrow$	<code>\nefilledspoon</code>	$\searrow$	<code>\nsespoon</code>	$\swarrow$	<code>\swfilledspoon</code>
$\nearrow$	<code>\nespoon</code>	$\swarrow$	<code>\nswfilledspoon</code>	$\swarrow$	<code>\swspoon</code>
$\leftarrow$	<code>\nleftfilledspoon</code>	$\swarrow$	<code>\nswspoon</code>	$\uparrow$	<code>\upfilledspoon</code>
$\leftarrow$	<code>\nleftspoon</code>	$\uparrow$	<code>\nupfilledspoon</code>	$\uparrow$	<code>\upspoon</code>
$\nwarrow$	<code>\nnefilledspoon</code>	$\uparrow$	<code>\nupspoon</code>		

\* MnSymbol defines `\multimap` as a synonym for `\rightspoon` and `\nmultimap` as a synonym for `\nrighspoon`.

TABLE 250: MnSymbol Pitchforks

$\Psi$	<code>\downpitchfork</code>	$\nwpitchfork$	<code>\nnwpitchfork</code>	$\Rightarrow$	<code>\rightpitchfork</code>
$\Leftarrow$	<code>\leftpitchfork</code>	$\nrightpitchfork$	<code>\nrightpitchfork</code>	$\searrow$	<code>\sepitchfork</code>
$\Downarrow$	<code>\ndownpitchfork</code>	$\nsepitchfork$	<code>\nsepitchfork</code>	$\swarrow$	<code>\swpitchfork</code>
$\nearrow$	<code>\nepitchfork</code>	$\nswpitchfork$	<code>\nswpitchfork</code>	$\Uparrow$	<code>\uppitchfork</code>
$\Leftarrow$	<code>\nleftpitchfork</code>	$\nuppitchfork$	<code>\nuppitchfork</code>		
$\nwpitchfork$	<code>\nnepitchfork</code>	$\nwpitchfork$	<code>\nwpitchfork</code>		

























\* MnSymbol defines `\pitchfork` as a synonym for `\uppitchfork` and `\npitchfork` as a synonym for `\nuppitchfork`.

TABLE 251: MnSymbol Smiles and Frowns

$\approx$	<code>\doublefrown</code>	$\nsmileeq$	<code>\nsmileeq</code>	$\smileeq$	<code>\smileeq</code>
$\approx$	<code>\doublefrowneq</code>	$\nsmileeqfrown$	<code>\nsmileeqfrown</code>	$\smileeqfrown$	<code>\smileeqfrown</code>
$\approx$	<code>\doublesmile</code>	$\nsmilefrown$	<code>\nsmilefrown</code>	$\smilefrown$	<code>\smilefrown</code>
$\approx$	<code>\doublesmileeq</code>	$\nsmilefrowneq$	<code>\nsmilefrowneq</code>	$\smilefrowneq$	<code>\smilefrowneq</code>
$\approx$	<code>\eqfrown</code>	$\nsqdoublefrown$	<code>\nsqdoublefrown</code>	$\sqdoublefrown$	<code>\sqdoublefrown</code>
$\approx$	<code>\eqsmile</code>	$\nsqdoublefrowneq$	<code>\nsqdoublefrowneq</code>	$\sqdoublefrowneq$	<code>\sqdoublefrowneq</code>
$\approx$	<code>\frown</code>	$\nsqdoublesmile$	<code>\nsqdoublesmile</code>	$\sqdoublesmile$	<code>\sqdoublesmile</code>
$\approx$	<code>\frowneq</code>	$\nsqdoublesmileeq$	<code>\nsqdoublesmileeq</code>	$\sqdoublesmileeq$	<code>\sqdoublesmileeq</code>
$\approx$	<code>\frowneqsmile</code>	$\nsqeqfrown$	<code>\nsqeqfrown</code>	$\sqeqfrown$	<code>\sqeqfrown</code>
$\approx$	<code>\frownsmile</code>	$\nsqeqsmile$	<code>\nsqeqsmile</code>	$\sqeqsmile$	<code>\sqeqsmile</code>
$\approx$	<code>\frownsmileeq</code>	$\nsqfrown$	<code>\nsqfrown</code>	$\sqfrown$	<code>\sqfrown</code>
$\approx$	<code>\ndoublefrown</code>	$\nsqfrowneq$	<code>\nsqfrowneq</code>	$\sqfrowneq$	<code>\sqfrowneq</code>
$\approx$	<code>\ndoublefrowneq</code>	$\nsqfrowneqsmile$	<code>\nsqfrowneqsmile</code>	$\sqfrowneqsmile$	<code>\sqfrowneqsmile</code>
$\approx$	<code>\ndoublesmile</code>	$\nsqfrownsmile$	<code>\nsqfrownsmile</code>	$\sqfrownsmile$	<code>\sqfrownsmile</code>
$\approx$	<code>\ndoublesmileeq</code>	$\nsqsmile$	<code>\nsqsmile</code>	$\sqsmile$	<code>\sqsmile</code>
$\approx$	<code>\neqfrown</code>	$\nsqsmileeq$	<code>\nsqsmileeq</code>	$\sqsmileeq$	<code>\sqsmileeq</code>
$\approx$	<code>\neqsmile</code>	$\nsqsmileeqfrown$	<code>\nsqsmileeqfrown</code>	$\sqsmileeqfrown$	<code>\sqsmileeqfrown</code>
$\approx$	<code>\nfrown</code>	$\nsqsmilefrown$	<code>\nsqsmilefrown</code>	$\sqsmilefrown$	<code>\sqsmilefrown</code>
$\approx$	<code>\nfrowneq</code>	$\nsqtriplefrown$	<code>\nsqtriplefrown</code>	$\sqtriplefrown$	<code>\sqtriplefrown</code>
$\approx$	<code>\nfrowneqsmile</code>	$\nsqtriplesmile$	<code>\nsqtriplesmile</code>	$\sqtriplesmile$	<code>\sqtriplesmile</code>
$\approx$	<code>\nfrownsmile</code>	$\ntriplefrown$	<code>\ntriplefrown</code>	$\triplefrown$	<code>\triplefrown</code>
$\approx$	<code>\nfrownsmileeq</code>	$\ntriplesmile$	<code>\ntriplesmile</code>	$\triplesmile$	<code>\triplesmile</code>
$\approx$	<code>\nsmile</code>	$\smile$	<code>\smile</code>		

\* MnSymbol defines `\smallsmile` as a synonym for `\smile`, `\smallfrown` as a synonym for `\frown`, `\asymp` as a synonym for `\smilefrown`, and `\nasymp` as a synonym for `\nsmilefrown`.

TABLE 252: FdSymbol Spoons

	<code>\blackwhitespoon</code>		<code>\downblackspoon</code>		<code>\upblackspoon</code>
	<code>\downblackspoon</code>		<code>\downspoon</code>		<code>\upspoon</code>
	<code>\downspoon</code>		<code>\leftblackspoon</code>		<code>\whiteblackspoon</code>
	<code>\leftblackspoon</code>		<code>\leftrightblackspoon</code>		<code>\rightblackspoon</code>
	<code>\leftrightblackspoon</code>		<code>\leftrightspoon</code>		<code>\rightspoon</code>
	<code>\leftrightspoon</code>		<code>\leftspoon</code>		<code>\upblackspoon</code>
	<code>\leftspoon</code>		<code>\rightblackspoon</code>		<code>\upspoon</code>
	<code>\nblackwhitespoon</code>		<code>\nrightspoon</code>		<code>\whiteblackspoon</code>

FdSymbol defines synonyms for many of the preceding symbols:



































	<code>\cirmid</code>		<code>\multimapinv</code>		<code>\nmultimap</code>
	<code>\dualmap</code>		<code>\ncirmid</code>		<code>\nmultimapinv</code>
	<code>\imageof</code>		<code>\ndualmap</code>		<code>\norigof</code>
	<code>\midcir</code>		<code>\nimageof</code>		<code>\origof</code>
	<code>\multimap</code>		<code>\nmidcir</code>		

TABLE 253: FdSymbol Pitchforks

	<code>\downpitchfork</code>		<code>\leftpitchfork</code>		<code>\rightpitchfork</code>
	<code>\leftpitchfork</code>		<code>\rightpitchfork</code>		<code>\uppitchfork</code>
	<code>\ndownpitchfork</code>		<code>\nuppitchfork</code>		

FdSymbol defines `\npitchfork` as a synonym for `\nuppitchfork` and `\pitchfork` as a synonym for `\uppitchfork`.

TABLE 254: FdSymbol Smiles and Frowns

	<code>\frown</code>		<code>\nfrowneq</code>		<code>\nsmilefrown</code>
	<code>\frowneq</code>		<code>\nfrownsmile</code>		<code>\smile</code>
	<code>\frownsmile</code>		<code>\nsmile</code>		<code>\smileeq</code>
	<code>\nfrown</code>		<code>\nsmileeq</code>		<code>\smilefrown</code>

FdSymbol defines `\arceq` as a synonym for `\frowneq`, `\asymp` as a synonym for `\smilefrown`, `\closure` as a synonym for `\frownsmile`, `\narceq` as a synonym for `\nfrowneq`, `\nasymp` as a synonym for `\nsmilefrown`, `\nclosure` as a synonym for `\nfrownsmile`, `\smallfrown` as a synonym for `\frown`, and `\smallsmile` as a synonym for `\smile`.

TABLE 255: halloweenmath Brooms and Pitchforks





	<code>\hmleftpitchfork</code>		<code>\leftbroom</code>
	<code>\hmrightpitchfork</code>		<code>\rightbroom</code>

TABLE 256: ulsy Contradiction Symbols

⚡ `\blitza` ⚡ `\blitzb` ⚡ `\blitzc` ⚡ `\blitzd` ⚡ `\blitze`

TABLE 257: Extension Characters

– `\relbar` = `\Relbar`

TABLE 258: stmaryrd Extension Characters

/ `\Arrownot` † `\Mapsfromchar` † `\Mapstochar`  
 / `\arrownot` † `\mapsfromchar`

TABLE 259: txfonts/pxfonts Extension Characters

‡ `\Mappedfromchar` ‡ `\Mmappedfromchar` ‡ `\Mmapstochar`  
 ‡ `\mappedfromchar` ‡ `\mmappedfromchar` ‡ `\mmapstochar`

TABLE 260: mathabx Extension Characters

‡ `\mapsfromchar` † `\mapstochar`  
 ‡ `\Mapsfromchar` † `\Mapstochar`

TABLE 261: stix Extension Characters

‘ `\lhook` – `\relbar` ≡ `\RRelbar`  
 † `\mapsfromchar` = `\Relbar` ≡ `\Rrelbar`  
 † `\mapstochar` ’ `\rhook`

TABLE 262: Log-like Symbols

<code>\arccos</code>	<code>\cos</code>	<code>\csc</code>	<code>\exp</code>	<code>\ker</code>	<code>\limsup</code>	<code>\min</code>	<code>\sinh</code>
<code>\arcsin</code>	<code>\cosh</code>	<code>\deg</code>	<code>\gcd</code>	<code>\lg</code>	<code>\ln</code>	<code>\Pr</code>	<code>\sup</code>
<code>\arctan</code>	<code>\cot</code>	<code>\det</code>	<code>\hom</code>	<code>\lim</code>	<code>\log</code>	<code>\sec</code>	<code>\tan</code>
<code>\arg</code>	<code>\coth</code>	<code>\dim</code>	<code>\inf</code>	<code>\liminf</code>	<code>\max</code>	<code>\sin</code>	<code>\tanh</code>

See the note about base L<sup>A</sup>T<sub>E</sub>X symbols on page 454.

TABLE 263:  $\mathcal{AMS}$  Log-like Symbols

$\injlim$	<code>\injlim</code>	$\varinjlim$	<code>\varinjlim</code>	$\varinjlim$	<code>\varinjlim</code>
$\projlim$	<code>\projlim</code>	$\varprojlim$	<code>\varprojlim</code>	$\varprojlim$	<code>\varprojlim</code>

Load the `amsmath` package to get these symbols. See the note about base  $\text{\LaTeX}$  symbols on page 454 for some additional comments regarding log-like symbols.

TABLE 264: `mismath` Log-like Symbols

$\text{adj}$	<code>\adj</code>	$\text{Conv}$	<code>\Conv</code>	$\text{id}$	<code>\id</code>	$\text{sech}$	<code>\sech</code>
$\text{arccot}$	<code>\arccot</code>	$\text{Cov}$	<code>\Cov</code>	$\text{Id}$	<code>\Id</code>	$\text{sgn}$	<code>\sgn</code>
$\text{arcosh}$	<code>\arcosh</code>	$\text{cov}$	<code>\cov</code>	$\text{im}$	<code>\im</code>	$\text{span}$	<code>\spa</code>
$\text{arcoth}$	<code>\arcoth</code>	$\text{csch}$	<code>\csch</code>	$\text{Im}$	<code>\Im*</code>	$\text{tr}$	<code>\tr</code>
$\text{arsch}$	<code>\arsch</code>	$\overrightarrow{\text{curl}}$	<code>\curl</code>	$\text{lb}$	<code>\lb</code>	$\text{Var}$	<code>\Var</code>
$\text{arsech}$	<code>\arsech</code>	$\text{div}$	<code>\divg</code>	$\text{lcm}$	<code>\lcm</code>	$\text{Z}$	<code>\Zu</code>
$\text{arsinh}$	<code>\arsinh</code>	$\text{End}$	<code>\End</code>	$\text{rank}$	<code>\rank</code>		
$\text{artanh}$	<code>\artanh</code>	$\text{erf}$	<code>\erf</code>	$\text{Re}$	<code>\Re*</code>		
$\text{Aut}$	<code>\Aut</code>	$\overrightarrow{\text{grad}}$	<code>\grad</code>	$\overrightarrow{\text{rot}}$	<code>\rot</code>		

\* `mismath` renames  $\text{\LaTeX}$ 's `\Re` and `\Im` (Table 282) to `\oldRe` and `\oldIm`.

TABLE 265: `mismath` Asymptotic Notation

$\mathcal{O}$	<code>\bigO</code>	$\mathcal{O}$	<code>\bigO</code>	$\mathcal{o}$	<code>\lito</code>
---------------	--------------------	---------------	--------------------	---------------	--------------------

TABLE 266:  $\text{\LaTeX}$  Number Sets

$\mathbb{C}$	<code>\Complex</code>	$\mathbb{Z}$	<code>\Integer</code>	$\mathbb{N}$	<code>\Natural</code>	$\mathbb{Q}$	<code>\Rational</code>	$\mathbb{R}$	<code>\Real</code>
$\mathbb{C}$	<code>\COMPLEX</code>	$\mathbb{Z}$	<code>\INTEGER</code>	$\mathbb{N}$	<code>\NATURAL</code>	$\mathbb{Q}$	<code>\RATIONAL</code>	$\mathbb{R}$	<code>\REAL</code>

TABLE 267: Greek Letters

$\alpha$	<code>\alpha</code>	$\theta$	<code>\theta</code>	$o$	<code>o</code>	$\tau$	<code>\tau</code>
$\beta$	<code>\beta</code>	$\vartheta$	<code>\vartheta</code>	$\pi$	<code>\pi</code>	$\upsilon$	<code>\upsilon</code>
$\gamma$	<code>\gamma</code>	$\iota$	<code>\iota</code>	$\varpi$	<code>\varpi</code>	$\phi$	<code>\phi</code>
$\delta$	<code>\delta</code>	$\kappa$	<code>\kappa</code>	$\rho$	<code>\rho</code>	$\varphi$	<code>\varphi</code>
$\epsilon$	<code>\epsilon</code>	$\lambda$	<code>\lambda</code>	$\varrho$	<code>\varrho</code>	$\chi$	<code>\chi</code>
$\varepsilon$	<code>\varepsilon</code>	$\mu$	<code>\mu</code>	$\sigma$	<code>\sigma</code>	$\psi$	<code>\psi</code>
$\zeta$	<code>\zeta</code>	$\nu$	<code>\nu</code>	$\varsigma$	<code>\varsigma</code>	$\omega$	<code>\omega</code>
$\eta$	<code>\eta</code>	$\xi$	<code>\xi</code>				
$\Gamma$	<code>\Gamma</code>	$\Lambda$	<code>\Lambda</code>	$\Sigma$	<code>\Sigma</code>	$\Psi$	<code>\Psi</code>
$\Delta$	<code>\Delta</code>	$\Xi$	<code>\Xi</code>	$\Upsilon$	<code>\Upsilon</code>	$\Omega$	<code>\Omega</code>
$\Theta$	<code>\Theta</code>	$\Pi$	<code>\Pi</code>	$\Phi$	<code>\Phi</code>		

The remaining Greek majuscules can be produced with ordinary Latin letters. The symbol “M”, for instance, is used for both an uppercase “m” and an uppercase “ $\mu$ ”. To make available commands for *all* of the Greek majuscules, either use the `mathspec` package, which requires `XYLATEX`, or copy `mathspec.sty`’s Greek-letter definitions to your document’s preamble:

```

\DeclareMathSymbol{\Alpha}{\mathalpha}{operators}{"41}
\DeclareMathSymbol{\Beta}{\mathalpha}{operators}{"42}
\DeclareMathSymbol{\Epsilon}{\mathalpha}{operators}{"45}
\DeclareMathSymbol{\Zeta}{\mathalpha}{operators}{"5A}
\DeclareMathSymbol{\Eta}{\mathalpha}{operators}{"48}
\DeclareMathSymbol{\Iota}{\mathalpha}{operators}{"49}
\DeclareMathSymbol{\Kappa}{\mathalpha}{operators}{"4B}
\DeclareMathSymbol{\Mu}{\mathalpha}{operators}{"4D}
\DeclareMathSymbol{\Nu}{\mathalpha}{operators}{"4E}
\DeclareMathSymbol{\Omicron}{\mathalpha}{operators}{"4F}
\DeclareMathSymbol{\Rho}{\mathalpha}{operators}{"50}
\DeclareMathSymbol{\Tau}{\mathalpha}{operators}{"54}
\DeclareMathSymbol{\Chi}{\mathalpha}{operators}{"58}
\DeclareMathSymbol{\omicron}{\mathord}{letters}{"6F}

```

See Section 13.6 for examples of how to produce bold Greek letters.

The symbols in this table are intended to be used in mathematical typesetting. Greek body text can be typeset using the `babel` package’s `greek` (or `polutoniko-greek`) option—and, of course, a font that provides the glyphs for the Greek alphabet.

TABLE 268:  $\mathcal{AMS}$  Greek Letters

$F$  `\digamma`  $\varkappa$  `\varkappa`

TABLE 269: txfonts/pxfonts Upright Greek Letters

$\alpha$	<code>\alphaup</code>	$\theta$	<code>\thetaup</code>	$\pi$	<code>\piup</code>	$\phi$	<code>\phiup</code>
$\beta$	<code>\betaup</code>	$\vartheta$	<code>\varthetaup</code>	$\varpi$	<code>\varpiup</code>	$\varphi$	<code>\varphiup</code>
$\gamma$	<code>\gammaup</code>	$\iota$	<code>\iotaup</code>	$\rho$	<code>\rhoup</code>	$\chi$	<code>\chiup</code>
$\delta$	<code>\deltaup</code>	$\kappa$	<code>\kappaup</code>	$\varrho$	<code>\varrhoup</code>	$\psi$	<code>\psiup</code>
$\epsilon$	<code>\epsilonup</code>	$\lambda$	<code>\lambdaup</code>	$\sigma$	<code>\sigmaup</code>	$\omega$	<code>\omegaup</code>
$\varepsilon$	<code>\varepsilonup</code>	$\mu$	<code>\muup</code>	$\varsigma$	<code>\varsigmaup</code>		
$\zeta$	<code>\zetaup</code>	$\nu$	<code>\nuup</code>	$\tau$	<code>\tauup</code>		
$\eta$	<code>\etaup</code>	$\xi$	<code>\xiup</code>	$\upsilon$	<code>\upsilonup</code>		

The symbols in this table are intended to be used sporadically throughout a document (e.g., to represent mathematical units or numerical quantities—“ $\pi \approx 3.14159$ ”). In contrast, Greek body text can be typeset using the `babel` package’s `greek` (or `polutonikogreek`) option—and, of course, a font that provides the glyphs for the Greek alphabet.

TABLE 270: upgreek Upright Greek Letters

$\alpha$	<code>\upalpha</code>	$\theta$	<code>\uptheta</code>	$\pi$	<code>\uppi</code>	$\phi$	<code>\upphi</code>
$\beta$	<code>\upbeta</code>	$\vartheta$	<code>\upvartheta</code>	$\varpi$	<code>\upvarpi</code>	$\varphi$	<code>\upvarphi</code>
$\gamma$	<code>\upgamma</code>	$\iota$	<code>\upiota</code>	$\rho$	<code>\uprho</code>	$\chi$	<code>\upchi</code>
$\delta$	<code>\updelta</code>	$\kappa$	<code>\upkappa</code>	$\varrho$	<code>\upvarrho</code>	$\psi$	<code>\uppsi</code>
$\epsilon$	<code>\upepsilon</code>	$\lambda$	<code>\uplambda</code>	$\sigma$	<code>\upsigma</code>	$\omega$	<code>\upomega</code>
$\varepsilon$	<code>\upvarepsilon</code>	$\mu$	<code>\upmu</code>	$\varsigma$	<code>\upvarsigma</code>		
$\zeta$	<code>\upzeta</code>	$\nu$	<code>\upnu</code>	$\tau$	<code>\uptau</code>		
$\eta$	<code>\upeta</code>	$\xi$	<code>\upxi</code>	$\upsilon$	<code>\upupsilon</code>		
$\Gamma$	<code>\Upgamma</code>	$\Lambda$	<code>\Uplambda</code>	$\Sigma$	<code>\Upsilon</code>	$\Psi$	<code>\Uppsi</code>
$\Delta$	<code>\Updelta</code>	$\Xi$	<code>\Upxi</code>	$\Upsilon$	<code>\Upupsilon</code>	$\Omega$	<code>\Upomega</code>
$\Theta$	<code>\Uptheta</code>	$\Pi$	<code>\Uppi</code>	$\Phi$	<code>\Upphi</code>		

See the `upgreek` package note on page 460.

TABLE 271: fourier Variant Greek Letters

$\pi$	<code>\pi</code>	$\rho$	<code>\rho</code>
$\varpi$	<code>\varpi</code>	$\varrho$	<code>\varrho</code>
$\varvarepsilon$	<code>\varvarepsilon</code>	$\varphi$	<code>\varphi</code>

TABLE 272: txfonts/pxfonts Variant Latin Letters

$g$	<code>\varg</code>	$v$	<code>\varv</code>	$w$	<code>\varw</code>	$y$	<code>\vary</code>
-----	--------------------	-----	--------------------	-----	--------------------	-----	--------------------

Pass the `varg` option to `txfonts/pxfonts` to replace  $g$ ,  $v$ ,  $w$ , and  $y$  with  $g$ ,  $v$ ,  $w$ , and  $y$  in every mathematical expression in your document.

TABLE 273: boisik Variant Greek Letters

$\beta$	<code>\varbeta</code>	$\kappa$	<code>\varkappa</code>	$\varpi$	<code>\varpi</code>	$\varsigma$	<code>\varsigma</code>
$\varepsilon$	<code>\varepsilon</code>	$\varphi$	<code>\varphi</code>	$\varrho$	<code>\varrho</code>	$\vartheta$	<code>\vartheta</code>

TABLE 274: boisik Variant Latin Letters

$g$  `\varg`

TABLE 275: stix Variant Greek Letters

$\varepsilon$	<code>\varepsilon</code>	$\varphi$	<code>\varphi</code>	$\varrho$	<code>\varrho</code>	$\vartheta$	<code>\vartheta</code>
$\kappa$	<code>\kappa</code>	$\varpi$	<code>\varpi</code>	$\varsigma$	<code>\varsigma</code>		

TABLE 276: stix Transformed Greek Letters

$\varepsilon$	<code>\backepsilon</code>	$\iota$	<code>\turnediota</code>
$\varnothing$	<code>\mho</code>	$\varepsilon$	<code>\upbackepsilon</code>

TABLE 277:  $\mathcal{AMS}$  Hebrew Letters

$\beth$  `\beth`  $\gimel$  `\gimel`  $\daleth$  `\daleth`

$\aleph$  ( $\aleph$ ) appears in Table 401 on page 163.

TABLE 278: MnSymbol Hebrew Letters

$\aleph$  `\aleph`  $\beth$  `\beth`  $\gimel$  `\gimel`  $\daleth$  `\daleth`

TABLE 279: FdSymbol Hebrew Letters

$\aleph$  `\aleph`  $\beth$  `\beth`  $\gimel$  `\gimel`  $\daleth$  `\daleth`

TABLE 280: boisik Hebrew Letters

$\beth$  `\beth`  $\gimel$  `\gimel`  $\daleth$  `\daleth`



TABLE 281: stix Hebrew Letters

$\aleph$	<code>\aleph</code>	$\beth$	<code>\beth</code>	$\gimel$	<code>\gimel</code>	$\daleth$	<code>\daleth</code>
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TABLE 282: Letter-like Symbols

$\perp$	<code>\bot</code>	$\forall$	<code>\forall</code>	$\imath$	<code>\imath</code>	$\ni$	<code>\ni</code>	$\top$	<code>\top</code>
$\ell$	<code>\ell</code>	$\hbar$	<code>\hbar</code>	$\in$	<code>\in</code>	$\partial$	<code>\partial</code>	$\wp$	<code>\wp</code>
$\exists$	<code>\exists</code>	$\Im$	<code>\Im</code>	$j$	<code>j</code>	$\Re$	<code>\Re</code>		

TABLE 283:  $\mathcal{AMS}$  Letter-like Symbols

$\mathbb{k}$	<code>\Bbbk</code>	$\mathbb{C}$	<code>\complement</code>	$\hbar$	<code>\hbar</code>
$\textcircled{R}$	<code>\circledR</code>	$\Finv$	<code>\Finv</code>	$\hslash$	<code>\hslash</code>
$\textcircled{S}$	<code>\circledS</code>	$\Game$	<code>\Game</code>	$\nexists$	<code>\nexists</code>

TABLE 284: txfonts/pxfonts Letter-like Symbols

$\mathfrak{c}$	<code>\mathcent</code>	$\mathfrak{f}$	<code>\mathsterling*</code>	$\notin$	<code>\notin</code>	$\notni$	<code>\notni</code>
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\* It's generally preferable to use the corresponding symbol from Table 3 on page 23 because the symbols in that table work properly in both text mode and math mode.

TABLE 285: mathabx Letter-like Symbols

$\bar{\in}$	<code>\barin</code>	$\in$	<code>\in</code>	$\nottop$	<code>\nottop</code>	$\notin$	<code>\notin</code>
$\mathbb{C}$	<code>\complement</code>	$\nexists$	<code>\nexists</code>	$\owns$	<code>\owns</code>	$\notown$	<code>\notown</code>
$\exists$	<code>\exists</code>	$\notbot$	<code>\notbot</code>	$\ownsbar$	<code>\ownsbar</code>		
$\Finv$	<code>\Finv</code>	$\notin$	<code>\notin</code>	$\partial$	<code>\partial</code>		
$\Game$	<code>\Game</code>	$\notowner$	<code>\notowner</code>	$\partialslash$	<code>\partialslash</code>		

TABLE 286: MnSymbol Letter-like Symbols

$\perp$	<code>\bot</code>	$\in$	<code>\in</code>	$\owns$	<code>\owns</code>	$\top$	<code>\top</code>
$\exists$	<code>\exists</code>	$\nexists$	<code>\nexists</code>	$\owns$	<code>\owns</code>	$\wp$	<code>\wp</code>
$\forall$	<code>\forall</code>	$\nin$	<code>\nin</code>	$\powerset$	<code>\powerset</code>		

MnSymbol provides synonyms `\notin` for `\nin`, `\ni` for `\owns`, and `\intercal` for `\top`.

TABLE 287: FdSymbol Letter-like Symbols

$\perp$	<code>\bot</code>	$\forall$	<code>\forall</code>	$\in$	<code>\in</code>	$\ni$	<code>\owns</code>
$\complement$	<code>\complement</code>	$\oslash$	<code>\Game</code>	$\nexists$	<code>\nexists</code>	$\top$	<code>\top</code>
$\exists$	<code>\exists</code>	$\hbar$	<code>\hbar</code>	$\notin$	<code>\notin</code>	$\wp$	<code>\wp</code>
$\Finv$	<code>\Finv</code>	$\hslash$	<code>\hslash</code>	$\nexists$	<code>\nexists</code>		

FdSymbol provides synonyms `\notin` for `\nin`, `\ni` for `\owns`, and `\nni` for `\nowns`.

TABLE 288: boisik Letter-like Symbols

$\Bbbk$	<code>\Bbbk</code>	$\oslash$	<code>\Game</code>	$\imath$	<code>\imath</code>	$\nexists$	<code>\nexists</code>
$\complement$	<code>\complement</code>	$\hbar$	<code>\hbar</code>	$\intercal$	<code>\intercal</code>	$\wp$	<code>\wp</code>
$\Finv$	<code>\Finv</code>	$\hslash$	<code>\hslash</code>	$\jmath$	<code>\jmath</code>		

TABLE 289: stix Letter-like Symbols

$\text{\AA}$	<code>\Angstrom</code>	$\mathcal{E}$	<code>\Eulerconst</code>	$\imath$	<code>\imath</code>	$\top$	<code>\top</code>
$\Bbbk$	<code>\Bbbk</code>	$\exists$	<code>\exists</code>	$\intercal$	<code>\intercal</code>	$\topbot$	<code>\topbot</code>
$\perp$	<code>\bot</code>	$\Finv$	<code>\Finv</code>	$\jmath$	<code>\jmath</code>	$\wp$	<code>\wp</code>
$\text{\textcircled{R}}$	<code>\circledR</code>	$\forall$	<code>\forall</code>	$\mathbb{S}$	<code>\mathdollar</code>	$\Upsilon$	<code>\Yup</code>
$\text{\textcircled{S}}$	<code>\circledS</code>	$\oslash$	<code>\Game</code>	$\P$	<code>\mathparagraph</code>	$\mathbb{Z}$	<code>\Zbar</code>
$\complement$	<code>\complement</code>	$\hbar$	<code>\hbar</code>	$\pounds$	<code>\mathsterling</code>		
$\digamma$	<code>\digamma</code>	$\hslash$	<code>\hslash</code>	$\nexists$	<code>\nexists</code>		
$\ell$	<code>\ell</code>	$\Im$	<code>\Im</code>	$\Re$	<code>\Re</code>		

TABLE 290: trfsigns Letter-like Symbols

$e$	<code>\e</code>	$j$	<code>\im</code>
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TABLE 291: mathdesign Letter-like Symbols

$\in$	<code>\in</code>	$\ni$	<code>\owns</code>
$\notin$	<code>\notin</code>	$\in$	<code>\smallin</code>
$\notin$	<code>\notsmallin</code>	$\ni$	<code>\smallowns</code>
$\notin$	<code>\notsmallowns</code>		

The `mathdesign` package additionally provides versions of each of the letter-like symbols shown in Table 283.

TABLE 292: fge Letter-like Symbols

$\forall$	<code>\fgeA</code>	$\mathfrak{g}$	<code>\fgeeszett</code>	$\mathfrak{m}$	<code>\fgeleftB</code>	$f$	<code>\fges</code>
$\mathfrak{b}$	<code>\fgec</code>	$\mathfrak{H}$	<code>\fgeF</code>	$\mathfrak{C}$	<code>\fgeleftC</code>		
$\mathfrak{p}$	<code>\fged</code>	$\mathfrak{J}$	<code>\fgef</code>	$\mathfrak{k}$	<code>\fgemark*</code>		
$\mathfrak{b}$	<code>\fgee</code>	$\mathfrak{n}$	<code>\fgelb*</code>	$\mathfrak{w}$	<code>\fgerightB</code>		

\* The fge package defines `\fgeeta`, `\fgeN`, and `\fgeoverU` as synonyms for `\fgelb` and `\fgeU` as a synonym for `\fgemark`.

TABLE 293: fourier Letter-like Symbols

$\partial$	<code>\partial</code>	$\varpartial$	<code>\varpartialdiff</code>
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TABLE 294: cml Letter-like Symbols

$\perp$	<code>\Bot</code>	$\lrcorner$	<code>\simbot</code>
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TABLE 295: logix Proof Symbols

$\exists$	<code>\BnchExists</code>	$\perp$	<code>\Bot</code>	$\tilde{\forall}$	<code>\HdnForAll</code>	$\top$	<code>\TFBoth</code>
$\forall$	<code>\BnchForAll</code>	$:=$	<code>\Defn</code>	$\bot$	<code>\NFalse</code>	$\perp$	<code>\TFNone</code>
$\exists$	<code>\BnchHdnExists</code>	$\square$	<code>\End</code>	$\nexists$	<code>\NtExists</code>	$\top$	<code>\Top</code>
$\tilde{\forall}$	<code>\BnchHdnForAll</code>	$\exists$	<code>\Exists</code>	$\perp$	<code>\NTrue</code>	$\top$	<code>\True</code>
$\nexists$	<code>\BnchNtExists</code>	$\mathbf{F}$	<code>\False</code>	$\blacksquare$	<code>\Qed</code>	$\exists!$	<code>\Unique</code>
$\exists!$	<code>\BnchUnique</code>	$\forall$	<code>\ForAll</code>	$\wedge$	<code>\QuantCon</code>		
$\lambda$	<code>\BndMap</code>	$\tilde{\exists}$	<code>\HdnExists</code>	$\vee$	<code>\QuantDis</code>		

See the logix package note on page 454.

TABLE 296: endofproofwd End-of-Proof Symbols

	<code>\wasserdicht</code>
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See the endofproofwd package note on page 452.

TABLE 297:  $\mathcal{AMS}$  Delimiters

$\ulcorner$	<code>\ulcorner</code>	$\urcorner$	<code>\urcorner</code>
$\llcorner$	<code>\llcorner</code>	$\lrcorner$	<code>\lrcorner</code>

TABLE 298: stmaryrd Delimiters

$\{$	<code>\Lbag</code>	$\}$	<code>\Rbag</code>	$\{$	<code>\lbag</code>	$\}$	<code>\rbag</code>
$\lceil$	<code>\llceil</code>	$\rceil$	<code>\rrceil</code>	$\lfloor$	<code>\llfloor</code>	$\rfloor$	<code>\rrfloor</code>
$\langle$	<code>\llparenthesis</code>	$\rangle$	<code>\rrparenthesis</code>				

TABLE 299: mathabx Delimiters

$\lrcorner$	<code>\lcornerRadius</code>	$\rcorner$	<code>\rcornerRadius</code>
$\ulcorner$	<code>\ulcorner</code>	$\urcorner$	<code>\urcorner</code>
$\llcorner$	<code>\llcorner</code>	$\lrcorner$	<code>\lrcornerRadius</code>

TABLE 300: boisik Delimiters

$\ulcorner$	<code>\ulcorner</code>	$\urcorner$	<code>\urcorner</code>
$\llcorner$	<code>\llcorner</code>	$\lrcorner$	<code>\lrcornerRadius</code>

TABLE 301: stix Delimiters

$\langle$	<code>\langedot</code>	$\rangle$	<code>\rangedot</code>	$\llcorner$	<code>\llangle</code>	$\rrangle$	<code>\rrangle</code>
$\{$	<code>\lbag</code>	$\}$	<code>\rbag</code>	$\llcorner$	<code>\llcorner</code>	$\lrcorner$	<code>\lrcornerRadius</code>
$\{$	<code>\lblkbrbrak</code>	$\}$	<code>\rblkbrbrak</code>	$\langle$	<code>\llparenthesis</code>	$\rangle$	<code>\rrparenthesis</code>
$\lceil$	<code>\lbracklltick</code>	$\rceil$	<code>\rbrackurtick</code>	$\langle$	<code>\lparengtr</code>	$\rangle$	<code>\Rparenless</code>
$\lceil$	<code>\lbrackubar</code>	$\rceil$	<code>\rbrackubar</code>	$\langle$	<code>\lparenless</code>	$\rangle$	<code>\rparengtr</code>
$\lceil$	<code>\lbrackultick</code>	$\rceil$	<code>\rbracklrtick</code>	$\}$	<code>\lvzigzag</code>	$\}$	<code>\rvzigzag</code>
$\langle$	<code>\Lbrbrak</code>	$\rangle$	<code>\Rbrbrak</code>	$\}$	<code>\Lvzigzag</code>	$\}$	<code>\Rvzigzag</code>
$\langle$	<code>\lcurvyangle</code>	$\rangle$	<code>\rcurvyangle</code>	$\lrcorner$	<code>\ulcorner</code>	$\urcorner$	<code>\urcorner</code>

TABLE 302: nath Delimiters

$\llcorner$	<code>\niv</code>	$\lrcorner$	<code>\vin</code>
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TABLE 303: Variable-sized Delimiters

$\downarrow$	$\Downarrow$	<code>\downarrow</code>	$\Downarrow$	<code>\Downarrow</code>	$[$	$[$	$[$	$]$	$]$	$]$
$\langle$	$\rangle$	<code>\langle</code>	$\rangle$	<code>\rangle</code>	$ $	$ $	$ $	$\parallel$	$\parallel$	<code>\ </code>
$\lceil$	$\rceil$	<code>\lceil</code>	$\rceil$	<code>\rceil</code>	$\uparrow$	$\uparrow$	<code>\uparrow</code>	$\Uparrow$	$\Uparrow$	<code>\Uparrow</code>
$\lfloor$	$\rfloor$	<code>\lfloor</code>	$\rfloor$	<code>\rfloor</code>	$\updownarrow$	$\updownarrow$	<code>\updownarrow</code>	$\Updownarrow$	$\Updownarrow$	<code>\Updownarrow</code>
$($	$)$	$($	$)$	$)$	$\{$	$\{$	<code>\{</code>	$\}$	$\}$	<code>\}</code>
$/$	$\backslash$	$/$	$\backslash$	<code>\backslash</code>						

When used with `\left` and `\right`, these symbols expand to the height of the enclosed math expression. Note that `\vert` is a synonym for `|`, and `\Vert` is a synonym for `\|`.

$\varepsilon$ -TeX provides a `\middle` analogue to `\left` and `\right`. `\middle` can be used, for example, to make an internal “|” expand to the height of the surrounding `\left` and `\right` symbols. (This capability is commonly needed when typesetting adjacent bras and kets in Dirac notation: “ $\langle\phi|\psi\rangle$ ”). This is exactly what the `quantikz` package does (see Table 444 on page 177). A similar effect can be achieved in conventional L<sup>A</sup>T<sub>E</sub>X using the `braket` package.

TABLE 304: Large, Variable-sized Delimiters

$\int$	$\int$	<code>\lmoustache</code>	$\int$	<code>\rmoustache</code>	$($	$($	<code>\lgroup</code>	$)$	$)$	<code>\rgroup</code>
$ $	$ $	<code>\arrowvert</code>	$\parallel$	<code>\Arrowvert</code>	$ $	$ $	<code>\bracevert</code>			

These symbols *must* be used with `\left` and `\right`. The `mathabx` package, however, redefines `\lgroup` and `\rgroup` so that those symbols can work without `\left` and `\right`.

TABLE 305:  $\mathcal{AMS}$  Variable-sized Delimiters

		<code>\lvert</code>			<code>\rvert</code>
		<code>\lVert</code>			<code>\rVert</code>

According to the `amsmath` documentation [AMS99], the preceding symbols are intended to be used as delimiters (e.g., as in “ $|-z|$ ”) while the `\vert` and `\Vert` symbols (Table 303) are intended to be used as operators (e.g., as in “ $p|q$ ”).

TABLE 306: `stmaryrd` Variable-sized Delimiters

⌈	⌈	<code>\llbracket</code>	⌋	⌋	<code>\rrbracket</code>
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TABLE 307: `mathabx` Variable-sized Delimiters

⌈	⌈	<code>\ldbrack</code>	⌋	⌋	<code>\rdbrack</code>
⌈	⌈	<code>\lfilet</code>	⌋	⌋	<code>\rfilet</code>
		<code>\thickvert</code>			<code>\vvvert</code>

TABLE 308: `MnSymbol` Variable-sized Delimiters

		<code>\Arrowvert</code>	{	{	<code>\lbrace</code>	]	]	<code>\rceil</code>
		<code>\arrowvert</code>	[	[	<code>\lceil</code>	]	]	<code>\rfloor</code>

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$\backslash$	$\backslash$	<code>\backslash</code>	$[$	$\lfloor$	<code>\lfloor</code>	$)$	$\rfloor$	<code>\rfloor</code>	<code>\rgroup</code>
$ $	$ $	<code>\bracevert</code>	$($	$\lgroup$	<code>\lgroup</code>	$\backslash$	$\lgroup$	<code>\rmoustache</code>	
$[$	$[$	$[$	$\ll$	$\ll$	<code>\llangle</code>	$\gg$	$\gg$	<code>\rrangle</code>	
$]$	$]$	$]$	$\llcorner$	$\llcorner$	<code>\llcorner</code>	$\lrcorner$	$\lrcorner$	<code>\rsem</code>	
$($	$($	$($	$\lgroup$	$\lgroup$	<code>\lmoustache</code>	$\gg$	$\gg$	<code>\rWavy</code>	
$)$	$)$	$)$	$\lrcorner$	$\lrcorner$	<code>\lrcorner</code>	$\lrcorner$	$\lrcorner$	<code>\rwavy</code>	
$/$	$/$	$/$	$\lll$	$\lll$	<code>\lsem</code>	$\ulcorner$	$\ulcorner$	<code>\ulcorner</code>	
$\langle$	$\langle$	$\langle$	$\lgroup$	$\lgroup$	<code>\lgroup</code>	$\lgroup$	$\lgroup$	<code>\ullcorner</code>	
$\rangle$	$\rangle$	$\rangle$	$\lgroup$	$\lgroup$	<code>\lgroup</code>	$\lgroup$	$\lgroup$	<code>\ulrcorner</code>	
$ $	$ $	$ $	$\rangle$	$\rangle$	<code>\rangle</code>	$\rangle$	$\rangle$	<code>\urcorner</code>	
$\langle$	$\langle$	<code>\langle</code>	$\rangle$	$\rangle$	<code>\rangle</code>	$\rangle$	$\rangle$	<code>\rangle</code>	
$\langle$	$\langle$	<code>\langle</code>	$\rangle$	$\rangle$	<code>\rangle</code>	$\rangle$	$\rangle$	<code>\rangle</code>	

`\vert` is a synonym for `|`. `\Vert` is a synonym for `\|`. `\mid` and `\mvert` produce the same symbol as `\vert` but designated as math relations instead of ordinals. `\divides` produces the same symbol as `\vert` but designated as a binary operator instead of an ordinal. `\parallel` and `\mVert` produce the same symbol as `\Vert` but designated as math relations instead of ordinals.

TABLE 310: `FdSymbol` Variable-sized Delimiters

$\backslash$	$\backslash$	<code>\backslashslash</code>	$\lrcorner$	$\rparen$
$\downarrow$	$\downarrow$	<code>\downarrow</code>	$\lvert$	$\rvert$
$\Downarrow$	$\Downarrow$	<code>\Downarrow</code>	$\lVert$	$\rVert$
$\langle\langle$	$\langle\langle$	<code>\lAngle</code>	$\lVvert$	$\rVvert$
$\langle$	$\langle$	<code>\langle</code>	$\mathslash$	$\ulcorner$
$\langle\cdot$	$\langle\cdot$	<code>\langedot</code>	$\rangle$	$\rangle$
$\{$	$\{$	<code>\lbrace</code>	$\rangle\rangle$	$\rangle\rangle$
$[$	$[$	<code>\lbrack</code>	$\rangle\cdot$	$\rangle\cdot$
$\llbracket$	$\llbracket$	<code>\lBrack</code>	$\}$	$\}$
$\lceil$	$\lceil$	<code>\lceil</code>	$\llbracket$	$\llbracket$
$\lfloor$	$\lfloor$	<code>\lfloor</code>	$\lceil$	$\lceil$
$\lgroup$	$\lgroup$	<code>\lgroup</code>	$\lceil$	$\lceil$
$\llcorner$	$\llcorner$	<code>\llcorner</code>	$\rfloor$	$\rfloor$

(continued on next page)



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$\int$	$\int$	<code>\lmoustache</code>	$\int$	$\int$	<code>\rgroup</code>	$\parallel$	$\parallel$	<code>\Vert</code>
$($	$($	<code>\lparen</code>	$)$	$)$	<code>\rmoustache</code>	$\parallel$	$\parallel$	<code>\Vvert</code>

FdSymbol defines “(” as a synonym for `\lparen`, “)” as a synonym for `\rparen`, “[” as a synonym for `\lbrack`, “]” as a synonym for `\rbrack`, “{” as a synonym for `\lbrace`, “}” as a synonym for `\rbrace`, “/” as a synonym for `\mathslash`, “|” as a synonym for `\vert`, “\|” as a synonym for `\Vert`, `\lsem` as a synonym for `\lBrack`, and `\rsem` as a synonym for `\rBrack`.

TABLE 312: stix Variable-sized Delimiters

$\ll$	$\ll$	<code>\Arrowvert</code>	$\ll$	$\ll$	<code>\lAngle</code>	$\lceil$	$\lceil$	<code>\rceil</code>
$\downarrow$	$\downarrow$	<code>\arrowvert</code>	$\{$	$\{$	<code>\lbrace</code>	$\rfloor$	$\rfloor$	<code>\rfloor</code>
$\backslash$	$\backslash$	<code>\backslash</code>	$\{$	$\{$	<code>\lBrace</code>	$)$	$)$	<code>\rgroup</code>
$\Downarrow$	$\Downarrow$	<code>\Ddownarrow</code>	$\parallel$	$\parallel$	<code>\lBrack</code>	$\l$	$\l$	<code>\rmoustache</code>
$\Downarrow$	$\Downarrow$	<code>\DDownarrow</code>	$\l$	$\l$	<code>\lbrbrak</code>	$\r)$	$\r)$	<code>\rParen</code>
$\downarrow$	$\downarrow$	<code>\downarrow</code>	$\lceil$	$\lceil$	<code>\lceil</code>	$\uparrow$	$\uparrow$	<code>\uparrow</code>

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*(continued from previous page)*

$\Downarrow$	$\Downarrow$	<code>\Downarrow</code>	$\lfloor$	$\lfloor$	<code>\lfloor</code>	$\Uparrow$	$\Uparrow$	<code>\Uparrow</code>
$[$	$[$	<code>[</code>	$($	$($	<code>\lgroup</code>	$\Updownarrow$	$\Updownarrow$	<code>\Updownarrow</code>
$]$	$]$	<code>]</code>	$\int$	$\int$	<code>\lmoustache</code>	$\updownarrow$	$\updownarrow$	<code>\updownarrow</code>
$($	$($	<code>(</code>	$($	$($	<code>\lParen</code>	$\Uparrow$	$\Uparrow$	<code>\Uparrow</code>
$)$	$)$	<code>)</code>	$\rangle$	$\rangle$	<code>\rAngle</code>	$\Uparrow$	$\Uparrow$	<code>\Uparrow</code>
$/$	$/$	<code>/</code>	$\rangle$	$\rangle$	<code>\rangle</code>	$\parallel$	$\parallel$	<code>\Vert</code>
$\langle$	$\langle$	<code>&lt;</code>	$\}$	$\}$	<code>\rbrace</code>	$ $	$ $	<code>\vert</code>
$\rangle$	$\rangle$	<code>&gt;</code>	$\}$	$\}$	<code>\rbrace</code>	$\parallel$	$\parallel$	<code>\Vvert</code>
$ $	$ $	<code> </code>	$\parallel$	$\parallel$	<code>\rBrack</code>			
$\langle$	$\langle$	<code>\langle</code>	$\rangle$	$\rangle$	<code>\rbrbrak</code>			

TABLE 314: `mathdesign` Variable-sized Delimiters

$\left\{$	$\left\{$	<code>\leftwave</code>	$\right\}$	$\right\}$	<code>\rightwave</code>
$\left\{$	$\left\{$	<code>\lefttevaw</code>	$\right\}$	$\right\}$	<code>\righttevaw</code>

The definitions of these symbols include a preceding `\left` or `\right`. It is therefore an error to specify `\left` or `\right` explicitly. The internal, “primitive” versions of these symbols are called `\lwave`, `\rwave`, `\levaw`, and `\revaw`.

TABLE 315: `nath` Variable-sized Delimiters (Double)

$\langle\langle$	<code>\lAngle</code>	$\rangle\rangle$	<code>\rAngle</code>
$\llbracket$	<code>\lBrack</code>	$\rrbracket$	<code>\rBrack</code>
$\lceil$	<code>\lCeil</code>	$\rceil$	<code>\rCeil</code>
$\lfloor$	<code>\lFloor</code>	$\rfloor$	<code>\rFloor</code>
$\ $	<code>\lVert*</code>	$\ $	<code>\rVert*</code>

All of the symbols in this table also can be expressed using the `\double` macro. See the `nath` documentation for examples and additional information.

\* Separate `\lVert` and `\rVert` commands exist to disambiguate whether “|” is a left or right delimiter. This is because `nath` defines all of the symbols shown in this table to include implicit `\left` and `\right` commands.

TABLE 316: `nath` Variable-sized Delimiters (Triple)

$\langle\langle\langle$	<code>\triple&lt;</code>	$\rangle\rangle\rangle$	<code>\triple&gt;</code>
$\lllbracket$	<code>\triple[</code>	$\rrrbracket$	<code>\triple]</code>
$\lllvert$	<code>\ltriple *</code>	$\rrrvert$	<code>\rtriple *</code>

Note that `\triple`—and the corresponding `\double`—is actually a macro that takes a delimiter as an argument.

\* Similar to `\lVert` and `\rVert` in Table 315 on page 139, `\ltriple` and `\rtriple` must be used instead of `\triple` to disambiguate whether “|” is a left or right delimiter.

TABLE 317: `fourier` Variable-sized Delimiters

$\llbracket$	<code>\llbracket</code>	$\rrbracket$	<code>\rrbracket</code>
$\ $	<code>\VERT</code>		

TABLE 318: logix Variable-sized Delimiters

	\BndBar		
<	\OpnAngl	>	\ClsAngl
<<	\OpnAnglBar	>>	\ClsAnglBar
<{	\OpnArrwBrac	>}	\ClsArrwBrac
	\OpnBar		\ClsBar
{	\OpnBrac	}	\ClsBrac
{	\OpnBracBar	}	\ClsBracBar
{}	\OpnBrknBrac	}	\ClsBrknBrac
{	\OpnBrknBracBar	}	\ClsBrknBracBar
{}	\OpnBrknBrkt	}	\ClsBrknBrkt
{	\OpnBrknBrktBar	}	\ClsBrknBrktBar
[	\OpnBrkt	]	\ClsBrkt
[	\OpnBrktBar	]	\ClsBrktBar
[	\OpnCeil	]	\ClsCeil
{◊	\OpnCircBrac	}◊	\ClsCircBrac
{◊	\OpnCircBracBar	◊}	\ClsCircBracBar
{◊	\OpnCircBrkt	}◊	\ClsCircBrkt
{◊	\OpnCircBrktBar	◊}	\ClsCircBrktBar
{}	\OpnCrlyBrkt	}	\ClsCrlyBrkt
{	\OpnCrlyBrktBar	}	\ClsCrlyBrktBar
<	\OpnCurvAngl	>	\ClsCurvAngl
<<	\OpnDblAngl	>>	\ClsDblAngl
	\OpnDblBar		\ClsDblBar

(continued on next page)

*(continued from previous page)*

{	\OpnDblBrac	}	\ClsDblBrac
⌈	\OpnDblCeil	⌋	\ClsDblCeil
⌌	\OpnDblFloor	⌍	\ClsDblFloor
[	\OpnDblGrp	]	\ClsDblGrp
(	\OpnDblParn	)	\ClsDblParn
⌊	\OpnFloor	⌋	\ClsFloor
{	\OpnGrp	}	\ClsGrp
(	\OpnParn	)	\ClsParn
(	\OpnParnBar	)	\ClsParnBar
⌈	\OpnSqrParn	⌋	\ClsSqrParn
(	\OpnTortoise	)	\ClsTortoise
(	\OpnTortoiseBar	)	\ClsTortoiseBar
⌌	\OpnTrpBar	⌍	\ClsTrpBar
⊢	\OpnTurn	⊣	\ClsTurn

See the logix package note on page 454.

TABLE 320: textcomp Text-mode Delimiters

<	\textlangle	>	\textrangle
⌈	\textlbrackdbl	⌋	\textrbrackdbl
{	\textlquill	}	\textrquill

TABLE 321: metre Text-mode Delimiters

}	\alad	}	\Alad	†	\crux	†	\Crux
{	\alas	{	\Alas	⌋	\quadrad	⌋	\Quadrad
>	\angud	>	\Angud	⌌	\quadras	⌌	\Quadras
<	\angus	<	\Angus				

TABLE 322: Math-mode Accents

$\acute{a}$	<code>\acute{a}</code>	$\check{a}$	<code>\check{a}</code>	$\grave{a}$	<code>\grave{a}</code>	$\tilde{a}$	<code>\tilde{a}</code>
$\bar{a}$	<code>\bar{a}</code> *	$\ddot{a}$	<code>\ddot{a}</code>	$\hat{a}$	<code>\hat{a}</code>	$\vec{a}$	<code>\vec{a}</code>
$\breve{a}$	<code>\breve{a}</code>	$\dot{a}$	<code>\dot{a}</code>	$\mathring{a}$	<code>\mathring{a}</code>		

Note also the existence of `\imath` and `\jmath`, which produce dotless versions of “ $i$ ” and “ $j$ ”. (See Table 401 on page 163.) These are useful when the accent is supposed to replace the dot. For example, “`\hat{\imath}`” produces a correct “ $\hat{i}$ ”, while “`\hat{i}`” would yield the rather odd-looking “ $\hat{i}$ ”.

\* The `\overline` command (Table 333 on page 145) produces a wider accent than `\bar`: “ $\overline{A}$ ” vs. “ $\bar{A}$ ”. However, unlike adjacent `\bars`, adjacent `\overlines` run together, which is often not desired: “ $\overline{AB}$ ” vs. “ $\bar{A}\bar{B}$ ”. If wider bars than `\bar` are needed, the following code from Enrico Gregorio can be used to add the requisite inter-symbol spacing [Gre09]:

```
\newcommand{\closure}[2][3]{%
  {\mkern#1mu\overline{\mkern-#1mu#2}}}
```

With that definition, “`\closure{A}\closure{B}`” produces “ $\overline{A}\overline{B}$ ”, with a visible gap between the two accents. The optional argument can be used to fine-tune the spacing.

TABLE 323:  $\mathcal{AMS}$  Math-mode Accents

$\dddot{a}$	<code>\dddot{a}</code>	$\ddddot{a}$	<code>\ddddot{a}</code>
-------------	------------------------	--------------	-------------------------

These accents are also provided by the `mathabx` and `accents` packages and are redefined by the `mathdots` package if the `amsmath` and `amssymb` packages have previously been loaded. All of the variations except for the original  $\mathcal{AMS}$  ones tighten the space between the dots (from  $\dddot{a}$  to  $\ddot{a}$ ). The `mathabx` and `mathdots` versions also function properly within subscripts and superscripts ( $x^{\ddot{a}}$  instead of  $x^{\ddot{a}}$ ).

TABLE 324: MnSymbol Math-mode Accents

$\vec{a}$	<code>\vec{a}</code>
-----------	----------------------

TABLE 325: FdSymbol Math-mode Accents

$\overline{a}$	<code>\middlebar{a}</code>	$\not{a}$	<code>\strokethrough{a}</code>
$\overrightarrow{a}$	<code>\middleslash{a}</code>	$\vec{a}$	<code>\vec{a}</code>

`\middlebar` and `\middleslash` are applied here to “ $a$ ” for consistency with the rest of the document, but they generally look better when applied to taller lowercase characters.

TABLE 326: boisik Math-mode Accents

 $\vec{a}$  `\vec{a}`

TABLE 327: stix Math-mode Accents

$\acute{a}$	<code>\acute{a}</code>	$\hat{a}$	<code>\hat{a}</code>
$\overline{a}$	<code>\annuity{a}</code>	$\overleftarrow{a}$	<code>\leftarrowaccent{a}</code>
$\ast a$	<code>\asteraccent{a}</code>	$\overleftarrow{\harpoonright} a$	<code>\leftharpoonaccent{a}</code>
$\bar{a}$	<code>\bar{a}</code>	$\overleftrightarrow{a}$	<code>\leftrightharpoonaccent{a}</code>
$\breve{a}$	<code>\breve{a}</code>	$\mathring{a}$	<code>\mathring{a}</code>
$\candra{a}$	<code>\candra{a}</code>	$\ocmmatoprigh{a}$	<code>\ocommatoprigh{a}</code>
$\check{a}$	<code>\check{a}</code>	$\oturnedcomma{a}$	<code>\oturnedcomma{a}</code>
$\dddot{a}$	<code>\dddot{a}</code>	$\overset{\circ}{a}$	<code>\ovhook{a}</code>
$\ddot{a}$	<code>\ddot{a}</code>	$\overrightarrow{\harpoonright} a$	<code>\rightharpoonaccent{a}</code>
$\ddot{a}$	<code>\ddot{a}</code>	$\tilde{a}$	<code>\tilde{a}</code>
$\dot{a}$	<code>\dot{a}</code>	$\vec{a}$	<code>\vec{a}</code>
$\droang{a}$	<code>\droang{a}</code>	$\overwidebridge{a}$	<code>\widebridgeabove{a}</code>
$\grave{a}$	<code>\grave{a}</code>		

TABLE 328: fge Math-mode Accents

 $\hat{A}\hat{a}$  `\spiritusasper{A}\spiritusasper{a}`  
 $\dot{A}\dot{a}$  `\spirituslenis{A}\spirituslenis{a}`

When `fge` is passed the `crescent` option, these symbols instead uses a crescent accent as in “ $\grave{a}$ ” and “ $\dot{a}$ ”.

TABLE 329: yhmath Math-mode Accents

 $a$  `\ring{a}`

This symbol is largely obsolete, as standard  $\text{\LaTeX} 2_{\epsilon}$  has supported `\mathring` (Table 322) since June 1998 [LT98].

TABLE 330: pdfMsym Math-mode Accents

$\vec{a}$	<code>\shortlvecc{a}</code>	$\underline{a}$	<code>\shortunderleftrightharp{a}</code>
$\overleftarrow{a}$	<code>\shortoverleftharp{a}</code>	$\overleftarrow{\underline{a}}$	<code>\shortunderleftrighthvecc{a}</code>
$\overrightarrow{a}$	<code>\shortoverleftrightharp{a}</code>	$\underline{\overrightarrow{a}}$	<code>\shortunderlvecc{a}</code>
$\overleftarrow{\overrightarrow{a}}$	<code>\shortoverleftrighthvecc{a}</code>	$\underline{\overleftarrow{a}}$	<code>\shortunderrightharp{a}</code>
$\overrightarrow{\overleftarrow{a}}$	<code>\shortoverrightharp{a}</code>	$\underline{\overrightarrow{a}}$	<code>\shortunderrighthlefttharp{a}</code>
$\overrightarrow{\overleftarrow{\overrightarrow{a}}}$	<code>\shortoverrighthlefttharp{a}</code>	$\underline{\overleftarrow{\underline{a}}}$	<code>\shortunderstraightlvecc{a}</code>
$\overleftarrow{\overrightarrow{\underline{a}}}$	<code>\shortstraightlvecc{a}</code>	$\underline{\overrightarrow{\underline{a}}}$	<code>\shortunderstraightvecc{a}</code>
$\overrightarrow{\overleftarrow{\underline{a}}}$	<code>\shortstraightvecc{a}</code>	$\underline{\overleftarrow{\underline{a}}}$	<code>\shortundervecc{a}</code>
$\underline{\overleftarrow{a}}$	<code>\shortunderleftharp{a}</code>	$\overrightarrow{\underline{a}}$	<code>\shortvecc{a}</code>

See the pdfMsym package note on page 456.

TABLE 331: halloweenmath Halloween-Themed Math-mode Accents

$\overline{\overline{a}}$	<code>\overbat{a}</code>	$\underline{\underline{a}}$	<code>\underbat{a}</code>
$\overline{\overline{a}}$	<code>\overbat*{a}</code>	$\underline{\underline{a}}$	<code>\underbat*{a}</code>

TABLE 332: realhats Math-mode Hat Accents

$\hat{a}$	<code>\hat[ash]{a}</code>	$\hat{a}$	<code>\hat[santa]{a}</code>
$\hat{a}$	<code>\hat[beret]{a}</code>	$\hat{a}$	<code>\hat[scottish]{a}</code>
$\hat{a}$	<code>\hat[birthday]{a}</code>	$\hat{a}$	<code>\hat[sombrero]{a}</code>
$\hat{a}$	<code>\hat[cowboy]{a}</code>	$\hat{a}$	<code>\hat[tile-blue]{a}</code>
$\hat{a}$	<code>\hat[crown]{a}</code>	$\hat{a}$	<code>\hat[tile-gray]{a}</code>
$\hat{a}$	<code>\hat[dunce]{a}</code>	$\hat{a}$	<code>\hat[tile-light-blue]{a}</code>
$\hat{a}$	<code>\hat[fez]{a}</code>	$\hat{a}$	<code>\hat[tile-white]{a}</code>
$\hat{a}$	<code>\hat[mortarboard]{a}</code>	$\hat{a}$	<code>\hat[tophat]{a}</code>
$\hat{a}$	<code>\hat[policeman]{a}</code>	$\hat{a}$	<code>\hat[witch]{a}</code>

See the realhats package note on page 457.



TABLE 333: Extensible Accents

$\widetilde{abc}$	<code>\widetilde{abc}</code> *	$\widehat{abc}$	<code>\widehat{abc}</code> *
$\overleftarrow{abc}$	<code>\overleftarrow{abc}</code> †	$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code> †
$\overline{abc}$	<code>\overline{abc}</code>	$\underline{abc}$	<code>\underline{abc}</code>
$\overbrace{abc}$	<code>\overbrace{abc}</code>	$\underbrace{abc}$	<code>\underbrace{abc}</code>
$\sqrt{abc}$	<code>\sqrt{abc}</code> ‡		

As demonstrated in a 1997 TUGboat article about typesetting long-division problems [Gib97], an extensible long-division sign (“ $\overline{abc}$ ”) can be faked by putting a “`\big`” in a `tabular` environment with an `\hline` or `\cline` in the preceding row. The article also presents a piece of code (uploaded to CTAN as `longdiv.tex`) that automatically solves and typesets—by putting an `\overline` atop “`\big`”—long-division problems. More recently, the `stix` fonts include a true long-division sign. See `\longdivision` in Table 339 for a sample of this symbol. See also the `polynom` package, which automatically solves and typesets polynomial-division problems in a similar manner.

\* These symbols are made more extensible by the `MnSymbol` package (Table 337 on page 146). and even more extensible by the `yhmath` package (Table 335).

† If you’re looking for an extensible *diagonal* line or arrow to be used for canceling or reducing mathematical subexpressions (e.g., “ $x + \cancel{x}$ ” or “ $3 + 2^{\cancel{5}}$ ”) then consider using the `cancel` package.

‡ With an optional argument, `\sqrt` typesets *nth* roots. For example, “`\sqrt[3]{abc}`” produces “ $\sqrt[3]{abc}$ ” and “`\sqrt[n]{abc}`” produces “ $\sqrt[n]{abc}$ ”.

TABLE 334: overrightarrow Extensible Accents

$\overrightarrow{\overrightarrow{abc}}$	<code>\Overrightarrow{abc}</code>
-----------------------------------------	-----------------------------------

TABLE 335: yhmath Extensible Accents

$\widehat{abc}$	<code>\widehat{abc}</code>	$\widetilde{abc}$	<code>\widetilde{abc}</code>
$\wideparen{abc}$	<code>\wideparen{abc}</code>	$\widehat{abc}$	<code>\widetriangle{abc}</code>
$\widetilde{abc}$	<code>\widering{abc}</code>		

TABLE 336:  $\mathcal{AMS}$  Extensible Accents

$\overleftrightarrow{abc}$	<code>\overleftrightharrow{abc}</code>	$\overleftarrow{abc}$	<code>\underleftrightharrow{abc}</code>
$\overleftarrow{abc}$	<code>\underleftarrow{abc}</code>	$\overrightarrow{abc}$	<code>\underrightharrow{abc}</code>

TABLE 337: MnSymbol Extensible Accents

$\overbrace{abc}$	<code>\overbrace{abc}</code>	$\underbrace{abc}$	<code>\undergroup{abc}</code>
$\overgroup{abc}$	<code>\overgroup{abc}</code>	$\underline{abc}$	<code>\underlinesegment{abc}</code>
$\overleftharpoonup{abc}$	<code>\overleftharpoonup{abc}</code>	$\widehat{abc}$	<code>\widehat{abc}</code>
$\overlinesegment{abc}$	<code>\overlinesegment{abc}</code>	$\widetilde{abc}$	<code>\wideparen{abc}</code>
$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code>	$\widetilde{abc}$	<code>\widetilde{abc}</code>
$\underbrace{abc}$	<code>\underbrace{abc}</code>		

TABLE 338: FdSymbol Extensible Accents

$\overbrace{abc}$	<code>\overbrace{abc}</code>	$\underbrace{abc}$	<code>\undergroup{abc}</code>
$\overgroup{abc}$	<code>\overgroup{abc}</code>	$\underline{abc}$	<code>\underlinesegment{abc}</code>
$\overleftharpoonup{abc}$	<code>\overleftharpoonup{abc}</code>	$\widehat{abc}$	<code>\widehat{abc}</code>
$\overlinesegment{abc}$	<code>\overlinesegment{abc}</code>	$\widetilde{abc}$	<code>\wideparen{abc}</code>
$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code>	$\widetilde{abc}$	<code>\widetilde{abc}</code>
$\underbrace{abc}$	<code>\underbrace{abc}</code>		

TABLE 339: stix Extensible Accents

$\overline{abc}$	<code>\longdivision{abc}</code>	$\underline{abc}$	<code>\underbracket{abc}</code>
$\overbrace{abc}$	<code>\overbrace{abc}</code>	$\underline{abc}$	<code>\underleftarrow{abc}</code>
$\overbrace{abc}$	<code>\overbracket{abc}</code>	$\underline{abc}$	<code>\underleftharpoonup{abc}</code>
$\overleftarrow{abc}$	<code>\overleftarrow{abc}</code>	$\underline{abc}$	<code>\underleftrightharpoonup{abc}</code>
$\overleftarrow{abc}$	<code>\overleftharpoonup{abc}</code>	$\underbrace{abc}$	<code>\underparen{abc}</code>
$\overrightarrow{abc}$	<code>\overleftrightharpoonup{abc}</code>	$\underline{abc}$	<code>\underrightarrow{abc}</code>
$\overbrace{abc}$	<code>\overparen{abc}</code>	$\underline{abc}$	<code>\underrightharpoonup{abc}</code>
$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code>	$\widetilde{abc}$	<code>\widecheck{abc}</code>
$\overrightarrow{abc}$	<code>\overrightharpoonup{abc}</code>	$\widehat{abc}$	<code>\widehat{abc}</code>
$\sqrt{abc}$	<code>\sqrt{abc}</code>	$\widetilde{abc}$	<code>\widetilde{abc}</code>
$\underbrace{abc}$	<code>\underbrace{abc}</code>		

TABLE 340: mathtools Extensible Accents

$\overbrace{abc}$	<code>\overbrace{abc}</code>	$\underbrace{abc}$	<code>\underbrace{abc}</code>
$\overbrace{abc}$	<code>\overbracket{abc}*</code>	$\underbrace{abc}$	<code>\underbracket{abc}*</code>

\* `\overbracket` and `\underbracket` accept optional arguments that specify the bracket height and thickness. See the `mathtools` documentation for more information.

TABLE 341: mathabx Extensible Accents

$\overbrace{abc}$	<code>\overbrace{abc}</code>	$\overline{abc}$	<code>\widebar{abc}</code>
$\overbrace{abc}$	<code>\overgroup{abc}</code>	$\widetilde{abc}$	<code>\widecheck{abc}</code>
$\underbrace{abc}$	<code>\underbrace{abc}</code>	$\widehat{abc}$	<code>\wideparen{abc}</code>
$\underbrace{abc}$	<code>\undergroup{abc}</code>	$\widehat{abc}$	<code>\widering{abc}</code>
$\overrightarrow{abc}$	<code>\widearrow{abc}</code>		

The braces shown for `\overbrace` and `\underbrace` appear in their minimum size. They can expand arbitrarily wide, however.

TABLE 342: fourier Extensible Accents

$\widehat{abc}$	<code>\widearc{abc}</code>	$\widehat{abc}$	<code>\wideparen{abc}</code>
$\widehat{\rightarrow abc}$	<code>\wide0arc{abc}</code>	$\widehat{\circ abc}$	<code>\widering{abc}</code>

TABLE 343: esvect Extensible Accents

$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option a
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option b
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option c
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option d
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option e
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option f
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option g
$\overrightarrow{abc}$	<code>\vv{abc}</code> with package option h

See the `esvect` package note on page 452.

TABLE 344: pdfMsym Extensible Accents

$\overleftarrow{abc}$	<code>\lvecc{abc}*</code>	$\underline{qbc}$	<code>\underlvecc{abc}</code>
$\overleftarrow{abc}$	<code>\overleftharp{abc}*</code>	$\underline{abc}$	<code>\underrightharp{abc}</code>
$\overleftarrow{abc}$	<code>\overleftrightharp{abc}*</code>	$\underline{qbc}$	<code>\underrightleftharp{abc}</code>
$\overleftrightarrow{abc}$	<code>\overleftrightvecc{abc}*</code>	$\underline{qbc}$	<code>\understraightlvecc{abc}</code>
$\overrightarrow{abc}$	<code>\overrightharp{abc}*</code>	$\underline{abc}$	<code>\understraightvecc{abc}</code>
$\overrightarrow{abc}$	<code>\overrightleftharp{abc}*</code>	$\underline{abc}$	<code>\undervecc{abc}</code>
$\overleftarrow{abc}$	<code>\straightlvecc{abc}*</code>	$\widetilde{abc}$	<code>\varwidecheck{abc}</code>
$\overrightarrow{abc}$	<code>\straightvecc{abc}*</code>	$\widehat{abc}$	<code>\varwidehat{abc}</code>
$\underline{qbc}$	<code>\underleftharp{abc}</code>	$\widetilde{abc}$	<code>\varwidetilde{abc}</code>
$\underline{qbc}$	<code>\underleftrightharp{abc}</code>	$\overrightarrow{abc}$	<code>\vecc{abc}*</code>
$\underline{qbc}$	<code>\underleftrightvecc{abc}</code>		

See the pdfMsym package note on page 456.

\* The `\constvec` command takes one of these vector commands and its argument and typesets the accent at  $x$  height, truncating everything above it. Hence, while `\overleftharp{abcMxyz}` produces “ $\overleftarrow{abcMxyz}$ ”, `\constvec{\overleftharp}{abcMxyz}` produces “ $\overleftarrow{abcMxyz}$ ”.

TABLE 345: overarrows Extensible Accents

$\overline{abc}$	<code>\overbar{abc}</code>	$\underline{abc}$	<code>\underbar{abc}</code>
$\overleftarrow{abc}$	<code>\overleftarrow{abc}</code>	$\underline{qbc}$	<code>\underleftarrow{abc}</code>
$\overleftarrow{abc}$	<code>\overleftharpoonup{abc}</code>	$\underline{qbc}$	<code>\underleftharpoonup{abc}</code>
$\overleftarrow{abc}$	<code>\overleftharpoonup{abc}</code>	$\underline{qbc}$	<code>\underleftharpoonup{abc}</code>
$\overleftrightarrow{abc}$	<code>\overleftrightharpoonup{abc}</code>	$\underline{qbc}$	<code>\underleftrightharpoonup{abc}</code>
$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code>	$\underline{abc}$	<code>\underrightarrow{abc}</code>
$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code>	$\underline{abc}$	<code>\underrightharpoonup{abc}</code>
$\overrightarrow{abc}$	<code>\overrightarrow{abc}</code>	$\underline{abc}$	<code>\underrightharpoonup{abc}</code>

See the overarrows package note on page 456.

TABLE 346: `abraces` Extensible Accents
$$\overbrace{abc} \quad \backslash\mathrm{aoverbrace}\{abc\} \quad \underbrace{abc} \quad \backslash\mathrm{aunderbrace}\{abc\}$$

See the `abraces` package note on page 449.

TABLE 347: `undertilde` Extensible Accents
$$\underset{\sim}{abc} \quad \backslash\mathrm{utilde}\{abc\}$$

See the `undertilde` package note on page 461.

TABLE 348: `ushort` Extensible Accents
$$\underline{\underline{abc}} \quad \backslash\mathrm{ushortdw}\{abc\} \quad \underline{\dot{abc}} \quad \backslash\mathrm{ushortw}\{abc\}$$

See the `ushort` package note on page 460.

TABLE 349: `mdwmath` Extensible Accents
$$\sqrt{abc} \quad \backslash\mathrm{sqrt*}\{abc\}$$
TABLE 350: `actuarialangle` Extensible Accents
$$\overline{abc} \quad \backslash\mathrm{actuarialangle}\{abc\}$$

See the `actuarialangle` package note on page 449.

TABLE 351:  $\mathcal{AMS}$  Extensible Arrows
$$\overleftarrow{abc} \quad \backslash\mathrm{xleftarrow}\{abc\} \quad \overrightarrow{abc} \quad \backslash\mathrm{xrightarrow}\{abc\}$$

TABLE 352: mathtools Extensible Arrows

$\xhookrightarrow{abc}$	<code>\xhookleftarrow{abc}</code>	$\xhookrightarrow{abc}$	<code>\xleftrightharpoons{abc}</code>
$\xhookrightarrow{abc}$	<code>\xhookrightarrow{abc}</code>	$\xmapsto{abc}$	<code>\xmapsto{abc}</code>
$\xLeftarrow{abc}$	<code>\xLeftarrow{abc}</code>	$\xRightarrow{abc}$	<code>\xRightarrow{abc}</code>
$\xleftharpoonup{abc}$	<code>\xleftharpoonup{abc}</code>	$\xrightarrow{abc}$	<code>\xrightarrow{abc}</code>
$\xleftharpoonup{abc}$	<code>\xleftharpoonup{abc}</code>	$\xrightarrow{abc}$	<code>\xrightarrow{abc}</code>
$\xleftrightarrow{abc}$	<code>\xleftrightarrow{abc}</code>	$\xrightleftharpoons{abc}$	<code>\xrightleftharpoons{abc}</code>
$\xleftrightarrow{abc}$	<code>\xleftrightarrow{abc}</code>		

TABLE 353: chemarr Extensible Arrows

$\xleftrightarrow{abc}$	<code>\xrightleftharpoons{abc}</code>
-------------------------	---------------------------------------

TABLE 354: chemarrow Extensible Arrows

$\xleftarrow{abc}$	<code>\autoleftarrow{abc}{def}</code>	$\xrightarrow{abc}$	<code>\autorightarrow{abc}{def}</code>
$\xleftrightarrow{abc}$	<code>\autoleftrightharpoons{abc}{def}</code>	$\xrightleftharpoons{abc}$	<code>\autorightleftharpoons{abc}{def}</code>

See the chemarrow package note on page 451.

TABLE 355: extarrows Extensible Arrows

$\xleftrightarrow{abc}$	<code>\xLeftarrow{abc}</code>	$\xleftrightarrow{abc}$	<code>\xLongleftarrow{abc}</code>
$\xleftrightarrow{abc}$	<code>\xLeftarrow{abc}</code>	$\xleftrightarrow{abc}$	<code>\xLongleftarrow{abc}</code>
$\xlongequal{abc}$	<code>\xlongequal{abc}</code>	$\xRightarrow{abc}$	<code>\xLongrightarrow{abc}</code>
$\xLeftarrow{abc}$	<code>\xLeftarrow{abc}</code>	$\xrightarrow{abc}$	<code>\xLongrightarrow{abc}</code>
$\xleftarrow{abc}$	<code>\xleftarrow{abc}</code>		

TABLE 356: pdfMsym Extensible Arrows

$\xleftarrow{\circ abc}$	<code>\xvarCircleleftarrow{abc}</code>	$\xleftrightarrow{\circ abc}$	<code>\xvarLleftRrightarrow{abc}</code>
$\xleftarrow{\circ abc}$	<code>\xvarcircleleftarrow{abc}</code>	$\xleftarrow{\circ abc}$	<code>\xvarmapsfrom{abc}</code>
$\xrightarrow{\circ abc}$	<code>\xvarCirclerightarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarmapsto{abc}</code>
$\xrightarrow{\circ abc}$	<code>\xvarcirclerightarrow{abc}</code>	$\xleftrightarrow{\circ abc}$	<code>\xvarRibbonleftarrow{abc}</code>
$\xleftarrow{\circ abc}$	<code>\xvardoubleleftarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarRibbonrightarrow{abc}</code>
$\xrightarrow{\circ abc}$	<code>\xvardoublerightarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarRightarrow{abc}</code>
$\xleftarrow{\circ abc}$	<code>\xvardownhookleftarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarrightarrow{abc}</code>
$\xrightarrow{\circ abc}$	<code>\xvardownhookrightarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarrightarrow{abc}</code>
$\xleftarrow{\circ abc}$	<code>\xvarleftarrow{abc}</code>	$\xleftrightarrow{\circ abc}$	<code>\xvarrightleftarrows{abc}</code>
$\xleftrightarrow{\circ abc}$	<code>\xvarLeftarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarRrightarrow{abc}</code>
$\xrightarrow{\circ abc}$	<code>\xvarleftarrows{abc}</code>	$\xleftrightarrow{\circ abc}$	<code>\xvarSquareleftarrow{abc}</code>
$\xleftrightarrow{\circ abc}$	<code>\xvarleftrightarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvarSquarerightarrow{abc}</code>
$\xrightarrow{\circ abc}$	<code>\xvarleftrightarrows{abc}</code>	$\xleftarrow{\circ abc}$	<code>\xvaruphookleftarrow{abc}</code>
$\xleftrightarrow{\circ abc}$	<code>\xvarLleftarrow{abc}</code>	$\xrightarrow{\circ abc}$	<code>\xvaruphookrightarrow{abc}</code>

See the pdfMsym package note on page 456.

TABLE 357: extpfeil Extensible Arrows

$\xlongequal{abc}$	<code>\xlongequal{abc}</code>	$\xleftrightarrow{abc}$	<code>\xtwoheadleftarrow{abc}</code>
$\xrightarrow{abc}$	<code>\xmapsto{abc}</code>	$\xrightarrow{abc}$	<code>\xtwoheadrightarrow{abc}</code>
$\xleftrightarrow{abc}$	<code>\xtofrom{abc}</code>		

See the extpfeil package note on page 452.

TABLE 358: DotArrow Extensible Arrows

$\xrightarrow{a}$	<code>\dotarrow{a}</code>
-------------------	---------------------------

See the DotArrow package note on page 451.



TABLE 359: halloweenmath Extensible Arrows

$\overleftarrow{abc}$	<code>\overscriptleftarrow{abc}</code>	$\overleftarrow{abc}$	<code>\underscriptleftarrow{abc}</code>
$\overleftrightarrow{abc}$	<code>\overscriptlefttrightarrow{abc}</code>	$\overleftrightarrow{abc}$	<code>\underscriptlefttrightarrow{abc}</code>
$\overrightarrow{abc}$	<code>\overscriptrightarrow{abc}</code>	$\overrightarrow{abc}$	<code>\underscriptrightarrow{abc}</code>

See the halloweenmath package note on page 453.

TABLE 360: pdfMsym Extensible Harpoons

$\overleftarrow{abc}$	<code>\xvarleftharp{abc}</code>	$\overrightarrow{abc}$	<code>\xvarrightharp{abc}</code>
$\overrightarrow{abc}$	<code>\xvarleftrightharp{abc}</code>	$\overleftarrow{abc}$	<code>\xvarrightleftharp{abc}</code>

See the pdfMsym package note on page 456.

TABLE 361: harpoon Extensible Harpoons

$\overleftarrow{abc}$	<code>\overleftharp{abc}</code>	$\overleftarrow{abc}$	<code>\underleftharp{abc}</code>
$\overleftarrow{abc}$	<code>\overleftharpdown{abc}</code>	$\overleftarrow{abc}$	<code>\underleftharpdown{abc}</code>
$\overrightarrow{abc}$	<code>\overrightharp{abc}</code>	$\overrightarrow{abc}$	<code>\underlightharp{abc}</code>
$\overrightarrow{abc}$	<code>\overrightharpdown{abc}</code>	$\overrightarrow{abc}$	<code>\underlightharpdown{abc}</code>

See the harpoon package note on page 453.

TABLE 362: trfsigns Extensible Transform Symbols

$\overline{abc}$	<code>\dft{abc}</code>	$\overline{abc}$	<code>\DFT{abc}</code>
------------------	------------------------	------------------	------------------------

TABLE 363: esrelation Extensible Relations

$\overleftarrow{abc}$	<code>\relationleftproject{abc}</code>	$\overrightarrow{abc}$	<code>\relationrightproject{abc}</code>
$\overline{abc}$	<code>\relationlifting{abc}</code>		

TABLE 364: halloweenmath Extensible Brooms and Pitchforks

$\overleftarrow{\text{abc}}$	<code>\overleftarrowbroom{abc}</code>	$\overrightarrow{\text{abc}}$	<code>\underrightbroom{abc}</code>
$\overleftarrow{\text{abc}}$	<code>\overleftarrowpitchfork{abc}</code>	$\overrightarrow{\text{abc}}$	<code>\underrightpitchfork{abc}</code>
$\overrightarrow{\text{abc}}$	<code>\overrightarrowbroom{abc}</code>	$\overleftarrow{\text{abc}}$	<code>\xleftarrowbroom{abc}</code>
$\overrightarrow{\text{abc}}$	<code>\overrightarrowpitchfork{abc}</code>	$\overleftarrow{\text{abc}}$	<code>\xleftarrowpitchfork{abc}</code>
$\underleftarrow{\text{abc}}$	<code>\underleftarrowbroom{abc}</code>	$\underrightarrow{\text{abc}}$	<code>\xrightarrowbroom{abc}</code>
$\underleftarrow{\text{abc}}$	<code>\underleftarrowpitchfork{abc}</code>	$\underrightarrow{\text{abc}}$	<code>\xrightarrowpitchfork{abc}</code>

TABLE 365: halloweenmath Extensible Witches

$\overleftarrow{\text{abc}}$	<code>\overleftarrowwitchonbroom{abc}</code>	$\overrightarrow{\text{abc}}$	<code>\underrightwitchonbroom{abc}</code>
$\overleftarrow{\text{abc}}$	<code>\overleftarrowwitchonbroom*{abc}</code>	$\overrightarrow{\text{abc}}$	<code>\underrightwitchonbroom*{abc}</code>
$\overleftarrow{\text{abc}}$	<code>\overleftarrowwitchonpitchfork*{abc}</code>	$\overrightarrow{\text{abc}}$	<code>\underrightwitchonpitchfork*{abc}</code>
$\overleftarrow{\text{abc}}$	<code>\overleftarrowwitchonpitchfork{abc}</code>	$\overrightarrow{\text{abc}}$	<code>\underrightwitchonpitchfork{abc}</code>
$\overrightarrow{\text{abc}}$	<code>\overrightarrowwitchonbroom*{abc}</code>	$\overleftarrow{\text{abc}}$	<code>\xleftarrowwitchonbroom*{abc}</code>
$\overrightarrow{\text{abc}}$	<code>\overrightarrowwitchonbroom{abc}</code>	$\overleftarrow{\text{abc}}$	<code>\xleftarrowwitchonbroom{abc}</code>
$\overrightarrow{\text{abc}}$	<code>\overrightarrowwitchonpitchfork*{abc}</code>	$\overleftarrow{\text{abc}}$	<code>\xleftarrowwitchonpitchfork*{abc}</code>
$\overrightarrow{\text{abc}}$	<code>\overrightarrowwitchonpitchfork{abc}</code>	$\overleftarrow{\text{abc}}$	<code>\xleftarrowwitchonpitchfork{abc}</code>
$\underleftarrow{\text{abc}}$	<code>\underleftarrowwitchonbroom{abc}</code>	$\underrightarrow{\text{abc}}$	<code>\xrightarrowwitchonbroom{abc}</code>
$\underleftarrow{\text{abc}}$	<code>\underleftarrowwitchonbroom*{abc}</code>	$\underrightarrow{\text{abc}}$	<code>\xrightarrowwitchonbroom*{abc}</code>
$\underleftarrow{\text{abc}}$	<code>\underleftarrowwitchonpitchfork*{abc}</code>	$\underrightarrow{\text{abc}}$	<code>\xrightarrowwitchonpitchfork{abc}</code>
$\underleftarrow{\text{abc}}$	<code>\underleftarrowwitchonpitchfork{abc}</code>	$\underrightarrow{\text{abc}}$	<code>\xrightarrowwitchonpitchfork*{abc}</code>

TABLE 366: halloweenmath Extensible Ghosts







 $abc$	<code>\overleftswishingghost{abc}</code>	 $abc$	<code>\overrightswishingghost{abc}</code>
 $abc$	<code>\underleftswishingghost{abc}</code>	 $abc$	<code>\underrightswishingghost{abc}</code>
 $abc$	<code>\xleftswishingghost{abc}</code>	 $abc$	<code>\xrightswishingghost{abc}</code>

TABLE 367: halloweenmath Extensible Bats







 $abc$	<code>\overleftflutteringbat{abc}</code>	 $abc$	<code>\overrightflutteringbat{abc}</code>
 $abc$	<code>\underleftflutteringbat{abc}</code>	 $abc$	<code>\underrightflutteringbat{abc}</code>
 $abc$	<code>\xleftflutteringbat{abc}</code>	 $abc$	<code>\xrightflutteringbat{abc}</code>

TABLE 368: holtpolt Non-commutative Division Symbols

$\left  \frac{abc}{def} \right $	<code>\holter{abc}{def}</code>	$\left  \frac{abc}{def} \right $	<code>\polter{abc}{def}</code>
----------------------------------	--------------------------------	----------------------------------	--------------------------------

TABLE 369: Dots

$\cdot$	<code>\cdotp</code>	$:$	<code>\colon*</code>	$\cdot$	<code>\ldotp</code>	$\vdots$	<code>\vdots<sup>†</sup></code>
$\cdots$	<code>\cdots</code>	$\ddots$	<code>\ddots<sup>†</sup></code>	$\ldots$	<code>\ldots</code>		

\* While “:” is valid in math mode, `\colon` uses different surrounding spacing. See Section 13.5 and the Short Math Guide for L<sup>A</sup>T<sub>E</sub>X [Dow00] for more information on math-mode spacing.

<sup>†</sup> The `mathdots` package redefines `\ddots` and `\vdots` (Table 375) to make them scale properly with font size. (They normally scale horizontally but not vertically.) `\fixedddots` and `\fixedvdots` provide the original, fixed-height functionality of L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>’s `\ddots` and `\vdots` macros.

TABLE 370:  $\mathcal{AMS}$  Dots

$\because$	<code>\because*</code>	$\cdots$	<code>\dotsi</code>	$\therefore$	<code>\therefore*</code>
$\dots$	<code>\dotsb</code>	$\cdots$	<code>\dotsm</code>		
$\dots$	<code>\dotsc</code>	$\cdots$	<code>\dotso</code>		

The  $\mathcal{AMS}$  `\dots_` symbols are named according to their intended usage: `\dotsb` between pairs of binary operators/relations, `\dotsc` between pairs of commas, `\dotsi` between pairs of integrals, `\dotsm` between pairs of multiplication signs, and `\dotso` between other symbol pairs.

\* `\because` and `\therefore` are defined as binary relations and therefore also appear in Table 132 on page 74.

TABLE 371: wasysym Dots

$\therefore$	<code>\wasytherefore</code>
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TABLE 372: MnSymbol Dots

$\cdot$	<code>\cdot</code>	$\ddot{\cdot}$	<code>\hdotdot</code>	$\cdot^{\cdot}$	<code>\udots</code>
$\ddot{\cdot}$	<code>\ddotdotdot</code>	$\cdots$	<code>\hdots</code>	$\cdot^{\cdot}$	<code>\uptherefore</code>
$\ddots$	<code>\ddots</code>	$\because$	<code>\lefttherefore</code>	$\vdots$	<code>\vdotdot</code>
$\diamond\ddots$	<code>\diamondddots</code>	$\therefore$	<code>\righttherefore</code>	$\vdots$	<code>\vdots</code>
$\cdot^{\cdot}$	<code>\downtherefore</code>	$\ddots$	<code>\squaredots</code>		
$\ddot{\cdot}$	<code>\fivedots</code>	$\cdot^{\cdot}$	<code>\udotdot</code>		

MnSymbol defines `\therefore` as `\uptherefore` and `\because` as `\downtherefore`. Furthermore, `\cdot` and `\colon` produce the same glyphs as `\cdot` and `\vdotdot` respectively but serve as T<sub>E</sub>X math punctuation (class 6 symbols) instead of T<sub>E</sub>X binary operators (class 2).

All of the above except `\hdots` and `\vdots` are defined as binary operators and therefore also appear in Table 74 on page 46.

TABLE 373: FdSymbol Dots

$\cdot$	<code>\cdot</code>	$\cdots$	<code>\hdots</code>	$\ddots$	<code>\udots</code>
$\ddot{\cdot}$	<code>\ddotdotdot</code>	$\therefore$	<code>\lefttherefore</code>	$\therefore$	<code>\uptherefore</code>
$\ddot{\cdot}$	<code>\ddots</code>	$\therefore$	<code>\righttherefore</code>	$\vdots$	<code>\vdotdot</code>
$\ddot{\cdot}$	<code>\downtherefore</code>	$\therefore$	<code>\squaredots</code>		
$\ddot{\cdot}$	<code>\hdotdot</code>	$\therefore$	<code>\udotdot</code>		

FdSymbol defines `\adots` as a synonym for `\udots`; `\because` as a synonym for `\downtherefore`; `\cdotp` as a synonym for `\cdot`; `\cdots` as a synonym for `\hdots`; `\Colon` as a synonym for `\squaredots`; `\colon`, `\mathcolon`, and `\mathratio` as synonyms for `\vdotdot`; and `\therefore` as a synonym for `\uptherefore`. (Some of these serve different mathematical roles, such as relations versus binary operators.)

TABLE 374: stix Dots

$\ddots$	<code>\adots</code>	$\cdots$	<code>\cdots</code>	$\vdots$	<code>\fourvdots</code>
$\ddot{\cdot}$	<code>\because</code>	$\therefore$	<code>\Colon</code>	$\cdot$	<code>\ldotp</code>
$\cdot$	<code>\cdot</code>	$\ddot{\cdot}$	<code>\ddots</code>	$\cdots$	<code>\mathellipsis</code>
$\cdot$	<code>\cdotp</code>	$\ddot{\cdot}$	<code>\enleadertwodots</code>	$\therefore$	<code>\therefore</code>

stix defines `\centerdot` as a synonym for `\cdotp` and `\dotsb` and `\dotsm` as synonyms for `\cdots`.

TABLE 375: mathdots Dots

$\ddots$	<code>\ddots</code>	$\ddots$	<code>\iddots</code>	$\vdots$	<code>\vdots</code>
----------	---------------------	----------	----------------------	----------	---------------------

Unlike the default definitions of the above (Table 369 on the previous page), mathdots's commands are designed to scale properly with the surrounding font size.

TABLE 376: yhmath Dots

$\ddots$	<code>\adots</code>
----------	---------------------

TABLE 377: teubner Dots

$\vdots$	<code>\:</code>	$\vdots$	<code>\;</code>	$\vdots$	<code>\?</code>	$\therefore$	<code>\antilabe</code>
----------	-----------------	----------	-----------------	----------	-----------------	--------------	------------------------

TABLE 378: logix Dots

$\cdot$	<code>\BndDot</code>	$:$	<code>\Cln</code>	$\dots$	<code>\LDots</code>	$\therefore$	<code>\Thus</code>
$\cdots$	<code>\CDots</code>	$\cdot$	<code>\Dt</code>	$\because$	<code>\Since</code>	$:$	<code>\VDots</code>

See the logix package note on page 454.

TABLE 379: begriff Begriffsschrift Symbols

$\vdash$	<code>\BGassert</code>	$\neg$	<code>\BGcontent</code>	$\neg$	<code>\BGnot</code>
$\begin{smallmatrix} b \\ \vdash \\ a \end{smallmatrix}$	<code>\BGconditional{a}{b}</code>	$\smile$	<code>\BGquant{a}</code>		

See the begriff package note on page 450.

TABLE 380: frege Begriffsschrift Symbols

$\vdash$	<code>\Facontent</code>	$\vdash$	<code>\Fanncontent</code>	$\vdash$	<code>\Fncontent</code>
$\vdash$	<code>\Fancontent</code>	$\vdash$	<code>\Fcontent</code>	$\vdash$	<code>\Fnncontent</code>
$\vdash \smile$	<code>\Fannquant{a}</code>	$\vdash \smile$	<code>\Faquant{a}</code>	$\vdash \smile$	<code>\Fnquant{a}</code>
$\vdash \smile \neg$	<code>\Fannquantn{a}</code>	$\vdash \smile \neg$	<code>\Faquantn{a}</code>	$\vdash \smile \neg$	<code>\Fnquantn{a}</code>
$\vdash \smile \neg \neg$	<code>\Fannquantnn{a}</code>	$\vdash \smile \neg \neg$	<code>\Faquantnn{a}</code>	$\vdash \smile \neg \neg$	<code>\Fnquantnn{a}</code>
$\vdash \smile$	<code>\Fanquant{a}</code>	$\vdash \smile$	<code>\Fnnquant{a}</code>	$\vdash \smile$	<code>\Fquant{a}</code>
$\vdash \smile \neg$	<code>\Fanquantn{a}</code>	$\vdash \smile \neg$	<code>\Fnnquantn{a}</code>	$\vdash \smile \neg$	<code>\Fquantn{a}</code>
$\vdash \smile \neg \neg$	<code>\Fanquantnn{a}</code>	$\vdash \smile \neg \neg$	<code>\Fnnquantnn{a}</code>	$\vdash \smile \neg \neg$	<code>\Fquantnn{a}</code>

See the begriff package note on page 452.

TABLE 381: mathcomp Math Symbols

$^{\circ}\text{C}$	<code>\tccentigrade</code>	$\Omega$	<code>\tcohm</code>	$\text{‰}$	<code>\tcperthousand</code>
$\mu$	<code>\tcmu</code>	$\text{‰‰}$	<code>\tcpertenthousand</code>		

TABLE 382: marvosym Math Symbols

$\angle$	<code>\AngleSign</code>	$\geq$	<code>\LargerOrEqual</code>	$\times$	<code>\MVMultiplication</code>
$\Rightarrow$	<code>\Conclusion</code>	$\leq$	<code>\LessOrEqual</code>	$\cdot$	<code>\MVPeriod</code>
$\equiv$	<code>\Congruent</code>	$\cdot$	<code>\MultiplicationDot</code>	$+$	<code>\MVPlus</code>
$\cong$	<code>\Corresponds</code>	$,$	<code>\MVComma</code>	$\rightarrow$	<code>\MVRightArrow</code>
$/$	<code>\Divides</code>	$/$	<code>\MVDivision</code>	$)$	<code>\MVRightBracket</code>
$\nmid$	<code>\DividesNot</code>	$($	<code>\MVLeftBracket</code>	$\neq$	<code>\NotCongruent</code>
$\Leftrightarrow$	<code>\Equivalence</code>	$-$	<code>\MVMinus</code>		

TABLE 383: marvosym Digits

0	\MVZero	2	\MVTwo	4	\MVFour	6	\MVSix	8	\MVEight
1	\MVOne	3	\MVThree	5	\MVFive	7	\MVSeven	9	\MVNine

TABLE 384: fge Digits

$\infty$	\fgeleftthree	$\infty$	\fgerighttwo	$\emptyset$	\fgestruckzero
$\infty$	\fgelefttwo	$\infty$	\fgestruckone		

TABLE 385: dozenal Base-12 Digits

$\zeta$	\x	$\xi$	\e
---------	----	-------	----

TABLE 386: mathabx Mayan Digits

$\textcircled{0}$	\maya{0}	:	\maya{2}	:	\maya{4}
$\cdot$	\maya{1}	:	\maya{3}	:	\maya{5}

TABLE 387: stix Infinities

$\textcircled{\infty}$	\acidfree	$\infty$	\infty	$\infty$	\tieinfty
$\infty$	\iinfin	$\phi$	\nvinyty		

TABLE 388: stix Primes

$'$	\prime	$\backslash$	\backprime
$''$	\dprime	$\backslash\backslash$	\backdprime
$'''$	\trprime	$\backslash\backslash\backslash$	\backtrprime
$'''$	\qprime		

TABLE 389: stix Empty Sets

$\emptyset$	\emptysetset	$\overline{\emptyset}$	\emptysetsetobar	$\emptyset$	\varnothing
$\emptyset$	\emptysetsetoarr	$\emptyset$	\emptysetsetocirc		
$\emptyset$	\emptysetsetoarrl	$\emptyset$	\revemptysetset		

TABLE 390:  $\mathcal{AMS}$  Angles

$\angle$	\angle	$\measuredangle$	\measuredangle	$\sphericalangle$	\sphericalangle
----------	--------	------------------	----------------	-------------------	-----------------

TABLE 391: MnSymbol Angles

$\angle$	<code>\angle</code>	$\measuredangle$	<code>\measuredangle</code>	$\sphericalangle$	<code>\sphericalangle</code>
----------	---------------------	------------------	-----------------------------	-------------------	------------------------------

TABLE 392: FdSymbol Angles

$\angle$	<code>\angle</code>	$\sphericalangle$	<code>\sphericalangle</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\sphericalangle$	<code>\sphericalangle</code>

FdSymbol defines `\measuredangleleft` as a synonym for `\revmeasuredangle`; `\revsphericalangle` and `\gtlpar` as synonyms for `\sphericalangleleft`; `\rightanglesqr` as a synonym for `\rightanglesquare`; and `\rightangledot` as a synonym for `\measuredrightangledot`.

TABLE 393: boisik Angles

$\angle$	<code>\angle</code>	$\angle$	<code>\angle</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>

TABLE 394: stix Angles

$\angle$	<code>\angdnr</code>	$\measuredangle$	<code>\measuredangle</code>	$\rightangledot$	<code>\rightangledot</code>
$\angle$	<code>\angle</code>	$\measuredangle$	<code>\measuredangle</code>	$\rightanglesqr$	<code>\rightanglesqr</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\gtlpar$	<code>\gtlpar</code>	$\measuredangle$	<code>\measuredangle</code>	$\threedangle$	<code>\threedangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\turnangle$	<code>\turnangle</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\wideangledown$	<code>\wideangledown</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\wideangleup$	<code>\wideangleup</code>
$\measuredangle$	<code>\measuredangle</code>	$\measuredangle$	<code>\measuredangle</code>	$\rightangle$	<code>\rightangle</code>

TABLE 395: lucide-icons Decorative Geometry Symbols

$\lrcorner$	<code>\lucideicon{axis-3d}</code>	$\square$	<code>\lucideicon{ratio}</code>
$\bigcirc$	<code>\lucideicon{diameter}</code>	$\curvearrowright$	<code>\lucideicon{tangent}</code>
$\bigcirc$	<code>\lucideicon{radius}</code>		

See the lucide-icons package note on page 454.



TABLE 396: typicons Decorative Mathematical Symbols

$\div$	<code>\tiDivide</code>	$\infty$	<code>\tiInfinity</code>	$\pi$	<code>\tiPi</code>
$\div$	<code>\tiDivideOutline</code>	$\infty$	<code>\tiInfinityOutline</code>	$+$	<code>\tiPlus</code>
$=$	<code>\tiEquals</code>	$-$	<code>\tiMinus</code>	$+$	<code>\tiPlusOutline</code>
$=$	<code>\tiEqualsOutline</code>	$-$	<code>\tiMinusOutline</code>		

See the `typicons` package note on page 460. See also `\tiTimes` ( $\times$ ) and `\tiTimesOutline` ( $\times$ ) in Table 579. All `typicons` symbols are intended to be used in text mode, not math mode.

TABLE 397: fontawesome7 Decorative Mathematical Symbols

$\div$	<code>\faDivide</code>	$<$	<code>\faLessThan</code>	$+$	<code>\faPlus</code>
$=$	<code>\faEquals</code>	$\leq$	<code>\faLessThanEqual</code>	$\pm$	<code>\faPlusMinus</code>
$>$	<code>\faGreaterThan</code>	$-$	<code>\faMinus</code>	$?$	<code>\faQuestion</code>
$\geq$	<code>\faGreaterThanEqual</code>	$\neq$	<code>\faNotEqual</code>		
$\infty$	<code>\faInfinity</code>	$\%$	<code>\faPercent*</code>		

\* In `fontawesome5`, `\faPercent` was called `\faPercentage`, and `fontawesome5` additionally defined a `\faPercent`, which used hollow circles instead of solid dots. See also `\faXmark` ( $\times$ ) in Table 580. All `fontawesome7` symbols are intended to be used in text mode, not math mode.

TABLE 398: lucide-icons Decorative Mathematical Symbols

$\pm$	<code>\lucideicon{diff}</code>	$()$	<code>\lucideicon{parentheses}</code>
$\div$	<code>\lucideicon{divide}</code>	$\%$	<code>\lucideicon{percent}</code>
$=$	<code>\lucideicon{equal}</code>	$\pi$	<code>\lucideicon{pi}</code>
$\approx$	<code>\lucideicon{equal-approximately}</code>	$+$	<code>\lucideicon{plus}</code>
$\neq$	<code>\lucideicon{equal-not}</code>	$\sqrt{\phantom{x}}$	<code>\lucideicon{radical}</code>
$\infty$	<code>\lucideicon{infinity}</code>	$\Sigma$	<code>\lucideicon{sigma}</code>
$-$	<code>\lucideicon{minus}</code>	$\times$	<code>\lucideicon{variable}</code>
$\Omega$	<code>\lucideicon{omega}</code>	$\times$	<code>\lucideicon{x}</code>

See the `lucide-icons` package note on page 454.

TABLE 399: casiofont Casio Calculator Keys

	\Abs		\CJKOn		\Menu
	\Alpha	(,)	\CommaParen		\Minus
	\angleParen		\Cube		\minusParen
	\Ans	$(x^3)$	\CubeParen	$(a\frac{b}{c}+d\frac{e}{f})$	\MixedFrac
	\BackArrow	$(^3\sqrt{\square})$	\CubeRoot	$(M-)$	\Mminus
	\Calc	$\square \rightarrow \square$	\DegRadGrad	$(M+)$	\Mplus
	\casioAbs		\Del	$x^{\square}$	\nExp
	\casioAC	$\square \div \square$	\Divide	$\log_{\square} \square$	\nLog
	\casioComma	$\square \div R$	\divR	$(\sqrt{\square})$	\nRoot
	\casioCos		\DownArrow	$(10^{\square})$	\nTen
$((\square))$	\casioDblParen	$(\frac{d}{dt})$	\dydx		\Optn
$\square \cdot \square$	\casioDot	$(e^{\square})$	\eExp	(%)	\Percent
	\casioIntegral		\Eng	$\square + \square$	\Plus
	\casioLn	$\square = \square$	\Equal		\RightArrow
	\casioLog		\Exe		\Sen
$(\square)$	\casioLParen	$x!$	\Factorial	(SETUP)	\Setup
$(\square)$	\casioObar		\Frac		\Shift
$(\square)$	\casioOdot	$(\square \div \square)$	\FracMult	$(\approx)$	\Sim
$(\pi)$	\casioPi	$x^{\square}$	\Inverse		\Simp
$(\square \rightarrow \square)$	\casioProd	$(\cos^{-1})$	\InverseCos	$\sqrt{\square}$	\SquareRoot
$\square)$	\casioRParen	$(x^{\square})$	\InverseParen		\Sto
	\casioSin	$(\sin^{-1})$	\InverseSin	$\square \div \square$	\switchMixedFrac
$(\square \rightarrow \square)$	\casioSum	$(\tan^{-1})$	\InverseTan	$\square \times \square$	\Times
	\casioTan	$(i)$	\iParen		\UpArrow
$x^{\square}$	\casioX		\LeftArrow	$\square \times 10^{\square}$	\xTenx
$y^{\square}$	\casioY	$\square \div \square$	\LineFrac		
	\CJKMenu	(log)	\logParen		
	\Zero		\Four		\Eight
	\One		\Five		\Nine
	\Two		\Six		
	\Three		\Seven		

See the casiofont package note on page 450.

TABLE 401: Miscellaneous L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Math Symbols

$\aleph$	<code>\aleph</code>	$\Box$	<code>\Box*</code> , <sup>†</sup>	$\nabla$	<code>\nabla</code>	$\triangle$	<code>\triangle</code>
$\emptyset$	<code>\emptyset</code> <sup>‡</sup>	$\diamond$	<code>\Diamond*</code>	$\neg$	<code>\neg</code>		
$\angle$	<code>\angle</code>	$\infty$	<code>\infty</code>	$'$	<code>\prime</code>		
$\backslash$	<code>\backslash</code>	$\mho$	<code>\mho*</code>	$\surd$	<code>\surd</code>		

\* Not predefined in L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. Use one of the packages `latexsym`, `amssymb`, `amssymb`, `txfonts`, `pxfonts`, or `wasysym`. Note, however, that `amssymb` and `amssymb` define `\Diamond` to produce the same glyph as `\lozenge` (“ $\diamond$ ”); the other packages produce a squarer `\Diamond` as depicted above.

<sup>†</sup> To use `\Box`—or any other symbol—as an end-of-proof (Q.E.D.) marker, consider using the `ntheorem` package, which properly juxtaposes a symbol with the end of the proof text.

<sup>‡</sup> Many people prefer the look of  $\mathcal{A}\mathcal{M}\mathcal{S}$ ’s `\varnothing` (“ $\emptyset$ ”, Table 402) to that of L<sup>A</sup>T<sub>E</sub>X’s `\emptyset`.

TABLE 402: Miscellaneous  $\mathcal{A}\mathcal{M}\mathcal{S}$  Math Symbols

$\backprime$	<code>\backprime</code>	$\blacktriangledown$	<code>\blacktriangledown</code>	$\mho$	<code>\mho</code>
$\bigstar$	<code>\bigstar</code>	$\diagdown$	<code>\diagdown</code>	$\square$	<code>\square</code>
$\blacklozenge$	<code>\blacklozenge</code>	$\diagup$	<code>\diagup</code>	$\triangledown$	<code>\triangledown</code>
$\blacksquare$	<code>\blacksquare</code>	$\eth$	<code>\eth</code>	$\varnothing$	<code>\varnothing</code>
$\blacktriangle$	<code>\blacktriangle</code>	$\lozenge$	<code>\lozenge</code>	$\vartriangle$	<code>\vartriangle</code>

TABLE 403: Miscellaneous wasysym Math Symbols

$\Box$	<code>\Box</code>	$\diamond$	<code>\Diamond</code>	$\mho$	<code>\mho*</code>	$\varangle$	<code>\varangle</code>
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\* `wasysym` also defines an `\agem0` symbol, which is the same glyph as `\mho` but is intended for use in text mode.

TABLE 404: Miscellaneous txfonts/pxfonts Math Symbols

$\blacklozenge$	<code>\Diamondblack</code>	$\lambda$	<code>\lambdabar</code>
$\diamond$	<code>\Diamonddot</code>	$\lambda$	<code>\lambdaslash</code>

TABLE 405: Miscellaneous mathabx Math Symbols

$\circ$	<code>\degree</code>	$\text{fourth}$	<code>\fourth</code>	$\measuredangle$	<code>\measuredangle</code>	$\text{second}$	<code>\second</code>
$\diagdown$	<code>\diagdown</code>	$\#$	<code>\hash</code>	$\pitchfork$	<code>\pitchfork</code>	$\sphericalangle$	<code>\sphericalangle</code>
$\diagup$	<code>\diagup</code>	$\infty$	<code>\infty</code>	$\propto$	<code>\propto</code>	$\text{third}$	<code>\third</code>
$\oslash$	<code>\diameter</code>	$\text{leftthreetimes}$	<code>\leftthreetimes</code>	$\text{rightthreetimes}$	<code>\rightthreetimes</code>	$\#$	<code>\varhash</code>

TABLE 406: Miscellaneous MnSymbol Math Symbols

$\neg$	<code>\backneg</code>	$\emptyset$	<code>\diameter</code>	$\neg$	<code>\invneg</code>	$\neg$	<code>\neg</code>
$\backslash$	<code>\backprime</code>	$\infty$	<code>\infty</code>	$\mathbb{X}$	<code>\maltese</code>	$/$	<code>\prime</code>
$\checkmark$	<code>\checkmark</code>	$\neg$	<code>\invbackneg</code>	$\nabla$	<code>\nabla</code>	$\int$	<code>\smallint</code>

MnSymbol defines `\emptyset` and `\varnothing` as synonyms for `\diameter`; `\lnot` and `\minushookdown` as synonyms for `\neg`; `\minushookup` as a synonym for `\invneg`; `\hookdownminus` as a synonym for `\backneg`; and, `\hookupminus` as a synonym for `\invbackneg`.

TABLE 407: Miscellaneous Internal MnSymbol Math Symbols

$\cdots$	<code>\partialvardint</code>	$\cdots$	<code>\partialvartint</code>
$\smile$	<code>\partialvardlanddownint</code>	$\smile$	<code>\partialvartlanddownint</code>
$\frown$	<code>\partialvardlandupint</code>	$\frown$	<code>\partialvartlandupint</code>
$\odot$	<code>\partialvardlcircleleftint</code>	$\odot$	<code>\partialvartlcircleleftint</code>
$\oslash$	<code>\partialvardlcirclerightint</code>	$\oslash$	<code>\partialvartlcirclerightint</code>
$\bigcirc$	<code>\partialvardoint</code>	$\bigcirc$	<code>\partialvartoint</code>
$\circ$	<code>\partialvardoint</code>	$\circ$	<code>\partialvartoint</code>
$\odot$	<code>\partialvardrcircleleftint</code>	$\odot$	<code>\partialvartrcircleleftint</code>
$\oslash$	<code>\partialvardrcirclerightint</code>	$\oslash$	<code>\partialvartrcirclerightint</code>
$\text{--}$	<code>\partialvardstrokedint</code>	$\text{--}$	<code>\partialvartstrokedint</code>
$\Sigma$	<code>\partialvardsumint</code>	$\Sigma$	<code>\partialvartsumint</code>

These symbols are intended to be used internally by MnSymbol to construct the integrals appearing in Table 114 on page 65 but nevertheless can be used in isolation.

TABLE 408: Miscellaneous FdSymbol Math Symbols

$\neg$	<code>\backneg</code>	$\int$	<code>\intprod</code>	$/$	<code>\prime</code>
$\backslash$	<code>\backprime</code>	$\int$	<code>\intprodr</code>	$\emptyset$	<code>\reemptyset</code>
$\checkmark$	<code>\checkmark</code>	$\neg$	<code>\invneg</code>	$\nabla$	<code>\sector</code>
$\emptyset$	<code>\emptyset</code>	$\mathbb{X}$	<code>\maltese</code>	$\int$	<code>\smallint</code>
$\infty$	<code>\infty</code>	$\neg$	<code>\neg</code>		

FdSymbol defines `\hookdownminus`, `\invneg`, and `\invnot` as synonyms for `\backneg`; `\lnot` and `\minushookdown` as synonyms for `\neg`; `\hookupminus` and `\turnedbackneg` as synonyms for `\intprodr`; `\minushookup`, `\turnedneg`, and `\turnednot` as synonyms for `\intprod`; and `\diameter` and `\varnothing` as synonyms for `\emptyset`.

TABLE 409: Miscellaneous boisik Math Symbols

$\epsilon$	<code>\backepsilon</code>	$\dagger$	<code>\hermitmatrix</code>	$\nless$	<code>\notbot</code>
$\backprime$	<code>\backprime</code>	$\infty$	<code>\i infin</code>	$\nottop$	<code>\nottop</code>
$\checkmark$	<code>\checkmark</code>	$\neg$	<code>\invnot</code>	$\riota$	<code>\riota</code>
$\square$	<code>\dalambert</code>	$\lambda$	<code>\lambdabar</code>	$\sim$	<code>\sinewave</code>
$\diagdown$	<code>\diagdown</code>	$\lambda$	<code>\lambdaslash</code>	$\emptyset$	<code>\varnothing</code>
$\diagup$	<code>\diagup</code>	$\text{maltese}$	<code>\maltese</code>		

TABLE 410: Miscellaneous stix Math Symbols

$\mathcal{A}$	<code>\accurrent</code>	$\dagger$	<code>\hermitmatrix</code>	$\P$	<code>\PropertyLine</code>
$\backslash$	<code>\backslash</code>	$\cdot$	<code>\hyphenbullet</code>	$\blacksquare$	<code>\QED</code>
$\mathbb{I}$	<code>\bbrktbrk</code>	$\sim$	<code>\hzigzag</code>	$??$	<code>\Question</code>
$\bot$	<code>\bigbot</code>	$\Delta$	<code>\increment</code>	$\times$	<code>\rdiagovfdiag</code>
$\mathbb{I}$	<code>\biginterleave</code>	$\blacksquare$	<code>\inversebullet</code>	$\bowtie$	<code>\rightouterjoin</code>
$\top$	<code>\bigtop</code>	$\neg$	<code>\invnot</code>	$\lrcorner$	<code>\sansLmirrored</code>
$\text{smiley}$	<code>\blacksmiley</code>	$\Join$	<code>\Join</code>	$\lrcorner$	<code>\sansLturned</code>
$\lvert$	<code>\bracevert</code>	$\square$	<code>\laplac</code>	$\sim$	<code>\sinewave</code>
$\wedge$	<code>\caretinsert</code>	$\bowtie$	<code>\leftouterjoin</code>	$\text{strns}$	<code>\strns</code>
$\checkmark$	<code>\checkmark</code>	$\llarc$	<code>\llarc</code>	$\text{thermod}$	<code>\thermod</code>
$\blacktriangleright$	<code>\conictaper</code>	$\llarc$	<code>\llarc</code>	$\topcir$	<code>\topcir</code>
$\text{danger}$	<code>\danger</code>	$\text{maltese}$	<code>\maltese</code>	$\text{turnednot}$	<code>\turnednot</code>
$\diagdown$	<code>\diagdown</code>	$\S$	<code>\mathsection</code>	$\text{ubrbrak}$	<code>\ubrbrak</code>
$\diagup$	<code>\diagup</code>	$\text{mathvisiblespace}$	<code>\mathvisiblespace</code>	$\ularc$	<code>\ularc</code>
$\emptyset$	<code>\diameter</code>	$\nabla$	<code>\nabla</code>	$\urarc$	<code>\urarc</code>
$*$	<code>\dingasterisk</code>	$\neg$	<code>\neg*</code>	$\text{viewdata}$	<code>\viewdata</code>
$\text{elinters}$	<code>\elinters</code>	$\text{obrbrak}$	<code>\obrbrak</code>	$\text{vzigzag}$	<code>\vzigzag</code>
$\eth$	<code>\eth</code>	$\text{perps}$	<code>\perps</code>	$\yen$	<code>\yen</code>
$!!$	<code>\Exclam</code>	$\text{postalmark}$	<code>\postalmark</code>	$\text{zcmp}$	<code>\zcmp</code>
$\times$	<code>\fdiagovrdiag</code>	$\text{profline}$	<code>\profline</code>	$\text{zpipe}$	<code>\zpipe</code>
$\bowtie$	<code>\fullouterjoin</code>	$\text{profsurf}$	<code>\profsurf</code>	$\text{zproject}$	<code>\zproject</code>

\* stix defines `\lnot` as a synonym for `\neg`.

TABLE 412: Miscellaneous textcomp Text-mode Math Symbols

$^{\circ}$	<code>\textdegree*</code>	$\frac{1}{2}$	<code>\textonehalf<sup>†</sup></code>	$\frac{3}{4}$	<code>\textthreequarters<sup>†</sup></code>
$\div$	<code>\textdiv</code>	$\frac{1}{4}$	<code>\textonequarter<sup>†</sup></code>	$\frac{3}{2}$	<code>\textthreesuperior</code>
$/$	<code>\textfractionsolidus</code>	$^1$	<code>\textonesuperior</code>	$\times$	<code>\texttimes</code>
$\neg$	<code>\textlnot</code>	$\pm$	<code>\textpm</code>	$^2$	<code>\texttwosuperior</code>
$-$	<code>\textminus</code>	$\sqrt{\phantom{x}}$	<code>\textsurd</code>		

\* If you prefer a larger degree symbol you might consider defining one as “`\ensuremath{\sim\circ}`” (“ $\circ$ ”).

<sup>†</sup> nicefrac (part of the units package) or the newer xfrac package can be used to construct vulgar fractions like “ $\frac{1}{2}$ ”, “ $\frac{1}{4}$ ”, “ $\frac{3}{4}$ ”, and even “ $\frac{c}{o}$ ”.

TABLE 413: Miscellaneous fge Math Symbols

$\backslash$	<code>\fgebackslash</code>	$\frown$	<code>\fgecap</code>	$\smile$	<code>\fgecupacute</code>	$\lhd$	<code>\fgelangle</code>
$\perp$	<code>\fgebaracute</code>	$\simeq$	<code>\fgecapbar</code>	$\cong$	<code>\fgecupbar</code>	$\sqsubset$	<code>\fgeupbracket</code>
$\approx$	<code>\fgebarcap</code>	$\cup$	<code>\fgecup</code>	$\infty$	<code>\fgeinfty</code>		

TABLE 414: Miscellaneous mathdesign Math Symbols

$\llcorner$  `\rightangle`

TABLE 415: Miscellaneous logix Math Symbols

$\otimes$	<code>\Aor</code>	$\otimes$	<code>\FncCnvs</code>	$\sqcup$	<code>\MapJoin</code>	$\sqcup$	<code>\SetJoin</code>
$\triangleright$	<code>\Append</code>	$\circ$	<code>\FncComp</code>	$\sqcap$	<code>\MapMeet</code>	$\sqcap$	<code>\SetMeet</code>
$\mathfrak{I}$	<code>\BncBistab</code>	$\bullet$	<code>\ForComp</code>	$\oplus$	<code>\Mnd</code>	$\Delta$	<code>\SetSymDiff</code>
$\sqcup$	<code>\BnchJoin</code>	$\omega$	<code>\FrstOrd</code>	$\wp$	<code>\Mor</code>	$\perp$	<code>\SimPerp</code>
$\sqcap$	<code>\BnchMeet</code>	$\nu$	<code>\GrtFix</code>	$\triangleleft$	<code>\Normal</code>	$\sim$	<code>\SinCoh</code>
$\#$	<code>\Catenate</code>	$\asymp$	<code>\InCoh</code>	$?$	<code>\OfCrse</code>	$\oplus$	<code>\SmCircPlus</code>
$\tau$	<code>\Choice</code>	$\infty$	<code>\Infin</code>	$\&$	<code>\QuantAAnd</code>	$\otimes$	<code>\SmCircStar</code>
$\mathcal{T}$	<code>\Choices</code>	$\mathfrak{I}$	<code>\LcgBistab</code>	$\sqcup$	<code>\QuantBnchJoin</code>	$\otimes$	<code>\SmCircTimes</code>
$\circ$	<code>\Coh</code>	$\oplus$	<code>\LgCircPlus</code>	$\sqcap$	<code>\QuantBnchMeet</code>	$\sqcup$	<code>\VeeJoin</code>
$\parallel$	<code>\Concat</code>	$\otimes$	<code>\LgCircStar</code>	$\wp$	<code>\QuantMor</code>	$\Uparrow$	<code>\VeeMeet</code>
$\prec$	<code>\Cover</code>	$\otimes$	<code>\LgCircTimes</code>	$\sqcup$	<code>\QuantSetJoin</code>	$!$	<code>\WhyNot</code>
$\vec{\nu}$	<code>\ExGrtFix</code>	$\mu$	<code>\LstFix</code>	$\sqcap$	<code>\QuantSetMeet</code>		
$\vec{\mu}$	<code>\ExLstFix</code>	$\sqcup$	<code>\MapComp</code>	$\sim$	<code>\SCoh</code>		

See the logix package note on page 454.

TABLE 416: Math Alphabets

Font sample	Generating command	T <sub>E</sub> X font	Required package
$ABCdef123$	<code>\mathrm{ABCdef123}</code>	cmr10	<i>none</i>
$ABCdef123$	<code>\mathit{ABCdef123}</code>	cmmi10	<i>none</i>
$ABCdef123$	<code>\mathnormal{ABCdef123}</code>	cmmi10	<i>none</i>
$ABC$	<code>\mathcal{ABC}</code>	cmsy10	<i>none</i>
$AB\mathscr{C}$	<code>\mathscr{ABC}</code>	rsfs10	mathrsfs
	<i>or</i> <code>\mathcal{ABC}</code>	rsfs10	calrsfs
$AB\mathcal{C}$	<code>\mathcal{ABC}</code>	eusm10	euscript with the mathcal option
	<i>or</i> <code>\mathscr{ABC}</code>	eusm10	euscript with the mathscr option
$AB\mathcal{C}$	<code>\mathcal{ABC}</code>	rsfso10	rsfso
	<i>or</i> <code>\mathscr{ABC}</code>	rsfso10	rsfso with the scr option
$AB\mathcal{C}$	<code>\mathcal{ABC}</code>	urwchancal	urwchancal*
	<i>or</i> <code>\mathscr{ABC}</code>	urwchancal	urwchancal* with the mathscr option
$ABC$	<code>\mathbb{ABC}</code>	msbm10	amsmath, <sup>§</sup> amssymb, txfonts, or pxfonts
$ABC$	<code>\varmathbb{ABC}</code>	txmia	txfonts or pxfonts
$ABCdef123$	<code>\mathbb{ABCdef123}</code>	bbold10	bbold or mathbbol <sup>†</sup>
$ABCdef123$	<code>\mathbb{ABCdef123}</code>	mbb10	mbboard <sup>†</sup>
$ABCdef12$	<code>\mathbbm{ABCdef12}</code>	bbm10	bbm
$ABCdef12$	<code>\mathbbmss{ABCdef12}</code>	bbmss10	bbm
$ABCdef12$	<code>\mathbbmtt{ABCdef12}</code>	bbmtt10	bbm
$ABC1$	<code>\mathds{ABC1}</code>	dsrom10	dsfont
$ABC1$	<code>\mathds{ABC1}</code>	dsss10	dsfont with the sans option
$ABCdef123$	<code>\mathbb{ABCdef123}</code>	DSSerif	dsfont
$ABCdef123$	<code>\mathbb{ABCdef123}</code>	DSSerif-Bold	dsfont
$ABC$	<code>\symA\symB\symC</code>	china10	Q <sub>A</sub> 2e <sup>‡</sup>
$\frac{ABCdef123}{ABCdef123}$	<code>\mathfrak{ABCdef123}</code>	eufm10	eufrak
$\frac{ABCdef123}{ABCdef123}$	<code>\textfrak{ABCdef123}</code>	yfrak	yfonts <sup>¶</sup>
$\frac{ABCdef123}{ABCdef123}$	<code>\textswab{ABCdef123}</code>	yswab	yfonts <sup>¶</sup>
$\frac{ABCdef123}{ABCdef123}$	<code>\textgoth{ABCdef123}</code>	ygoth	yfonts <sup>¶</sup>

The “T<sub>E</sub>X font” column lists the underlying T<sub>E</sub>X font (or, more accurately, the .tfm file) that provides the math alphabet. See the corresponding table in the associated Raw Font Tables document for the math alphabet’s complete character set.

\* `urwchancal` redefines `\mathcal` or `\mathscr` to use Zapf Chancery as the calligraphic or script font. However, like all `\mathcal` and `\mathscr` commands shown in Table 416, these support only uppercase letters. An alternative is to put “`\DeclareMathAlphabet{\mathpzc}{T1}{pzc}{m}{it}`” in your document’s preamble to make `\mathpzc` typeset a wider set of characters in Zapf Chancery. Unfortunately, with this technique accents, superscripts, and subscripts don’t align as well as they do with `urwchancal`.

As a similar trick, you can typeset the Calligra font’s script “z” (or other calligraphic symbols) in math mode by loading the `calligra` package and putting “`\DeclareMathAlphabet{\mathcalligra}{T1}{calligra}{m}{n}`” in your document’s preamble to make `\mathcalligra` typeset its argument in the Calligra font. You may also want to specify “`\DeclareFontShape{T1}{calligra}{m}{n}{<->s*[2.2]callig15}{}`” to set Calligra at 2.2 times its design size for a better blend with typical body fonts.

† The `mathbbol` package defines some additional blackboard bold characters: parentheses, square brackets, angle brackets, and—if the `bbgreekl` option is passed to `mathbbol`—Greek letters. For instance, “ $\langle [[\alpha\beta\gamma]] \rangle$ ” is produced by “`\mathbb{\Langle\lbrack\lparen\bbalpha\bbbeta\bbgamma\Rparen\rbrack\Rangle}`”.

`mboard` extends the blackboard bold symbol set significantly further. It supports not only the Greek alphabet—including “Greek-like” symbols such as `\bbnabla` (“ $\nabla$ ”)—but also *all* punctuation marks, various currency symbols such as `\bbdollar` (“\$”) and `\bbeuro` (“€”), and the Hebrew alphabet (e.g., “`\bbfinalnun\byod\bbqof\bbpe`” → “פךף”).

‡ The `\sym_____` commands provided by the `GiNA2e` package are actually text-mode commands. They are included in Table 416 because they resemble the blackboard-bold symbols that appear in the rest of the table. In addition to the 26 letters of the English alphabet, `GiNA2e` provides three unlauded blackboard-bold letters: `\symAE` (“ $\mathbb{A}$ ”), `\symOE` (“ $\mathbb{O}$ ”), and `\symUE` (“ $\mathbb{U}$ ”). Note that `GiNA2e` does provide math-mode commands for the most common number-set symbols. These are presented in Table 266 on page 125.

¶ As their `\text{...}` names imply, the fonts provided by the `yfonts` package are actually text fonts. They are included in Table 416 because they are frequently used in a mathematical context.

§ An older (i.e., prior to 1991) version of the  $\mathcal{AMS}$ ’s fonts rendered  $\mathbb{C}$ ,  $\mathbb{N}$ ,  $\mathbb{R}$ ,  $\mathbb{S}$ , and  $\mathbb{Z}$  as  $\mathbb{C}$ ,  $\mathbb{N}$ ,  $\mathbb{R}$ ,  $\mathbb{S}$ , and  $\mathbb{Z}$ . As some people prefer the older glyphs—much to the  $\mathcal{AMS}$ ’s surprise—and because those glyphs fail to build under modern versions of METAFONT, Berthold Horn uploaded PostScript fonts for the older blackboard-bold glyphs to CTAN, to the `fonts/msym10` directory. As of this writing, however, there are no  $\text{\LaTeX} 2_{\epsilon}$  packages for utilizing the now-obsolete glyphs.



## Chapter 4

# Science and technology symbols

This chapter lists symbols that are employed in various branches of science and engineering as well as symbols illustrating various forms of technology such as transportation and computing.

TABLE 417: gensymb Symbols Defined to Work in Both Math and Text Mode

$^{\circ}\text{C}$	<code>\celsius</code>	$\mu$	<code>\micro</code>	$\%$	<code>\perthousand</code>
$^{\circ}$	<code>\degree</code>	$\Omega$	<code>\ohm</code>		

TABLE 418: wasysym Electrical and Physical Symbols

$\sim$	<code>\AC</code>	$\approx$	<code>\VHF</code>	$\sim\sim\sim$	<code>\photon</code>	$\approx$	<code>\HF</code>	$\sim\sim\sim\sim\sim\sim$	<code>\gluon</code>
--------	------------------	-----------	-------------------	----------------	----------------------	-----------	------------------	----------------------------	---------------------

TABLE 419: ifsym Pulse Diagram Symbols

$\lrcorner$	<code>\FallingEdge</code>	$\llcorner$	<code>\LongPulseLow</code>	$\lrcorner$	<code>\PulseLow</code>	$\llcorner$	<code>\ShortPulseHigh</code>
$\llcorner$	<code>\LongPulseHigh</code>	$\llcorner$	<code>\PulseHigh</code>	$\lrcorner$	<code>\RaisingEdge</code>	$\lrcorner$	<code>\ShortPulseLow</code>

See the ifsym package note on page 453.

TABLE 420: ar Aspect Ratio Symbol

$\mathcal{R}$	<code>\AR</code>
---------------	------------------

TABLE 421: plimsoll Plimsoll Symbol

$\oplus$	<code>\plimsoll</code>
----------	------------------------

TABLE 422: textcomp Text-mode Science and Engineering Symbols

°C `\textcelsius`    Ω `\textmho`    μ `\textmu`    Ω `\textohm`

TABLE 423: steinmetz Extensible Phasor Symbol

$\angle abc$  `\phase{abc}`

See the `steinmetz` package note on page 458.

TABLE 424: emf Electromotive Force Symbols

$\mathcal{E}$  `\emf` with package option `boondox` (default)  
 $\mathcal{E}$  `\emf` with package option `cal`\*  
 $\mathcal{E}$  `\emf` with package option `calligra`  
 $\mathcal{E}$  `\emf` with package option `chorus`  
 $\mathcal{E}$  `\emf` with package option `cmr`  
 $\mathcal{E}$  `\emf` with package option `fourier`  
 $\mathcal{E}$  `\emf` with package option `frursive`  
 $\mathcal{E}$  `\emf` with package option `miama`  
 $\mathcal{E}$  `\emf` with package option `rsfs`

\* With the `cal` package option, `\emf` uses `\mathcal{cal}`. Hence, the depiction of “E” depends on the currently loaded math font.

TABLE 425: wasysym Astronomical Symbols

♿	<code>\mercury</code>	♁	<code>\earth</code>	♃	<code>\jupiter</code>	♅	<code>\uranus</code>	♇	<code>\pluto</code>
♀	<code>\venus</code>	♂	<code>\mars</code>	♄	<code>\saturn</code>	♆	<code>\neptune</code>		
☉	<code>\astrosun</code>	☾	<code>\fullmoon</code>	☾	<code>\leftmoon</code>	●	<code>\newmoon</code>	☾	<code>\rightmoon</code>
♈	<code>\aries</code>	♋	<code>\cancer</code>	♎	<code>\libra</code>	♊	<code>\aquarius</code>		
♉	<code>\taurus</code>	♌	<code>\leo</code>	♏	<code>\scorpio</code>	♐	<code>\capricornus</code>		
♊	<code>\gemini</code>	♍	<code>\virgo</code>	♐	<code>\sagittarius</code>	♑	<code>\pisces</code>		
♊	<code>\ascnode</code>	♋	<code>\descnode</code>	♋	<code>\conjunction</code>	♋	<code>\opposition</code>	♋	<code>\vernal</code>

TABLE 426: marvosym Astronomical Symbols

♿	<code>\Mercury</code>	♁	<code>\Earth</code>	♃	<code>\Jupiter</code>	♅	<code>\Uranus</code>	♇	<code>\Pluto</code>
♀	<code>\Venus</code>	♂	<code>\Mars</code>	♄	<code>\Saturn</code>	♆	<code>\Neptune</code>		
☾	<code>\Moon</code>	☼	<code>\Sun</code>						
♈	<code>\Aries</code>	♋	<code>\Cancer</code>	♎	<code>\Libra</code>	♏	<code>\Capricorn</code>		
♉	<code>\Taurus</code>	♌	<code>\Leo</code>	♏	<code>\Scorpio</code>	♐	<code>\Aquarius</code>		
♊	<code>\Gemini</code>	♍	<code>\Virgo</code>	♐	<code>\Sagittarius</code>	♑	<code>\Pisces</code>		

Note that `\Aries... \Pisces` can also be specified with `\Zodiac{1}... \Zodiac{12}`.

TABLE 427: mathabx Astronomical Symbols

♿	<code>\Mercury</code>	♁	<code>\Earth</code>	♃	<code>\Jupiter</code>	♅	<code>\Uranus</code>	♇	<code>\Pluto</code>
♀	<code>\Venus</code>	♂	<code>\Mars</code>	♄	<code>\Saturn</code>	♆	<code>\Neptune</code>	♁	<code>\varEarth</code>
☾	<code>\fullmoon</code>	☾	<code>\leftmoon</code>	●	<code>\newmoon</code>	☾	<code>\rightmoon</code>	☼	<code>\Sun</code>
♈	<code>\Aries</code>	♉	<code>\Taurus</code>	♊	<code>\Gemini</code>				

`mathabx` also defines `\girl` as an alias for `\Venus`, `\boy` as an alias for `\Mars`, and `\Moon` as an alias for `\leftmoon`.

TABLE 428: stix Astronomical Symbols









































































☼	<code>\astrosun</code>	☾	<code>\leftmoon</code>	☾	<code>\rightmoon</code>	☼	<code>\sun</code>
---	------------------------	---	------------------------	---	-------------------------	---	-------------------

TABLE 429: symbats3 Astronomical Symbols

♿	<code>\mercury</code>	♃	<code>\jupiter</code>	♇	<code>\pluto</code>
♀	<code>\venus</code>	♄	<code>\saturn</code>	♅	<code>\varuranus</code>
♁	<code>\earth</code>	♅	<code>\uranus</code>		
♂	<code>\mars</code>	♆	<code>\neptune</code>		
♆	<code>\neptuneformtwo</code>	♇	<code>\plutoformthree</code>	♇	<code>\plutoformfive</code>

(continued on next page)

*(continued from previous page)*

	<code>\plutoformtwo</code>		<code>\plutoformfour</code>		
	<code>\admetos</code>		<code>\kronos</code>		<code>\vulcanus</code>
	<code>\apollon</code>		<code>\poseidon</code>		<code>\zeus</code>
	<code>\cupido</code>		<code>\proserpina</code>		
	<code>\hades</code>		<code>\transpluto</code>		
	<code>\moonfirstquarteroutline</code>		<code>\moonwaxfullwaneoutline</code>		<code>\suneightspokes</code>
	<code>\moonfirstquartersolid</code>		<code>\moonwaxfullwanesolid</code>		<code>\sunfourdoublespokes</code>
	<code>\moonfull</code>		<code>\moonwaxingoutline</code>		<code>\sunfourspokes</code>
	<code>\moonlastquarteroutline</code>		<code>\moonwaxingsolid</code>		<code>\sunrays</code>
	<code>\moonlastquartersolid</code>		<code>\sun</code>		<code>\sunthreedoublespokes</code>
	<code>\moonnew</code>		<code>\suncorona fourspokes</code>		<code>\sunwithrays</code>
	<code>\moonwaningoutline</code>		<code>\suncoronahub fourspokes</code>		<code>\sunwithrays fourspokes</code>
	<code>\moonwaningsolid</code>		<code>\suncoronasixspokes</code>		
	<code>\aries</code>		<code>\virgo</code>		<code>\capricorn</code>
	<code>\taurus</code>		<code>\libra</code>		<code>\pisces</code>
	<code>\gemini</code>		<code>\scorpio*</code>		<code>\vargemini</code>
	<code>\cancer</code>		<code>\sagittarius</code>		
	<code>\leo</code>		<code>\aquarius</code>		
	<code>\astraea</code>		<code>\hygiea</code>		<code>\pallas</code>
	<code>\ceres</code>		<code>\juno</code>		<code>\vesta</code>
	<code>\chiron</code>		<code>\nessus</code>		<code>\pholus</code>
	<code>\ascendingnode</code>		<code>\octile</code>		<code>\semisextile</code>
	<code>\blackdiamondoncross</code>		<code>\opposition</code>		<code>\sesquiquadrate</code>
	<code>\blackmoonliliith</code>		<code>\prescription*</code>		<code>\sextile</code>
	<code>\conjunction</code>		<code>\quincunx</code>		<code>\square</code>
	<code>\descendingnode</code>		<code>\selena</code>		<code>\truelightmoonarta</code>

See the `symbats3` package note on page 458.
















\* `symbats3` defines `\scorpius` as a synonym for `\scorpio` and `\recipe` as a synonym for `\prescription`.

TABLE 431: utfsym Astronomical Symbols

	<code>\usym{263F}</code>	<i>Mercury</i>		<code>\usym{2644}</code>	<i>Saturn</i>
	<code>\usym{2640}</code>	<i>female sign</i>		<code>\usym{2645}</code>	<i>Uranus</i>
	<code>\usym{2641}</code>	<i>Earth</i>		<code>\usym{2646}</code>	<i>Neptune</i>
	<code>\usym{2642}</code>	<i>male sign</i>		<code>\usym{2647}</code>	<i>Pluto</i>
	<code>\usym{2643}</code>	<i>Jupiter</i>		<code>\usym{26E2}</code>	<i>astronomical symbol for Uranus</i>
	<code>\usym{2648}</code>	<i>Aries</i>		<code>\usym{264F}</code>	<i>Scorpius</i>
	<code>\usym{2649}</code>	<i>Taurus</i>		<code>\usym{26CE}</code>	<i>Ophiuchus</i>
	<code>\usym{264A}</code>	<i>Gemini</i>		<code>\usym{2650}</code>	<i>Sagittarius</i>
	<code>\usym{264B}</code>	<i>Cancer</i>		<code>\usym{2651}</code>	<i>Capricorn</i>
	<code>\usym{264C}</code>	<i>Leo</i>		<code>\usym{2652}</code>	<i>Aquarius</i>
	<code>\usym{264D}</code>	<i>Virgo</i>		<code>\usym{2653}</code>	<i>Pisces</i>
	<code>\usym{264E}</code>	<i>Libra</i>			
	<code>\usym{2609}</code>	<i>sun</i>		<code>\usym{1F316}</code>	<i>waning gibbous moon</i>
	<code>\usym{263C}</code>	<i>white sun with rays</i>		<code>\usym{1F317}</code>	<i>last quarter moon</i>
	<code>\usym{263D}</code>	<i>first quarter moon</i>		<code>\usym{1F318}</code>	<i>waning crescent moon</i>
	<code>\usym{263E}</code>	<i>last quarter moon</i>		<code>\usym{1F319}</code>	<i>crescent moon</i>
	<code>\usym{1F311}</code>	<i>new moon</i>		<code>\usym{1F31A}</code>	<i>new moon with face</i>
	<code>\usym{1F312}</code>	<i>waxing crescent moon</i>		<code>\usym{1F31B}</code>	<i>first quarter moon with face</i>
	<code>\usym{1F313}</code>	<i>first quarter moon</i>		<code>\usym{1F31C}</code>	<i>last quarter moon with face</i>
	<code>\usym{1F314}</code>	<i>waxing gibbous moon</i>		<code>\usym{1F31D}</code>	<i>full moon with face</i>
	<code>\usym{1F315}</code>	<i>full moon</i>		<code>\usym{1F31E}</code>	<i>sun with face</i>
	<code>\usym{26B3}</code>	<i>Ceres</i>		<code>\usym{26B5}</code>	<i>Juno</i>
	<code>\usym{26B4}</code>	<i>Pallas</i>		<code>\usym{26B6}</code>	<i>Vesta</i>
	<code>\usym{260A}</code>	<i>ascending node</i>		<code>\usym{26B9}</code>	<i>sextile</i>
	<code>\usym{260B}</code>	<i>descending node</i>		<code>\usym{26BA}</code>	<i>semisextile</i>
	<code>\usym{260C}</code>	<i>conjunction</i>		<code>\usym{26BB}</code>	<i>quincunx</i>
	<code>\usym{260D}</code>	<i>opposition</i>		<code>\usym{26BC}</code>	<i>sesquiquadrate</i>
	<code>\usym{26B7}</code>	<i>Chiron</i>		<code>\usym{1F31F}</code>	<i>glowing star</i>
	<code>\usym{26B8}</code>	<i>black moon Lilith</i>		<code>\usym{1F320}</code>	<i>shooting star</i>



































































See the utfsym package note on page 461.

TABLE 433: twemojis Astronomical Symbols

	<code>\twemoji{Aries}</code>		<code>\twemoji{Leo}</code>		<code>\twemoji{Sagittarius}</code>
	<code>\twemoji{Taurus}</code>		<code>\twemoji{Virgo}</code>		<code>\twemoji{Aquarius}</code>
	<code>\twemoji{Gemini}</code>		<code>\twemoji{Libra}</code>		<code>\twemoji{Capricorn}</code>
	<code>\twemoji{Cancer}</code>		<code>\twemoji{scorpius}</code>		<code>\twemoji{Pisces}</code>
	<code>\twemoji{milky way}</code>		<code>\twemoji{Ophiuchus}</code>		<code>\twemoji{ringed planet}</code>

See the twemojis package note on page 460.

TABLE 434: starfont Astronomical Symbols

	<code>\Mercury</code>		<code>\Mars</code>		<code>\Uranus</code>		<code>\varTerra</code>
	<code>\Venus</code>		<code>\Jupiter</code>		<code>\Neptune</code>		<code>\varUranus</code>
	<code>\Terra</code>		<code>\Saturn</code>		<code>\Pluto</code>		<code>\varPluto</code>
	<code>\Sun</code>		<code>\Moon</code>		<code>\varMoon</code>		
	<code>\Cupido</code>		<code>\Zeus</code>		<code>\Apollon</code>		<code>\Vulkanus</code>
	<code>\Hades</code>		<code>\Kronos</code>		<code>\Admetos</code>		<code>\Poseidon</code>
	<code>\Lilith</code>		<code>\NorthNode</code>		<code>\SouthNode</code>		
	<code>\Amor</code>		<code>\Eros</code>		<code>\Juno</code>		<code>\Sappho</code>
	<code>\Ceres</code>		<code>\Hidalgo</code>		<code>\Pallas</code>		<code>\Vesta</code>
	<code>\Chiron</code>		<code>\Hygiea</code>		<code>\Psyche</code>		
	<code>\Fortune</code>						
	<code>\Aries</code>		<code>\Leo</code>		<code>\Sagittarius</code>		<code>\varCapricorn</code>
	<code>\Taurus</code>		<code>\Virgo</code>		<code>\Capricorn</code>		
	<code>\Gemini</code>		<code>\Libra</code>		<code>\Aquarius</code>		
	<code>\Cancer</code>		<code>\Scorpio</code>		<code>\Pisces</code>		
	<code>\Conjunction</code>		<code>\Square</code>		<code>\Semisextile</code>		
	<code>\Opposition</code>		<code>\Sextile</code>		<code>\Semisquare</code>		
	<code>\Trine</code>		<code>\Quincunx</code>		<code>\Sesquiquadrate</code>		
	<code>\ASC</code>		<code>\EastPoint</code>		<code>\MC</code>		
	<code>\DSC</code>		<code>\IC</code>		<code>\Vertex</code>		

(continued on next page)

(continued from previous page)

D <sup>†</sup>	<code>\Direct</code>	R <sub>x</sub>	<code>\Retrograde</code>	S <sup>†</sup>	<code>\Station</code>
N <sup>†</sup>	<code>\Natal</code>	★	<code>\Pentagram</code>	R <sup>ad</sup>	<code>\Radix</code>

TABLE 436: `sybats3` Symbols for Classical Elements

	<code>\airelement</code>		<code>\earthelement</code>		<code>\fireelement</code>		<code>\waterelement</code>
--	--------------------------	--	----------------------------	--	---------------------------	--	----------------------------

See the `sybats3` package note on page 458.

TABLE 437: `starfont` Symbols for Classical Elements

	<code>\Air</code>		<code>\Earth</code>		<code>\Fire</code>		<code>\Water</code>
--	-------------------	--	---------------------	--	--------------------	--	---------------------

TABLE 438: `wasysym` APL Symbols

	<code>\APLbox</code>		<code>\APLinv</code>	*	<code>\APLstar</code>
⍷	<code>\APLcomment</code>		<code>\APLleftarrowbox</code>	△	<code>\APLup</code>
▽	<code>\APLdown</code>	⊕	<code>\APLlog</code>	⬆	<code>\APLuparrowbox</code>
⬇	<code>\APLdownarrowbox</code>	−	<code>\APLminus</code>	↗	<code>\notbackslash</code>
⬅	<code>\APLinput</code>	➡	<code>\APLrightarrowbox</code>	≠	<code>\notslash</code>
∘	<code>\APLcirc{a}</code>	⊘	<code>\APLnot{a}</code>	⋮	<code>\APLvert{a}</code>

TABLE 439: `stix` APL Symbols

	<code>\APLboxquestion</code>	↗	<code>\APLnotbackslash</code>
	<code>\APLboxupcaret</code>	≠	<code>\APLnotslash</code>

TABLE 440: apl APL Symbols

	\AB	∇	\DD	∇	\GD	⊢	\LK	⌈	\PD	↑	\UA	<i>g</i>	\ZG	<i>Q</i>	\ZQ
α	\AM	⊥	\DE	≥	\GE	○	\LO	□	\QQ	—	\US	<i>H</i>	\ZH	<i>R</i>	\ZR
\	\BL	∇	\DL	→	\GO	⊃	\LU	}	\RB	∪	\UU	<i>I</i>	\ZI	<i>S</i>	\ZS
□	\BX	◇	\DM	Δ	\GU	≠	\NE	⊢	\RK	⊕	\XQ	<i>J</i>	\ZJ	<i>T</i>	\ZT
\	\CB	⊞	\DQ	±	\IB	—	\NG	ρ	\RO	<i>A</i>	\ZA	<i>K</i>	\ZK	<i>U</i>	\ZU
⌈	\CE	∩	\DU	⌈	\IO	⋆	\NN	⊂	\RU	<i>B</i>	\ZB	<i>L</i>	\ZL	<i>V</i>	\ZV
⊃	\CO	⊃	\EN	{	\LB	⋈	\NR	φ	\RV	<i>C</i>	\ZC	<i>M</i>	\ZM	<i>W</i>	\ZW
○	\CR	∈	\EP	Δ	\LD	~	\NT	◦	\SO	<i>D</i>	\ZD	<i>N</i>	\ZN	<i>X</i>	\ZX
/	\CS	⊥	\FL	≤	\LE	ω	\OM	⊆	\SS	<i>E</i>	\ZE	<i>Q</i>	\ZO	<i>Y</i>	\ZY
↓	\DA	⊗	\FM	⊗	\LG	∇	\OR	⊗	\TR	<i>F</i>	\ZF	<i>P</i>	\ZP	<i>Z</i>	\ZZ

TABLE 441: keystroke Computer Keys

	\Alt		\Enter*		\PrtSc*
	\AltGr		\Esc*		\RArrow
	\Break*		\Home*		\Return
	\BSpace <sup>†</sup>		\Ins*		\Scroll*
	\Ctrl*		\LArrow		\Shift*
	\DArrow		\NumLock		\Spacebar
	\Del*		\PgDown*		\Tab <sup>†</sup>
	\End*		\PgUp*		\UArrow

The `\keystroke` command draws a key with an arbitrary label. For example, “`\keystroke{F7}`” produces “”.

\* Changes based on the language option passed to the `keystroke` package. For example, the `german` option makes `\Del` produce “” instead of “”.

<sup>†</sup> These symbols utilize the `rotating` package and therefore display improperly in most DVI viewers.


























TABLE 442: ascii Control Characters (CP437)

⊙	\SOH	■	\BS	⊛	\SI	—	\SYN	↔	\GS
⊕	\STX	○	\HT	►	\DLE	‡	\ETB	▲	\RS
♥	\ETX	◼	\LF	◄	\DCa	↑	\CAN	—	\US
♦	\EOT	♂	\VT	‡	\DCb	↓	\EM		
♣	\ENQ	♀	\FF	!!	\DCc	→	\SUB		
♠	\ACK	○	\CR	¶	\DCd	←	\ESC		
•	\BEL	◦	\SO	§	\NAK	⌞	\FS		
△	\DEL	⋈	\NBSP	⋈	\NUL	‡	\splitvert		

See the `ascii` package note on page 450.



TABLE 443: logic Logic Gates

	<code>\ANDd</code>		<code>\BUFu</code>		<code>\NANDl</code>		<code>\ORd</code>
	<code>\ANDl</code>		<code>\BusWidth</code>		<code>\NANDr</code>		<code>\ORl</code>
	<code>\ANDr</code>		<code>\INVd</code>		<code>\NANDu</code>		<code>\ORr</code>
	<code>\ANDu</code>		<code>\INVl</code>		<code>\NORd</code>		<code>\ORu</code>
	<code>\BUFd</code>		<code>\INVR</code>		<code>\NORl</code>		
	<code>\BUF1</code>		<code>\INVu</code>		<code>\NORr</code>		
	<code>\BUFr</code>		<code>\NANDd</code>		<code>\NORu</code>		

See the logic package note on page 454.

TABLE 444: quantikz Quantum-Mechanics Notation

$\langle a $	<code>\bra{a}</code>	$ a\rangle$	<code>\ket{a}</code>
$\langle a b\rangle$	<code>\braket{a}{b}</code>	$ a\rangle\langle a $	<code>\proj{a}</code>

All of these symbols work in both text and math mode and scale automatically to fit their argument(s).

TABLE 445: marvosym Communication Symbols











	<code>\Email</code>		<code>\FAX</code>		<code>\fax</code>		<code>\Lightning</code>		<code>\Pickup</code>
	<code>\EmailCT</code>		<code>\Fax</code>		<code>\Letter</code>		<code>\Mobilefone</code>		<code>\Telefon</code>

TABLE 446: marvosym Engineering Symbols


































	<code>\Beam</code>		<code>\HexaSteel</code>		<code>\OktoSteel</code>		<code>\RoundedTTSteel</code>
	<code>\Bearing</code>		<code>\LeftTorque</code>		<code>\RectPipe</code>		<code>\SquarePipe</code>
	<code>\CircPipe</code>		<code>\Lineload</code>		<code>\RectSteel</code>		<code>\SquareSteel</code>
	<code>\CircSteel</code>		<code>\LooseBearing</code>		<code>\RightTorque</code>		<code>\TSteel</code>
	<code>\FixedBearing</code>		<code>\LSteel</code>		<code>\RoundedLSteel</code>		<code>\TTSteel</code>
	<code>\FlatSteel</code>		<code>\MVArrowDown</code>		<code>\RoundedTSteel</code>		<code>\Valve</code>

TABLE 447: lucide-icons Science and Engineering Symbols

	<code>\lucideicon{atom}</code>		<code>\lucideicon{eclipse}</code>
	<code>\lucideicon{audio-lines}</code>		<code>\lucideicon{orbit}</code>
	<code>\lucideicon{audio-waveform}</code>		<code>\lucideicon{radar}</code>
	<code>\lucideicon{dna}</code>		<code>\lucideicon{radio}</code>
	<code>\lucideicon{dna-off}</code>		

See the `lucide-icons` package note on page 454.

TABLE 448: marvosym Computer Device Symbols










	<code>\ComputerMouse</code>		<code>\ParallelPort</code>		<code>\SerialInterface</code>
	<code>\Keyboard</code>		<code>\Printer</code>		<code>\SerialPort</code>

TABLE 449: asapsym Computer and Mobile Device Symbols

	<code>\asapMobilePhone</code>		<code>\asapMonitor</code>		<code>\asapTablet</code>
-------------------------------------------------------------------------------------	-------------------------------	-------------------------------------------------------------------------------------	---------------------------	--------------------------------------------------------------------------------------	--------------------------






















See the `asapsym` package note on page 450.

TABLE 450: typicons Computer and Mobile Device Symbols

	<code>\tiDeviceDesktop</code>		<code>\tiDeviceTablet</code>
	<code>\tiDeviceLaptop</code>		<code>\tiKeyboard</code>
	<code>\tiDevicePhone</code>		<code>\tiPrinter</code>



























See the `typicons` package note on page 460.

TABLE 451: fontawesome7 Computer and Mobile Device Symbols

	<code>\faComputer</code>		<code>\faMicrochip</code>
	<code>\faComputerMouse*</code>		<code>\faMobile</code>
	<code>\faDisplay</code>		<code>\faMobileButton</code>
	<code>\faFloppyDisk*</code>		<code>\faMobileRetro</code>
	<code>\faFloppyDisk[regular]*</code>		<code>\faMobileScreen</code>
	<code>\faHardDrive</code>		<code>\faMobileScreenButton</code>
	<code>\faHardDrive[regular]</code>		<code>\faMobileVibrate</code>
	<code>\faKeyboard</code>		<code>\faTablet</code>
	<code>\faKeyboard[regular]</code>		<code>\faTabletButton</code>
	<code>\faLaptop</code>		<code>\faTabletScreenButton</code>
	<code>\faMemory</code>		





















































\* In fontawesome5, `\faFloppyDisk` was called `\faSave`, and `\faComputerMouse` was called `\faMouse`.

TABLE 452: lucide-icons Computer and Technology Symbols

	<code>\lucideicon{barcode}</code>		<code>\lucideicon{monitor-up}</code>
	<code>\lucideicon{bluetooth}</code>		<code>\lucideicon{monitor-x}</code>
	<code>\lucideicon{bluetooth-connected}</code>		<code>\lucideicon{mouse}</code>
	<code>\lucideicon{bluetooth-off}</code>		<code>\lucideicon{mouse-off}</code>
	<code>\lucideicon{bluetooth-searching}</code>		<code>\lucideicon{network}</code>
	<code>\lucideicon{cable}</code>		<code>\lucideicon{nfc}</code>
	<code>\lucideicon{calculator}</code>		<code>\lucideicon{pc-case}</code>
	<code>\lucideicon{camera}</code>		<code>\lucideicon{printer}</code>
	<code>\lucideicon{camera-off}</code>		<code>\lucideicon{printer-check}</code>
	<code>\lucideicon{card-sim}</code>		<code>\lucideicon{projector}</code>
	<code>\lucideicon{cassette-tape}</code>		<code>\lucideicon{qr-code}</code>
	<code>\lucideicon{circuit-board}</code>		<code>\lucideicon{radio-receiver}</code>
	<code>\lucideicon{computer}</code>		<code>\lucideicon{router}</code>
	<code>\lucideicon{cpu}</code>		<code>\lucideicon{rss}</code>
	<code>\lucideicon{disc}</code>		<code>\lucideicon{server}</code>
	<code>\lucideicon{disc-2}</code>		<code>\lucideicon{server-cog}</code>
	<code>\lucideicon{disc-3}</code>		<code>\lucideicon{server-crash}</code>
	<code>\lucideicon{disc-album}</code>		<code>\lucideicon{server-off}</code>
	<code>\lucideicon{ethernet-port}</code>		<code>\lucideicon{signal}</code>
	<code>\lucideicon{gamepad}</code>		<code>\lucideicon{signal-high}</code>
	<code>\lucideicon{gamepad-2}</code>		<code>\lucideicon{signal-low}</code>
	<code>\lucideicon{gpu}</code>		<code>\lucideicon{signal-medium}</code>
	<code>\lucideicon{hard-drive}</code>		<code>\lucideicon{signal-zero}</code>















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	<code>\lucideicon{hard-drive-download}</code>		<code>\lucideicon{smartphone}</code>
	<code>\lucideicon{hard-drive-upload}</code>		<code>\lucideicon{smartphone-charging}</code>
	<code>\lucideicon{hd}</code>		<code>\lucideicon{smartphone-nfc}</code>
	<code>\lucideicon{hdmi-port}</code>		<code>\lucideicon{tablet}</code>
	<code>\lucideicon{headphone-off}</code>		<code>\lucideicon{tablet-smartphone}</code>
	<code>\lucideicon{headphones}</code>		<code>\lucideicon{touchpad}</code>
	<code>\lucideicon{headset}</code>		<code>\lucideicon{touchpad-off}</code>
	<code>\lucideicon{joystick}</code>		<code>\lucideicon{turntable}</code>
	<code>\lucideicon{keyboard}</code>		<code>\lucideicon{tv}</code>
	<code>\lucideicon{keyboard-off}</code>		<code>\lucideicon{tv-minimal}</code>
	<code>\lucideicon{laptop}</code>		<code>\lucideicon{tv-minimal-play}</code>
	<code>\lucideicon{laptop-minimal}</code>		<code>\lucideicon{usb}</code>
	<code>\lucideicon{laptop-minimal-check}</code>		<code>\lucideicon{vibrate}</code>
	<code>\lucideicon{memory-stick}</code>		<code>\lucideicon{vibrate-off}</code>
	<code>\lucideicon{microchip}</code>		<code>\lucideicon{video}</code>
	<code>\lucideicon{monitor}</code>		<code>\lucideicon{video-off}</code>
	<code>\lucideicon{monitor-check}</code>		<code>\lucideicon{videotape}</code>
	<code>\lucideicon{monitor-cloud}</code>		<code>\lucideicon{voicemail}</code>
	<code>\lucideicon{monitor-cog}</code>		<code>\lucideicon{webcam}</code>
	<code>\lucideicon{monitor-dot}</code>		<code>\lucideicon{wifi}</code>
	<code>\lucideicon{monitor-down}</code>		<code>\lucideicon{wifi-cog}</code>
	<code>\lucideicon{monitor-off}</code>		<code>\lucideicon{wifi-high}</code>
	<code>\lucideicon{monitor-pause}</code>		<code>\lucideicon{wifi-low}</code>
	<code>\lucideicon{monitor-play}</code>		<code>\lucideicon{wifi-off}</code>
	<code>\lucideicon{monitor-smartphone}</code>		<code>\lucideicon{wifi-pen}</code>
	<code>\lucideicon{monitor-speaker}</code>		<code>\lucideicon{wifi-sync}</code>
	<code>\lucideicon{monitor-stop}</code>		<code>\lucideicon{wifi-zero}</code>



























See the lucide-icons package note on page 454.

TABLE 454: utfsym Computer and Technology Symbols

	<code>\usym{2707}</code>	<i>tape drive</i>		<code>\usym{1F5A5}</code>	<i>desktop computer</i>
	<code>\usym{1F4BB}</code>	<i>personal computer</i>		<code>\usym{1F5A6}</code>	<i>keyboard and mouse</i>
	<code>\usym{1F4BD}</code>	<i>minidisc</i>		<code>\usym{1F5A7}</code>	<i>three networked computers</i>
	<code>\usym{1F4BE}</code>	<i>floppy disk</i>		<code>\usym{1F5A8}</code>	<i>printer</i>
	<code>\usym{1F4BF}</code>	<i>optical disc</i>		<code>\usym{1F5A9}</code>	<i>pocket calculator</i>
	<code>\usym{1F4C0}</code>	<i>dvd</i>		<code>\usym{1F5AA}</code>	<i>black hard shell floppy disk</i>
	<code>\usym{1F4DF}</code>	<i>pager</i>		<code>\usym{1F5AB}</code>	<i>white hard shell floppy disk</i>
















(continued on next page)

(continued from previous page)

	<code>\usym{1F4E0}</code>	<i>fax machine</i>		<code>\usym{1F5AC}</code>	<i>soft shell floppy disk</i>
	<code>\usym{1F4F1}</code>	<i>mobile phone</i>		<code>\usym{1F5AD}</code>	<i>tape cartridge</i>
	<code>\usym{1F4F2}</code>	<i>mobile phone with rightwards arrow at left</i>		<code>\usym{1F5AE}</code>	<i>wired keyboard</i>
	<code>\usym{1F4F7}</code>	<i>camera</i>		<code>\usym{1F5AF}</code>	<i>one button mouse</i>
	<code>\usym{1F4F8}</code>	<i>camera with flash</i>		<code>\usym{1F5B0}</code>	<i>two button mouse</i>
	<code>\usym{1F4F9}</code>	<i>video camera</i>		<code>\usym{1F5B1}</code>	<i>three button mouse</i>
	<code>\usym{1F4FA}</code>	<i>television</i>		<code>\usym{1F5B2}</code>	<i>trackball</i>
	<code>\usym{1F4FB}</code>	<i>radio</i>		<code>\usym{1F5B3}</code>	<i>old personal computer</i>
	<code>\usym{1F4FC}</code>	<i>videocassette</i>		<code>\usym{1F5B5}</code>	<i>screen</i>
	<code>\usym{1F4FD}</code>	<i>film projector</i>		<code>\usym{1F5B6}</code>	<i>printer icon</i>
	<code>\usym{1F4FE}</code>	<i>portable stereo</i>		<code>\usym{1F5B7}</code>	<i>fax icon</i>
	<code>\usym{1F579}</code>	<i>joystick</i>		<code>\usym{1F5B8}</code>	<i>optical disc icon</i>
	<code>\usym{1F581}</code>	<i>clamshell mobile phone</i>		<code>\usym{1F5B4}</code>	<i>hard disk</i>





See the `utfsym` package note on page 461.

TABLE 456: twemojis Computer and Mobile Device Symbols

	<code>\twemoji{computer}</code>		<code>\twemoji{mobile phone}</code>
	<code>\twemoji{computer disk}</code>		<code>\twemoji{mobile phone off}</code>
	<code>\twemoji{computer mouse}</code>		<code>\twemoji{mobile phone with arrow}</code>
	<code>\twemoji{desktop computer}</code>		<code>\twemoji{optical disk}</code>
	<code>\twemoji{dvd}</code>		<code>\twemoji{pager}</code>
	<code>\twemoji{floppy disk}</code>		<code>\twemoji{printer}</code>
	<code>\twemoji{joystick}</code>		<code>\twemoji{trackball}</code>
	<code>\twemoji{keyboard}</code>		













See the `twemojis` package note on page 460.

TABLE 457: lucide-icons Computer and Game-Controller Keys

	<code>\lucideicon{command}</code>		<code>\lucideicon{gamepad-directional}</code>
	<code>\lucideicon{delete}</code>		<code>\lucideicon{option}</code>








See the `lucide-icons` package note on page 454.

TABLE 458: twemojis Electric Devicesa

	<code>\twemoji{camera}</code>		<code>\twemoji{studio microphone}</code>
	<code>\twemoji{camera with flash}</code>		<code>\twemoji{telephone}</code>
	<code>\twemoji{fax machine}</code>		<code>\twemoji{telephone receiver}</code>
	<code>\twemoji{film projector}</code>		<code>\twemoji{television}</code>
	<code>\twemoji{movie camera}</code>		<code>\twemoji{video camera}</code>
	<code>\twemoji{radio}</code>		<code>\twemoji{video game}</code>










See the twemojis package note on page 460.

TABLE 459: lucide-icons Telephones

	<code>\lucideicon{phone}</code>		<code>\lucideicon{phone-missed}</code>
	<code>\lucideicon{phone-call}</code>		<code>\lucideicon{phone-off}</code>
	<code>\lucideicon{phone-forwarded}</code>		<code>\lucideicon{phone-outgoing}</code>
	<code>\lucideicon{phone-incoming}</code>		

See the lucide-icons package note on page 454.

TABLE 460: utfsym Telephones

	<code>\usym{1F4DE}</code>	<i>telephone receiver</i>		<code>\usym{1F57F}</code>	<i>black touchtone telephone</i>
	<code>\usym{1F57B}</code>	<i>left hand telephone receiver</i>		<code>\usym{1F580}</code>	<i>telephone on top of modem</i>
	<code>\usym{1F57C}</code>	<i>telephone receiver with page</i>		<code>\usym{260E}</code>	<i>black telephone</i>
	<code>\usym{1F57D}</code>	<i>right hand telephone receiver</i>		<code>\usym{260F}</code>	<i>white telephone</i>
	<code>\usym{1F57E}</code>	<i>white touchtone telephone</i>			

See the utfsym package note on page 461.

TABLE 461: marvosym Media Control Symbols











	<code>\Forward</code>		<code>\MoveDown</code>		<code>\RewindToIndex</code>		<code>\ToTop</code>
	<code>\ForwardToEnd</code>		<code>\MoveUp</code>		<code>\RewindToStart</code>		
	<code>\ForwardToIndex</code>		<code>\Rewind</code>		<code>\ToBottom</code>		

TABLE 462: typicons Media Control Symbols

	<code>\tiEject</code>		<code>\tiMediaRecord</code>
	<code>\tiEjectOutline</code>		<code>\tiMediaRecordOutline</code>
	<code>\tiMediaEject</code>		<code>\tiMediaRewind</code>
	<code>\tiMediaEjectOutline</code>		<code>\tiMediaRewindOutline</code>
	<code>\tiMediaFastForward</code>		<code>\tiMediaStop</code>
	<code>\tiMediaFastForwardOutline</code>		<code>\tiMediaStopOutline</code>
	<code>\tiMediaPause</code>		<code>\tiPower</code>
	<code>\tiMediaPauseOutline</code>		<code>\tiPowerOutline</code>
	<code>\tiMediaPlay</code>		<code>\tiVolume</code>
	<code>\tiMediaPlayOutline</code>		<code>\tiVolumeDown</code>
	<code>\tiMediaPlayReverse</code>		<code>\tiVolumeMute</code>
	<code>\tiMediaPlayReverseOutline</code>		<code>\tiVolumeUp</code>

See the typicons package note on page 460.

TABLE 463: fontawesome7 Media Control Symbols

	<code>\faBackward</code>		<code>\faCircleStop[regular]</code>		<code>\faRepeat</code>
	<code>\faBackwardFast</code>		<code>\faEject</code>		<code>\faStop</code>
	<code>\faBackwardStep</code>		<code>\faForward</code>		<code>\faVolumeHigh</code>
	<code>\faCirclePlay</code>		<code>\faForwardFast</code>		<code>\faVolumeLow</code>
	<code>\faCirclePlay[regular]</code>		<code>\faForwardStep</code>		<code>\faVolumeOff</code>
	<code>\faCircleStop</code>		<code>\faPlay</code>		<code>\faVolumeXmark</code>















Almost all of these symbols had different names in fontawesome5.

TABLE 464: lucide-icons Media Control Symbols

	<code>\lucideicon{circle-pause}</code>		<code>\lucideicon{repeat-2}</code>
	<code>\lucideicon{circle-play}</code>		<code>\lucideicon{rewind}</code>
	<code>\lucideicon{circle-power}</code>		<code>\lucideicon{shuffle}</code>
	<code>\lucideicon{circle-stop}</code>		<code>\lucideicon{skip-back}</code>
	<code>\lucideicon{contrast}</code>		<code>\lucideicon{skip-forward}</code>
	<code>\lucideicon{fast-forward}</code>		<code>\lucideicon{step-back}</code>
	<code>\lucideicon{pause}</code>		<code>\lucideicon{step-forward}</code>
	<code>\lucideicon{play}</code>		<code>\lucideicon{volume}</code>
	<code>\lucideicon{power}</code>		<code>\lucideicon{volume-1}</code>
	<code>\lucideicon{power-off}</code>		<code>\lucideicon{volume-2}</code>
	<code>\lucideicon{repeat}</code>		<code>\lucideicon{volume-off}</code>
	<code>\lucideicon{repeat-1}</code>		<code>\lucideicon{volume-x}</code>


























See the lucide-icons package note on page 454.

TABLE 465: utfsym Media Control Symbols

	<code>\usym{1F500}</code>	<i>twisted rightwards arrows</i>		<code>\usym{1F507}</code>	<i>speaker with cancellation stroke</i>
	<code>\usym{1F501}</code>	<i>clockwise rightwards and leftwards open circle arrows</i>		<code>\usym{1F508}</code>	<i>speaker</i>
	<code>\usym{1F502}</code>	<i>clockwise rightwards and leftwards open circle arrows with circled one overlay</i>		<code>\usym{1F509}</code>	<i>speaker with one sound wave</i>
	<code>\usym{1F503}</code>	<i>clockwise downwards and upwards open circle arrows</i>		<code>\usym{1F50A}</code>	<i>speaker with three sound waves</i>
	<code>\usym{1F504}</code>	<i>anticlockwise downwards and upwards open circle arrows</i>		<code>\usym{1F568}</code>	<i>right speaker</i>
	<code>\usym{1F505}</code>	<i>low brightness</i>		<code>\usym{1F569}</code>	<i>right speaker with one sound wave</i>
	<code>\usym{1F506}</code>	<i>high brightness</i>		<code>\usym{1F56A}</code>	<i>right speaker with three sound waves</i>

See the utfsym package note on page 461.

TABLE 466: twemojis Media Control Symbols

	<code>\twemoji{bright button}</code>		<code>\twemoji{play button}</code>
	<code>\twemoji{counterclockwise arrows button}</code>		<code>\twemoji{play or pause button}</code>
	<code>\twemoji{dim button}</code>		<code>\twemoji{record button}</code>
	<code>\twemoji{downwards button}</code>		<code>\twemoji{repeat button}</code>
	<code>\twemoji{eject button}</code>		<code>\twemoji{repeat single button}</code>
	<code>\twemoji{fast down button}</code>		<code>\twemoji{reverse button}</code>
	<code>\twemoji{fast reverse button}</code>		<code>\twemoji{shuffle tracks button}</code>
	<code>\twemoji{fast up button}</code>		<code>\twemoji{speaker high volume}</code>
	<code>\twemoji{fast-forward button}</code>		<code>\twemoji{speaker low volume}</code>
	<code>\twemoji{last track button}</code>		<code>\twemoji{speaker medium volume}</code>
	<code>\twemoji{muted speaker}</code>		<code>\twemoji{stop button}</code>
	<code>\twemoji{next track button}</code>		<code>\twemoji{upwards button}</code>
	<code>\twemoji{pause button}</code>		

See the twemojis package note on page 460.

TABLE 467: fontawesome7 Plugs












	<code>\faPlug</code>		<code>\faPlugCircleMinus</code>
	<code>\faPlugCircleBolt</code>		<code>\faPlugCirclePlus</code>
	<code>\faPlugCircleCheck</code>		<code>\faPlugCircleXmark</code>
	<code>\faPlugCircleExclamation</code>		











TABLE 468: lucide-icons Plugs

	<code>\lucideicon{plug}</code>		<code>\lucideicon{plug-zap}</code>
	<code>\lucideicon{plug-2}</code>		<code>\lucideicon{unplug}</code>

See the lucide-icons package note on page 454.

TABLE 469: typicons Charts and Graphs

	<code>\tiChartArea</code>		<code>\tiChartLine</code>
	<code>\tiChartAreaOutline</code>		<code>\tiChartLineOutline</code>
	<code>\tiChartBar</code>		<code>\tiChartPie</code>
	<code>\tiChartBarOutline</code>		<code>\tiChartPieOutline</code>

See the typicons package note on page 460.

TABLE 470: fontawesome7 Charts and Graphs




























	<code>\faChartArea</code>		<code>\faChartGantt</code>
	<code>\faChartBar</code>		<code>\faChartLine</code>
	<code>\faChartBar[regular]</code>		<code>\faChartPie</code>
	<code>\faChartColumn</code>		<code>\faChartSimple</code>
	<code>\faChartDiagram</code>		

TABLE 471: lucide-icons Charts and Graphs

	<code>\lucideicon{chart-area}</code>		<code>\lucideicon{chart-gantt}</code>
	<code>\lucideicon{chart-bar}</code>		<code>\lucideicon{chart-line}</code>
	<code>\lucideicon{chart-bar-big}</code>		<code>\lucideicon{chart-network}</code>
	<code>\lucideicon{chart-bar-decreasing}</code>		<code>\lucideicon{chart-no-axes-column}</code>
	<code>\lucideicon{chart-bar-increasing}</code>		<code>\lucideicon{chart-no-axes-column-decreasing}</code>
	<code>\lucideicon{chart-bar-stacked}</code>		<code>\lucideicon{chart-no-axes-column-increasing}</code>
	<code>\lucideicon{chart-candlestick}</code>		<code>\lucideicon{chart-no-axes-combined}</code>
	<code>\lucideicon{chart-column}</code>		<code>\lucideicon{chart-no-axes-gantt}</code>
	<code>\lucideicon{chart-column-big}</code>		<code>\lucideicon{chart-pie}</code>
	<code>\lucideicon{chart-column-decreasing}</code>		<code>\lucideicon{chart-scatter}</code>
	<code>\lucideicon{chart-column-increasing}</code>		<code>\lucideicon{chart-spline}</code>
	<code>\lucideicon{chart-column-stacked}</code>		<code>\lucideicon{square-chart-gantt}</code>

See the lucide-icons package note on page 454.

TABLE 472: utfsym Charts and Graphs

■	<code>\usym{1F4B9}</code>	<i>chart with upwards trend and yen sign</i>	■	<code>\usym{1F4CA}</code>	<i>bar chart</i>
■	<code>\usym{1F4C8}</code>	<i>chart with upwards trend</i>	■	<code>\usym{1F5E0}</code>	<i>stock chart</i>
■	<code>\usym{1F4C9}</code>	<i>chart with downwards trend</i>			

















See the utfsym package note on page 461.

TABLE 473: twemojis Charts and Graphs

	<code>\twemoji{bar chart}</code>		<code>\twemoji{chart increasing}</code>
	<code>\twemoji{chart decreasing}</code>		<code>\twemoji{chart increasing with yen}</code>











See the twemojis package note on page 460.

TABLE 474: lucide-icons Version-Control Symbols

	<code>\lucideicon{git-branch}</code>
	<code>\lucideicon{git-branch-minus}</code>
	<code>\lucideicon{git-branch-plus}</code>
	<code>\lucideicon{git-commit-horizontal}</code>
	<code>\lucideicon{git-commit-vertical}</code>
	<code>\lucideicon{git-compare}</code>
	<code>\lucideicon{git-compare-arrows}</code>
	<code>\lucideicon{git-fork}</code>
	<code>\lucideicon{git-graph}</code>
	<code>\lucideicon{git-merge}</code>
	<code>\lucideicon{git-pull-request}</code>
	<code>\lucideicon{git-pull-request-arrow}</code>
	<code>\lucideicon{git-pull-request-closed}</code>
	<code>\lucideicon{git-pull-request-create}</code>
	<code>\lucideicon{git-pull-request-create-arrow}</code>
	<code>\lucideicon{git-pull-request-draft}</code>

See the lucide-icons package note on page 454.

TABLE 475: lucide-icons Mobile-Device Camera Scans

	<code>\lucideicon{focus}</code>		<code>\lucideicon{scan-heart}</code>
	<code>\lucideicon{scan}</code>		<code>\lucideicon{scan-line}</code>
	<code>\lucideicon{scan-barcode}</code>		<code>\lucideicon{scan-qr-code}</code>
	<code>\lucideicon{scan-eye}</code>		<code>\lucideicon{scan-search}</code>
	<code>\lucideicon{scan-face}</code>		<code>\lucideicon{scan-text}</code>

See the lucide-icons package note on page 454.

TABLE 476: lucide-icons User-Interface Symbols: Layouts and Grids

	<code>\lucideicon{columns-2}</code>		<code>\lucideicon{layout-grid}</code>
	<code>\lucideicon{columns-3}</code>		<code>\lucideicon{layout-list}</code>
	<code>\lucideicon{columns-3-cog}</code>		<code>\lucideicon{layout-panel-left}</code>
	<code>\lucideicon{columns-4}</code>		<code>\lucideicon{layout-panel-top}</code>
	<code>\lucideicon{gallery-horizontal}</code>		<code>\lucideicon{layout-template}</code>
	<code>\lucideicon{gallery-horizontal-end}</code>		<code>\lucideicon{rows-2}</code>
	<code>\lucideicon{gallery-thumbnails}</code>		<code>\lucideicon{rows-3}</code>
	<code>\lucideicon{gallery-vertical}</code>		<code>\lucideicon{rows-4}</code>
	<code>\lucideicon{gallery-vertical-end}</code>		<code>\lucideicon{table}</code>
	<code>\lucideicon{grid-2x2}</code>		<code>\lucideicon{table-2}</code>
	<code>\lucideicon{grid-2x2-check}</code>		<code>\lucideicon{table-cells-merge}</code>
	<code>\lucideicon{grid-2x2-plus}</code>		<code>\lucideicon{table-cells-split}</code>
	<code>\lucideicon{grid-2x2-x}</code>		<code>\lucideicon{table-columns-split}</code>
	<code>\lucideicon{grid-3x2}</code>		<code>\lucideicon{table-properties}</code>
	<code>\lucideicon{grid-3x3}</code>		<code>\lucideicon{table-rows-split}</code>
	<code>\lucideicon{layout-dashboard}</code>		

See the lucide-icons package note on page 454.

TABLE 477: lucide-icons User-Interface Symbols: Lists

	<code>\lucideicon{list}</code>		<code>\lucideicon{list-minus}</code>
	<code>\lucideicon{list-check}</code>		<code>\lucideicon{list-music}</code>
	<code>\lucideicon{list-checks}</code>		<code>\lucideicon{list-ordered}</code>
	<code>\lucideicon{list-chevron-down-up}</code>		<code>\lucideicon{list-plus}</code>
	<code>\lucideicon{list-chevron-up-down}</code>		<code>\lucideicon{list-restart}</code>
	<code>\lucideicon{list-collapse}</code>		<code>\lucideicon{list-start}</code>
	<code>\lucideicon{list-end}</code>		<code>\lucideicon{list-todo}</code>
	<code>\lucideicon{list-filter}</code>		<code>\lucideicon{list-tree}</code>
	<code>\lucideicon{list-filter-plus}</code>		<code>\lucideicon{list-video}</code>
	<code>\lucideicon{list-indent-decrease}</code>		<code>\lucideicon{list-x}</code>
	<code>\lucideicon{list-indent-increase}</code>		










See the lucide-icons package note on page 454.

TABLE 478: lucide-icons User-Interface Symbols: Batteries

	<code>\lucideicon{battery}</code>		<code>\lucideicon{battery-medium}</code>
	<code>\lucideicon{battery-charging}</code>		<code>\lucideicon{battery-plus}</code>
	<code>\lucideicon{battery-full}</code>		<code>\lucideicon{battery-warning}</code>
	<code>\lucideicon{battery-low}</code>		














See the lucide-icons package note on page 454.

TABLE 479: lucide-icons User-Interface Symbols: Images

	<code>\lucideicon{image}</code>		<code>\lucideicon{image-plus}</code>
	<code>\lucideicon{image-down}</code>		<code>\lucideicon{image-up}</code>
	<code>\lucideicon{image-minus}</code>		<code>\lucideicon{image-upscale}</code>
	<code>\lucideicon{image-off}</code>		<code>\lucideicon{images}</code>
	<code>\lucideicon{image-play}</code>		












See the lucide-icons package note on page 454.

TABLE 480: lucide-icons User-Interface Symbols: Text Formatting

<b>AA</b>	<code>\lucideicon{a-large-small}</code>		<code>\lucideicon{remove-formatting}</code>
<b>A</b>	<code>\lucideicon{baseline}</code>		<code>\lucideicon{spell-check}</code>
<b>B</b>	<code>\lucideicon{bold}</code>		<code>\lucideicon{spell-check-2}</code>
<b>ob</b>	<code>\lucideicon{case-lower}</code>		<code>\lucideicon{strikethrough}</code>
<b>Ao</b>	<code>\lucideicon{case-sensitive}</code>	$x_2$	<code>\lucideicon{subscript}</code>
<b>AB</b>	<code>\lucideicon{case-upper}</code>	$x^2$	<code>\lucideicon{superscript}</code>
<b>H</b>	<code>\lucideicon{heading}</code>		<code>\lucideicon{text-cursor}</code>
<b>H1</b>	<code>\lucideicon{heading-1}</code>		<code>\lucideicon{text-initial}</code>
<b>H2</b>	<code>\lucideicon{heading-2}</code>		<code>\lucideicon{text-quote}</code>
<b>H3</b>	<code>\lucideicon{heading-3}</code>		<code>\lucideicon{text-search}</code>
<b>H4</b>	<code>\lucideicon{heading-4}</code>		<code>\lucideicon{text-select}</code>
<b>H5</b>	<code>\lucideicon{heading-5}</code>		<code>\lucideicon{text-wrap}</code>
<b>H6</b>	<code>\lucideicon{heading-6}</code>	<b>T</b>	<code>\lucideicon{type}</code>
<i>I</i>	<code>\lucideicon{italic}</code>		<code>\lucideicon{type-outline}</code>
<b>fi</b>	<code>\lucideicon{ligature}</code>	<u>U</u>	<code>\lucideicon{underline}</code>
	<code>\lucideicon{pilcrow-left}</code>	<b>ab</b>	<code>\lucideicon{whole-word}</code>
	<code>\lucideicon{pilcrow-right}</code>		















See the lucide-icons package note on page 454.

TABLE 481: lucide-icons User-Interface Symbols: Cursors

	<code>\lucideicon{loader}</code>		<code>\lucideicon{mouse-pointer-ban}</code>
	<code>\lucideicon{loader-circle}</code>		<code>\lucideicon{mouse-pointer-click}</code>
	<code>\lucideicon{loader-pinwheel}</code>		<code>\lucideicon{pointer}</code>
	<code>\lucideicon{mouse-pointer}</code>		<code>\lucideicon{pointer-off}</code>
	<code>\lucideicon{mouse-pointer-2}</code>		<code>\lucideicon{text-cursor-input}</code>
	<code>\lucideicon{mouse-pointer-2-off}</code>		









See the lucide-icons package note on page 454.

TABLE 482: lucide-icons User-Interface Symbols: Sorting

	<code>\lucideicon{a-arrow-down}</code>		<code>\lucideicon{arrow-down-z-a}</code>
	<code>\lucideicon{a-arrow-up}</code>		<code>\lucideicon{arrow-up-0-1}</code>
	<code>\lucideicon{arrow-down-0-1}</code>		<code>\lucideicon{arrow-up-1-0}</code>
	<code>\lucideicon{arrow-down-1-0}</code>		<code>\lucideicon{arrow-up-a-z}</code>
	<code>\lucideicon{arrow-down-a-z}</code>		<code>\lucideicon{arrow-up-narrow-wide}</code>
	<code>\lucideicon{arrow-down-narrow-wide}</code>		<code>\lucideicon{arrow-up-wide-narrow}</code>
	<code>\lucideicon{arrow-down-wide-narrow}</code>		<code>\lucideicon{arrow-up-z-a}</code>







See the lucide-icons package note on page 454.

TABLE 483: lucide-icons User-Interface Symbols: Magnifying Glasses

	<code>\lucideicon{search}</code>		<code>\lucideicon{search-slash}</code>
	<code>\lucideicon{search-alert}</code>		<code>\lucideicon{search-x}</code>
	<code>\lucideicon{search-check}</code>		<code>\lucideicon{zoom-in}</code>
	<code>\lucideicon{search-code}</code>		<code>\lucideicon{zoom-out}</code>






















See the lucide-icons package note on page 454.

TABLE 484: lucide-icons User-Interface Symbols: Packages

	<code>\lucideicon{package-check}</code>		<code>\lucideicon{package-plus}</code>
	<code>\lucideicon{package-minus}</code>		<code>\lucideicon{package-search}</code>
	<code>\lucideicon{package-open}</code>		<code>\lucideicon{package-x}</code>

See the lucide-icons package note on page 454.

TABLE 485: lucide-icons User-Interface Symbols: Panel Layouts

	<code>\lucideicon{panel-bottom}</code>		<code>\lucideicon{panel-right-dashed}</code>
	<code>\lucideicon{panel-bottom-close}</code>		<code>\lucideicon{panel-right-open}</code>
	<code>\lucideicon{panel-bottom-dashed}</code>		<code>\lucideicon{panel-top}</code>
	<code>\lucideicon{panel-bottom-open}</code>		<code>\lucideicon{panel-top-bottom-dashed}</code>
	<code>\lucideicon{panel-left}</code>		<code>\lucideicon{panel-top-close}</code>
	<code>\lucideicon{panel-left-close}</code>		<code>\lucideicon{panel-top-dashed}</code>
	<code>\lucideicon{panel-left-dashed}</code>		<code>\lucideicon{panel-top-open}</code>
	<code>\lucideicon{panel-left-open}</code>		<code>\lucideicon{panels-left-bottom}</code>
	<code>\lucideicon{panel-left-right-dashed}</code>		<code>\lucideicon{panels-right-bottom}</code>
	<code>\lucideicon{panel-right}</code>		<code>\lucideicon{panels-top-left}</code>
	<code>\lucideicon{panel-right-close}</code>		























































































See the lucide-icons package note on page 454.

TABLE 486: lucide-icons User-Interface Symbols: Alignments

	<code>\lucideicon{align-center-horizontal}</code>
	<code>\lucideicon{align-center-vertical}</code>
	<code>\lucideicon{align-end-horizontal}</code>
	<code>\lucideicon{align-end-vertical}</code>
	<code>\lucideicon{align-horizontal-distribute-center}</code>
	<code>\lucideicon{align-horizontal-distribute-end}</code>
	<code>\lucideicon{align-horizontal-distribute-start}</code>
	<code>\lucideicon{align-horizontal-justify-center}</code>
	<code>\lucideicon{align-horizontal-justify-end}</code>
	<code>\lucideicon{align-horizontal-justify-start}</code>
	<code>\lucideicon{align-horizontal-space-around}</code>
	<code>\lucideicon{align-horizontal-space-between}</code>
	<code>\lucideicon{align-start-horizontal}</code>
	<code>\lucideicon{align-start-vertical}</code>
	<code>\lucideicon{align-vertical-distribute-center}</code>
	<code>\lucideicon{align-vertical-distribute-end}</code>
	<code>\lucideicon{align-vertical-distribute-start}</code>
	<code>\lucideicon{align-vertical-justify-center}</code>
	<code>\lucideicon{align-vertical-justify-end}</code>
	<code>\lucideicon{align-vertical-justify-start}</code>
	<code>\lucideicon{align-vertical-space-around}</code>
	<code>\lucideicon{align-vertical-space-between}</code>
	<code>\lucideicon{text-align-center}</code>
	<code>\lucideicon{text-align-end}</code>
	<code>\lucideicon{text-align-justify}</code>
	<code>\lucideicon{text-align-start}</code>




























































See the lucide-icons package note on page 454.

TABLE 488: lucide-icons User-Interface Symbols: Other

	<code>\lucideicon{app-window}</code>		<code>\lucideicon{locate-off}</code>
	<code>\lucideicon{app-window-mac}</code>		<code>\lucideicon{log-in}</code>
	<code>\lucideicon{archive}</code>		<code>\lucideicon{log-out}</code>
	<code>\lucideicon{archive-restore}</code>		<code>\lucideicon{logs}</code>
	<code>\lucideicon{archive-x}</code>		<code>\lucideicon{maximize}</code>
	<code>\lucideicon{between-horizontal-end}</code>		<code>\lucideicon{menu}</code>
	<code>\lucideicon{between-horizontal-start}</code>		<code>\lucideicon{minimize}</code>
	<code>\lucideicon{between-vertical-end}</code>		<code>\lucideicon{navigation}</code>
	<code>\lucideicon{between-vertical-start}</code>		<code>\lucideicon{navigation-2}</code>
	<code>\lucideicon{binary}</code>		<code>\lucideicon{navigation-2-off}</code>
	<code>\lucideicon{blend}</code>		<code>\lucideicon{navigation-off}</code>
	<code>\lucideicon{bring-to-front}</code>		<code>\lucideicon{picture-in-picture}</code>
	<code>\lucideicon{bug}</code>		<code>\lucideicon{picture-in-picture-2}</code>
	<code>\lucideicon{bug-off}</code>		<code>\lucideicon{pin-off}</code>
	<code>\lucideicon{bug-play}</code>		<code>\lucideicon{podcast}</code>
	<code>\lucideicon{captions}</code>		<code>\lucideicon{proportions}</code>
	<code>\lucideicon{captions-off}</code>		<code>\lucideicon{regex}</code>
	<code>\lucideicon{cast}</code>		<code>\lucideicon{replace}</code>
	<code>\lucideicon{cloud-alert}</code>		<code>\lucideicon{replace-all}</code>
	<code>\lucideicon{cloud-backup}</code>		<code>\lucideicon{rotate-3d}</code>
	<code>\lucideicon{cloud-check}</code>		<code>\lucideicon{route}</code>
	<code>\lucideicon{cloud-cog}</code>		<code>\lucideicon{route-off}</code>
	<code>\lucideicon{cloud-download}</code>		<code>\lucideicon{ruler-dimension-line}</code>
	<code>\lucideicon{cloud-sync}</code>		<code>\lucideicon{save}</code>
	<code>\lucideicon{cloud-upload}</code>		<code>\lucideicon{save-all}</code>
	<code>\lucideicon{code}</code>		<code>\lucideicon{save-off}</code>
	<code>\lucideicon{code-xml}</code>		<code>\lucideicon{scale-3d}</code>
	<code>\lucideicon{combine}</code>		<code>\lucideicon{scaling}</code>
	<code>\lucideicon{component}</code>		<code>\lucideicon{screen-share}</code>
	<code>\lucideicon{contact}</code>		<code>\lucideicon{screen-share-off}</code>
	<code>\lucideicon{contact-round}</code>		<code>\lucideicon{send}</code>
	<code>\lucideicon{copy}</code>		<code>\lucideicon{send-horizontal}</code>
	<code>\lucideicon{copy-check}</code>		<code>\lucideicon{send-to-back}</code>
	<code>\lucideicon{copy-minus}</code>		<code>\lucideicon{separator-horizontal}</code>
	<code>\lucideicon{copy-plus}</code>		<code>\lucideicon{separator-vertical}</code>
	<code>\lucideicon{copy-slash}</code>		<code>\lucideicon{settings}</code>
	<code>\lucideicon{copy-x}</code>		<code>\lucideicon{settings-2}</code>
	<code>\lucideicon{crop}</code>		<code>\lucideicon{share}</code>
	<code>\lucideicon{crosshair}</code>		<code>\lucideicon{share-2}</code>
	<code>\lucideicon{database}</code>		<code>\lucideicon{sheet}</code>
	<code>\lucideicon{database-backup}</code>		<code>\lucideicon{signature}</code>
	<code>\lucideicon{database-zap}</code>		<code>\lucideicon{sliders-horizontal}</code>
	<code>\lucideicon{decimals-arrow-left}</code>		<code>\lucideicon{sliders-vertical}</code>

(continued on next page)




















































































*(continued from previous page)*

	<code>\lucideicon{decimals-arrow-right}</code>		<code>\lucideicon{speech}</code>
	<code>\lucideicon{dock}</code>		<code>\lucideicon{spline}</code>
	<code>\lucideicon{download}</code>		<code>\lucideicon{spline-pointer}</code>
	<code>\lucideicon{external-link}</code>		<code>\lucideicon{squares-exclude}</code>
	<code>\lucideicon{flip-horizontal}</code>		<code>\lucideicon{squares-intersect}</code>
	<code>\lucideicon{flip-horizontal-2}</code>		<code>\lucideicon{squares-subtract}</code>
	<code>\lucideicon{flip-vertical}</code>		<code>\lucideicon{squares-unite}</code>
	<code>\lucideicon{flip-vertical-2}</code>		<code>\lucideicon{stretch-horizontal}</code>
	<code>\lucideicon{form}</code>		<code>\lucideicon{stretch-vertical}</code>
	<code>\lucideicon{fullscreen}</code>		<code>\lucideicon{switch-camera}</code>
	<code>\lucideicon{funnel-plus}</code>		<code>\lucideicon{table-of-contents}</code>
	<code>\lucideicon{funnel-x}</code>		<code>\lucideicon{tag}</code>
	<code>\lucideicon{grip}</code>		<code>\lucideicon{tags}</code>
	<code>\lucideicon{grip-horizontal}</code>		<code>\lucideicon{terminal}</code>
	<code>\lucideicon{grip-vertical}</code>		<code>\lucideicon{toggle-left}</code>
	<code>\lucideicon{group}</code>		<code>\lucideicon{toggle-right}</code>
	<code>\lucideicon{import}</code>		<code>\lucideicon{ungroup}</code>
	<code>\lucideicon{inbox}</code>		<code>\lucideicon{unlink}</code>
	<code>\lucideicon{languages}</code>		<code>\lucideicon{unlink-2}</code>
	<code>\lucideicon{lasso}</code>		<code>\lucideicon{upload}</code>
	<code>\lucideicon{lasso-select}</code>		<code>\lucideicon{vector-square}</code>
	<code>\lucideicon{layers}</code>		<code>\lucideicon{view}</code>
	<code>\lucideicon{layers-2}</code>		<code>\lucideicon{wallpaper}</code>
	<code>\lucideicon{layers-plus}</code>		<code>\lucideicon{waves-arrow-down}</code>
	<code>\lucideicon{line-squiggle}</code>		<code>\lucideicon{waves-arrow-up}</code>
	<code>\lucideicon{link}</code>		<code>\lucideicon{waypoints}</code>
	<code>\lucideicon{link-2}</code>		<code>\lucideicon{webhook}</code>
	<code>\lucideicon{link-2-off}</code>		<code>\lucideicon{webhook-off}</code>
	<code>\lucideicon{locate}</code>		<code>\lucideicon{workflow}</code>
	<code>\lucideicon{locate-fixed}</code>		

See the `lucide-icons` package note on page 454.





















































































TABLE 490: typicons User-Interface Symbols

	<code>\faGroupArrowsRotate</code>		<code>\tiInfoLargeOutline</code>
	<code>\faRotate</code>		<code>\tiInfoOutline</code>
	<code>\faRotateLeft</code>		<code>\tiLink</code>
	<code>\faRotateRight</code>		<code>\tiLinkOutline</code>
	<code>\tiAdjustBrightness</code>		<code>\tiLocation</code>
	<code>\tiAdjustContrast</code>		<code>\tiLocationOutline</code>
	<code>\tiArchive</code>		<code>\tiMessage</code>
	<code>\tiBackspace</code>		<code>\tiMessages</code>
	<code>\tiBackspaceOutline</code>		<code>\tiMessageTyping</code>
	<code>\tiBatteryCharge</code>		<code>\tiRefresh</code>
	<code>\tiBatteryFull</code>		<code>\tiRefreshOutline</code>
	<code>\tiBatteryHigh</code>		<code>\tiRss</code>
	<code>\tiBatteryLow</code>		<code>\tiRssOutline</code>
	<code>\tiBatteryMid</code>		<code>\tiSortAlphabetically</code>
	<code>\tiBookmark</code>		<code>\tiSortAlphabeticallyOutline</code>
	<code>\tiCancel</code>		<code>\tiSortNumerically</code>
	<code>\tiCancelOutline</code>		<code>\tiSortNumericallyOutline</code>
	<code>\tiCloudStorage</code>		<code>\tiSupport</code>
	<code>\tiCloudStorageOutline</code>		<code>\tiTabsOutline</code>
	<code>\tiCode</code>		<code>\tiThLarge</code>
	<code>\tiCodeOutline</code>		<code>\tiThLargeOutline</code>
	<code>\tiCog</code>		<code>\tiThList</code>
	<code>\tiCogOutline</code>		<code>\tiThListOutline</code>
	<code>\tiCss3</code>		<code>\tiThMenu</code>
	<code>\tiDatabase</code>		<code>\tiThMenuOutline</code>
	<code>\tiDownload</code>		<code>\tiThSmall</code>
	<code>\tiDownloadOutline</code>		<code>\tiThSmallOutline</code>
	<code>\tiEdit</code>		<code>\tiUpload</code>
	<code>\tiExport</code>		<code>\tiUploadOutline</code>
	<code>\tiExportOutline</code>		<code>\tiWarning</code>
	<code>\tiFilter</code>		<code>\tiWarningOutline</code>
	<code>\tiFlowChildren</code>		<code>\tiWaves</code>
	<code>\tiFlowMerge</code>		<code>\tiWavesOutline</code>
	<code>\tiFlowParallel</code>		<code>\tiWiFi</code>
	<code>\tiFlowSwitch</code>		<code>\tiWiFiOutline</code>
	<code>\tiGroup</code>		<code>\tiZoom</code>
	<code>\tiGroupOutline</code>		<code>\tiZoomIn</code>
	<code>\tiHtml5</code>		<code>\tiZoomInOutline</code>
	<code>\tiImage</code>		<code>\tiZoomOut</code>
	<code>\tiImageOutline</code>		<code>\tiZoomOutline</code>
	<code>\tiInfo</code>		<code>\tiZoomOutOutline</code>
	<code>\tiInfoLarge</code>		

























































































See the typicons package note on page 460.

TABLE 492: fontawesome7 User-Interface Symbols

	<code>\faAddressBook</code>		<code>\faImage[regular]</code>
	<code>\faAddressBook[regular]</code>		<code>\faImagePortrait*</code>
	<code>\faAddressCard</code>		<code>\faImages</code>
	<code>\faAddressCard[regular]</code>		<code>\faImages[regular]</code>
	<code>\faAlignCenter</code>		<code>\faInbox</code>
	<code>\faAlignJustify</code>		<code>\faIndent</code>
	<code>\faAlignLeft</code>		<code>\faInfo</code>
	<code>\faAlignRight</code>		<code>\faItalic</code>
	<code>\faAnchor</code>		<code>\faLanguage</code>
	<code>\faAnchorCircleCheck</code>		<code>\faLaptopCode</code>
	<code>\faAnchorCircleExclamation</code>		<code>\faLaptopFile</code>
	<code>\faAnchorCircleXmark</code>		<code>\faLayerGroup</code>
	<code>\faAnchorLock</code>		<code>\faLink</code>
	<code>\faArrowDownAZ*</code>		<code>\faLinkSlash*</code>
	<code>\faArrowDownShortWide*</code>		<code>\faList</code>
	<code>\faArrowDownUpAcrossLine</code>		<code>\faListCheck*</code>
	<code>\faArrowDownUpLock</code>		<code>\faListOl</code>
	<code>\faArrowDownWideShort*</code>		<code>\faListUl</code>
	<code>\faArrowDownZA*</code>		<code>\faLocationArrow</code>
	<code>\faArrowPointer*</code>		<code>\faLocationCrosshairs</code>
	<code>\faArrowRightFromBracket*</code>		<code>\faMagnifyingGlass*</code>
	<code>\faArrowRightToBracket*</code>		<code>\faMagnifyingGlassArrowRight</code>
	<code>\faArrowRotateLeft</code>		<code>\faMagnifyingGlassChart</code>
	<code>\faArrowRotateRight*</code>		<code>\faMagnifyingGlassDollar*</code>
	<code>\faArrowsRotate</code>		<code>\faMagnifyingGlassLocation*</code>
	<code>\faArrowsToEye</code>		<code>\faMagnifyingGlassMinus*</code>
	<code>\faArrowsUpDownLeftRight</code>		<code>\faMagnifyingGlassPlus*</code>
	<code>\faArrowTurnDown*</code>		<code>\faMaximize*</code>
	<code>\faArrowTurnUp*</code>		<code>\faMessage</code>
	<code>\faArrowUpAZ*</code>		<code>\faMessage[regular]</code>
	<code>\faArrowUpRightFromSquare</code>		<code>\faMicrophoneLinesSlash*</code>
	<code>\faArrowUpShortWide*</code>		<code>\faMicrophoneSlash</code>
	<code>\faArrowUpWideShort*</code>		<code>\faMinimize</code>
	<code>\faArrowUpZA*</code>		<code>\faMusic</code>
	<code>\faAudioDescription</code>		<code>\faNetworkWired</code>
	<code>\faBars</code>		<code>\faNotdef</code>
	<code>\faBarsProgress</code>		<code>\faObjectGroup</code>
	<code>\faBarsStaggered*</code>		<code>\faObjectGroup[regular]</code>
	<code>\faBatteryEmpty</code>		<code>\faObjectUngroup</code>
	<code>\faBatteryFull</code>		<code>\faObjectUngroup[regular]</code>
	<code>\faBatteryHalf</code>		<code>\faOutdent</code>

















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	\faBatteryQuarter		\faPaste
	\faBatteryThreeQuarters		\faPaste[regular]
	\faBellSlash		\faPause
	\faBellSlash[regular]		\faPenToSquare*
	\faBezierCurve		\faPenToSquare[regular]*
	\faBlog		\faPhotoFilm*
	\faBold		\faPodcast
	\faBookmark		\faPowerOff
	\faBookmark[regular]		\faPrint
	\faBorderAll		\faQrcode
	\faBorderNone		\faRankingStar
	\faBorderTopLeft*		\faRectangleAd*
	\faBugSlash		\faRectangleList
	\faCameraRotate		\faRectangleXmark*
	\faCartArrowDown		\faRectangleXmark[regular]*
	\faCartPlus		\faReply
	\faCircleDollarToSlot*		\faReplyAll
	\faCircleExclamation*		\faRetweet
	\faCircleHalfStroke*		\faRightFromBracket
	\faCircleInfo*		\faRightToBracket
	\faCircleMinus*		\faRoute
	\faCircleNodes		\faRss
	\faCirclePause*		\faScissors*
	\faCirclePause[regular]*		\faServer
	\faCirclePlus*		\faShapes
	\faCircleQuestion*		\faShare
	\faClipboardCheck		\faShareFromSquare*
	\faClipboardQuestion		\faShareFromSquare[regular]*
	\faClipboardUser		\faShareNodes*
	\faClockRotateLeft*		\faShopSlash*
	\faClone		\faShuffle*
	\faClone[regular]		\faSignal
	\faClosedCaptioning		\faSignature
	\faClosedCaptioning[regular]		\faSitemap
	\faCloudArrowDown*		\faSliders*
	\faCloudArrowUp*		\faSort
	\faCode		\faSortDown
	\faCodeBranch		\faSortUp
	\faCodeCommit		\faSpellCheck
	\faCodeCompare		\faSpinner
	\faCodeFork		\faSquareArrowUpRight*
	\faCodeMerge		\faSquareBinary
	\faCodePullRequest		\faSquareEnvelope*
	\faComment		\faSquareMinus*

























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	<code>\faComment[regular]</code>		<code>\faSquareMinus[regular]*</code>
	<code>\faCommentDollar</code>		<code>\faSquareNfi</code>
	<code>\faCommentDots</code>		<code>\faSquarePlus*</code>
	<code>\faCommentDots[regular]</code>		<code>\faSquarePlus[regular]*</code>
	<code>\faCommentNodes</code>		<code>\faSquarePollHorizontal*</code>
	<code>\faComments</code>		<code>\faSquarePollVertical*</code>
	<code>\faComments[regular]</code>		<code>\faSquareRootVariable*</code>
	<code>\faCommentsDollar</code>		<code>\faSquareRss*</code>
	<code>\faCommentSlash</code>		<code>\faSquareShareNodes*</code>
	<code>\faCommentSms*</code>		<code>\faSquareUpRight</code>
	<code>\faCompress</code>		<code>\faSquareXmark</code>
	<code>\faCopy</code>		<code>\faStoreSlash</code>
	<code>\faCopy[regular]</code>		<code>\faStreetView</code>
	<code>\faCrop</code>		<code>\faStrikethrough</code>
	<code>\faCropSimple</code>		<code>\faSubscript</code>
	<code>\faCrosshairs</code>		<code>\faSuperscript</code>
	<code>\faDatabase</code>		<code>\faTable</code>
	<code>\faDeleteLeft</code>		<code>\faTableCells*</code>
	<code>\faDesktop</code>		<code>\faTableCellsColumnLock</code>
	<code>\faDiagramNext</code>		<code>\faTableCellsLarge*</code>
	<code>\faDiagramPredecessor</code>		<code>\faTableCellsRowLock</code>
	<code>\faDiagramProject*</code>		<code>\faTableCellsRowUnlock</code>
	<code>\faDiagramSuccessor</code>		<code>\faTableColumns*</code>
	<code>\faDownLeftAndUpRightToCenter</code>		<code>\faTableList*</code>
	<code>\faDownload</code>		<code>\faTerminal</code>
	<code>\faDrawPolygon</code>		<code>\faTextHeight</code>
	<code>\faDroplet</code>		<code>\faTextSlash*</code>
	<code>\faDropletSlash*</code>		<code>\faTextWidth</code>
	<code>\faEraser</code>		<code>\faThumbtackSlash</code>
	<code>\faEthernet</code>		<code>\faTimeline</code>
	<code>\faExpand</code>		<code>\faToggleOff</code>
	<code>\faEye</code>		<code>\faToggleOn</code>
	<code>\faEye[regular]</code>		<code>\faTrashArrowUp*</code>
	<code>\faEyeSlash</code>		<code>\faTrashCanArrowUp</code>
	<code>\faEyeSlash[regular]</code>		<code>\faTriangleExclamation*</code>
	<code>\faFill</code>		<code>\faUnderline</code>
	<code>\faFillDrip</code>		<code>\faUniversalAccess</code>
	<code>\faFilm</code>		<code>\faUnlockKeyhole</code>
	<code>\faFilter</code>		<code>\faUpDownLeftRight*</code>
	<code>\faFilterCircleXmark</code>		<code>\faUpload</code>
	<code>\faFingerprint</code>		<code>\faUpRightAndDownLeftFromCenter</code>
	<code>\faFire</code>		<code>\faUpRightFromSquare*</code>
	<code>\faFireFlameCurved</code>		<code>\faVideo</code>
	<code>\faFont</code>		<code>\faVideoSlash</code>































*(continued on next page)*

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	<code>\faGear</code>		<code>\faVoicemail</code>
	<code>\faGrip*</code>		<code>\faWifi</code>
	<code>\faGripLines</code>		<code>\faWindowMaximize</code>
	<code>\faGripLinesVertical</code>		<code>\faWindowMaximize[regular]</code>
	<code>\faGripVertical</code>		<code>\faWindowMinimize</code>
	<code>\faHashtag</code>		<code>\faWindowRestore</code>
	<code>\faHeading</code>		<code>\faWindowRestore[regular]</code>
	<code>\faHexagonNodes</code>		<code>\faXmarksLines</code>
	<code>\faHexagonNodesBolt</code>		<code>\faIcon{arrow-down-1-9}*</code>
	<code>\faIcons</code>		<code>\faIcon{arrow-down-9-1}*</code>
	<code>\faICursor</code>		<code>\faIcon{arrow-up-1-9}</code>
	<code>\faImage</code>		<code>\faIcon{arrow-up-9-1}</code>

















\* fontawesome7 has renamed this symbol from what it was called in fontawesome5.

TABLE 494: utfsym User-Interface Symbols

	<code>\usym{26BF}</code>	<i>squared key</i>		<code>\usym{1F51F}</code>	<i>keycap ten</i>
	<code>\usym{26FB}</code>	<i>japanese bank</i>		<code>\usym{1F520}</code>	<i>input symbol for Latin capital letters</i>
	<code>\usym{1F4E4}</code>	<i>outbox tray</i>		<code>\usym{1F521}</code>	<i>input symbol for Latin small letters</i>
	<code>\usym{1F4E5}</code>	<i>inbox tray</i>		<code>\usym{1F522}</code>	<i>input symbol for numbers</i>
	<code>\usym{1F4F6}</code>	<i>antenna with bars</i>		<code>\usym{1F523}</code>	<i>input symbol for symbols</i>
	<code>\usym{1F50B}</code>	<i>battery</i>		<code>\usym{1F524}</code>	<i>input symbol for Latin letters</i>
	<code>\usym{1F50C}</code>	<i>electric plug</i>		<code>\usym{1F532}</code>	<i>black square button</i>
	<code>\usym{1F50D}</code>	<i>left-pointing magnifying glass</i>		<code>\usym{1F533}</code>	<i>white square button</i>
	<code>\usym{1F50E}</code>	<i>right-pointing magnifying glass</i>		<code>\usym{1F53E}</code>	<i>lower right shadowed white circle</i>
	<code>\usym{1F50F}</code>	<i>lock with ink pen</i>		<code>\usym{1F53F}</code>	<i>upper right shadowed white circle</i>
	<code>\usym{1F510}</code>	<i>closed lock with key</i>		<code>\usym{1F5C4}</code>	<i>file cabinet</i>
	<code>\usym{1F511}</code>	<i>key</i>		<code>\usym{1F5D1}</code>	<i>wastebasket</i>
	<code>\usym{1F512}</code>	<i>lock</i>		<code>\usym{1F5D4}</code>	<i>desktop window</i>
	<code>\usym{1F513}</code>	<i>open lock</i>		<code>\usym{1F5D6}</code>	<i>maximize</i>
	<code>\usym{1F514}</code>	<i>bell</i>		<code>\usym{1F5D7}</code>	<i>overlap</i>









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	<code>\usym{1F515}</code>	<i>bell with cancellation stroke</i>		<code>\usym{1F5D8}</code>	<i>clockwise right and left semicircle arrows</i>
	<code>\usym{1F517}</code>	<i>link</i>		<code>\usym{1F5D9}</code>	<i>cancellation X</i>
	<code>\usym{1F518}</code>	<i>radio button</i>		<code>\usym{1F5DA}</code>	<i>increase font size</i>
	<code>\usym{1F519}</code>	<i>BACK with leftwards arrow above</i>		<code>\usym{1F5DB}</code>	<i>decrease font size</i>
	<code>\usym{1F51A}</code>	<i>END with leftwards arrow above</i>		<code>\usym{1F5DC}</code>	<i>compression</i>
	<code>\usym{1F51B}</code>	<i>ON with exclamation mark with left right arrow above</i>		<code>\usym{1F6D2}</code>	<i>shopping trolley</i>
	<code>\usym{1F51C}</code>	<i>SOON with rightwards arrow above</i>		<code>\usym{1F6E0}</code>	<i>hammer and wrench</i>
	<code>\usym{1F51D}</code>	<i>TOP with upwards arrow above</i>		<code>\usym{1F5D5}</code>	<i>minimize</i>





















See the `utfsym` package note on page 461.

TABLE 496: typicons Files and Folders

	<code>\tiDocument</code>		<code>\tiDocumentText</code>		<code>\tiFolderDelete</code>
	<code>\tiDocumentAdd</code>		<code>\tiFolder</code>		<code>\tiFolderOpen</code>
	<code>\tiDocumentDelete</code>		<code>\tiFolderAdd</code>		

































See the `typicons` package note on page 460.

TABLE 497: fontawesome7 Files and Folders

	<code>\faFile</code>		<code>\faFileLines</code>
	<code>\faFile[regular]</code>		<code>\faFileLines[regular]</code>
	<code>\faFileArrowDown*</code>		<code>\faFileMedical</code>
	<code>\faFileArrowUp*</code>		<code>\faFilePdf</code>
	<code>\faFileAudio</code>		<code>\faFilePdf[regular]</code>
	<code>\faFileAudio[regular]</code>		<code>\faFilePen</code>
	<code>\faFileCircleCheck</code>		<code>\faFilePowerpoint</code>
	<code>\faFileCircleExclamation</code>		<code>\faFilePowerpoint[regular]</code>
	<code>\faFileCircleMinus</code>		<code>\faFilePrescription</code>
	<code>\faFileCirclePlus</code>		<code>\faFileShield</code>



































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	<code>\faFileCircleQuestion</code>		<code>\faFileSignature</code>
	<code>\faFileCircleXmark</code>		<code>\faFileVideo</code>
	<code>\faFileCode</code>		<code>\faFileVideo[regular]</code>
	<code>\faFileCode[regular]</code>		<code>\faFileWaveform</code>
	<code>\faFileContract</code>		<code>\faFileWord</code>
	<code>\faFileCsv</code>		<code>\faFileWord[regular]</code>
	<code>\faFileExcel</code>		<code>\faFileZipper*</code>
	<code>\faFileExcel[regular]</code>		<code>\faFileZipper[regular]*</code>
	<code>\faFileExport</code>		<code>\faFolder</code>
	<code>\faFileFragment</code>		<code>\faFolder[regular]</code>
	<code>\faFileHalfDashed</code>		<code>\faFolderClosed</code>
	<code>\faFileImage</code>		<code>\faFolderMinus</code>
	<code>\faFileImage[regular]</code>		<code>\faFolderOpen</code>
	<code>\faFileImport</code>		<code>\faFolderOpen[regular]</code>
	<code>\faFileInvoice</code>		<code>\faFolderPlus</code>
	<code>\faFileInvoiceDollar</code>		<code>\faFolderTree</code>






















































\* In fontawesome5, `\faFileArrowUp` was called `\faFileUpload`, `\faFileZipper` was called `\faFileArchive`, and `\faFileArrowDown` was called `\faFileDownload`.

TABLE 499: lucide-icons Files and Folders

	<code>\lucideicon{file}</code>		<code>\lucideicon{file-symlink}</code>
	<code>\lucideicon{file-archive}</code>		<code>\lucideicon{file-terminal}</code>
	<code>\lucideicon{file-axis-3d}</code>		<code>\lucideicon{file-text}</code>
	<code>\lucideicon{file-badge}</code>		<code>\lucideicon{file-type}</code>
	<code>\lucideicon{file-box}</code>		<code>\lucideicon{file-type-corner}</code>
	<code>\lucideicon{file-braces}</code>		<code>\lucideicon{file-up}</code>
	<code>\lucideicon{file-braces-corner}</code>		<code>\lucideicon{file-user}</code>
	<code>\lucideicon{file-chart-column}</code>		<code>\lucideicon{file-video-camera}</code>
	<code>\lucideicon{file-chart-column-increasing}</code>		<code>\lucideicon{file-volume}</code>
	<code>\lucideicon{file-chart-line}</code>		<code>\lucideicon{file-x}</code>
	<code>\lucideicon{file-chart-pie}</code>		<code>\lucideicon{file-x-corner}</code>
	<code>\lucideicon{file-check}</code>		<code>\lucideicon{files}</code>
	<code>\lucideicon{file-check-corner}</code>		<code>\lucideicon{folder}</code>
	<code>\lucideicon{file-clock}</code>		<code>\lucideicon{folder-archive}</code>
	<code>\lucideicon{file-code}</code>		<code>\lucideicon{folder-check}</code>
	<code>\lucideicon{file-code-corner}</code>		<code>\lucideicon{folder-clock}</code>
	<code>\lucideicon{file-cog}</code>		<code>\lucideicon{folder-closed}</code>

*(continued on next page)*

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	<code>\lucideicon{file-diff}</code>		<code>\lucideicon{folder-code}</code>
	<code>\lucideicon{file-digit}</code>		<code>\lucideicon{folder-cog}</code>
	<code>\lucideicon{file-down}</code>		<code>\lucideicon{folder-dot}</code>
	<code>\lucideicon{file-exclamation-point}</code>		<code>\lucideicon{folder-down}</code>
	<code>\lucideicon{file-headphone}</code>		<code>\lucideicon{folder-git}</code>
	<code>\lucideicon{file-heart}</code>		<code>\lucideicon{folder-git-2}</code>
	<code>\lucideicon{file-image}</code>		<code>\lucideicon{folder-heart}</code>
	<code>\lucideicon{file-input}</code>		<code>\lucideicon{folder-input}</code>
	<code>\lucideicon{file-key}</code>		<code>\lucideicon{folder-kanban}</code>
	<code>\lucideicon{file-lock}</code>		<code>\lucideicon{folder-key}</code>
	<code>\lucideicon{file-minus}</code>		<code>\lucideicon{folder-lock}</code>
	<code>\lucideicon{file-minus-corner}</code>		<code>\lucideicon{folder-minus}</code>
	<code>\lucideicon{file-music}</code>		<code>\lucideicon{folder-open}</code>
	<code>\lucideicon{file-output}</code>		<code>\lucideicon{folder-open-dot}</code>
	<code>\lucideicon{file-pen}</code>		<code>\lucideicon{folder-output}</code>
	<code>\lucideicon{file-pen-line}</code>		<code>\lucideicon{folder-pen}</code>
	<code>\lucideicon{file-play}</code>		<code>\lucideicon{folder-plus}</code>
	<code>\lucideicon{file-plus}</code>		<code>\lucideicon{folder-root}</code>
	<code>\lucideicon{file-plus-corner}</code>		<code>\lucideicon{folder-search}</code>
	<code>\lucideicon{file-question-mark}</code>		<code>\lucideicon{folder-search-2}</code>
	<code>\lucideicon{file-scan}</code>		<code>\lucideicon{folder-symlink}</code>
	<code>\lucideicon{file-search}</code>		<code>\lucideicon{folder-sync}</code>
	<code>\lucideicon{file-search-corner}</code>		<code>\lucideicon{folder-tree}</code>
	<code>\lucideicon{file-signal}</code>		<code>\lucideicon{folder-up}</code>
	<code>\lucideicon{file-sliders}</code>		<code>\lucideicon{folder-x}</code>
	<code>\lucideicon{file-spreadsheet}</code>		<code>\lucideicon{folders}</code>
	<code>\lucideicon{file-stack}</code>		

See the `lucide-icons` package note on page 454.

TABLE 501: `vscodeicons` Files and Folders

	<code>\vscodeicon{file}</code>		<code>\vscodeicon{root-folder}</code>
	<code>\vscodeicon{folder}</code>		<code>\vscodeicon{root-folder-opened}</code>
	<code>\vscodeicon{folder-opened}</code>		

See the `vscodeicons` package note on page 461.

TABLE 502: `wasysym` Biological Symbols

	<code>\female</code>		<code>\male</code>
-------------------------------------------------------------------------------------	----------------------	-------------------------------------------------------------------------------------	--------------------



TABLE 503: stix Biological Symbols

♀	<code>\female</code>	♂	<code>\male</code>
♂	<code>\Hermaphrodite</code>	♀	<code>\neuter</code>

TABLE 504: marvosym Biological Symbols

♀	<code>\FEMALE</code>	♂	<code>\FemaleMale</code>	♂	<code>\Male</code>	○	<code>\Neutral</code>
♀	<code>\Female</code>	♂	<code>\Hermaphrodite</code>	♂	<code>\MALE</code>		
♀	<code>\FemaleFemale</code>	♂	<code>\HERMAPHRODITE</code>	♂	<code>\MaleMale</code>		

TABLE 505: lucide-icons Biological Symbols

♂	<code>\lucideicon{mars}</code>	♀	<code>\lucideicon{venus}</code>
♂	<code>\lucideicon{mars-stroke}</code>	♂	<code>\lucideicon{venus-and-mars}</code>
♂	<code>\lucideicon{transgender}</code>		
♂	<code>\lucideicon{non-binary}</code>		

See the lucide-icons package note on page 454.

TABLE 506: utfsym Biological Symbols

♀	<code>\usym{26A2}</code>	<i>doubled female sign</i>	♂	<code>\usym{26A7}</code>	<i>male with stroke and male and female sign</i>
♂	<code>\usym{26A3}</code>	<i>doubled male sign</i>	♂	<code>\usym{26A8}</code>	<i>vertical male with stroke sign</i>
♂	<code>\usym{26A4}</code>	<i>interlocked female and male sign</i>	♂	<code>\usym{26A9}</code>	<i>horizontal male with stroke sign</i>
♀	<code>\usym{26A5}</code>	<i>male and female sign</i>	♀	<code>\usym{26B2}</code>	<i>neuter</i>
♂	<code>\usym{26A6}</code>	<i>male with stroke sign</i>			












See the utfsym package note on page 461.

TABLE 507: fontawesome7 Biological Symbols

○	<code>\faGenderless</code>	♂	<code>\faMarsStroke</code>	♂	<code>\faTransgender</code>
♂	<code>\faMars</code>	♂	<code>\faMarsStrokeRight*</code>	♀	<code>\faVenus</code>
♀	<code>\faMarsAndVenus</code>	♂	<code>\faMarsStrokeUp*</code>	♀	<code>\faVenusDouble</code>
♂	<code>\faMarsAndVenusBurst</code>	♀	<code>\faNeuter</code>	♂	<code>\faVenusMars</code>
♂	<code>\faMarsDouble</code>	♂	<code>\faNonBinary</code>		

\* In fontawesome5, `\faMarsStrokeRight` was called `\faMarsStrokeH`, and `\faMarsStrokeUp` was called `\faMarsStrokeV`.

TABLE 508: symbats3 Biological Symbols

	<code>\doubledfemale</code>		<code>\maleandfemale</code>
	<code>\doubledmale</code>		<code>\malewithstroke</code>
	<code>\female</code>		<code>\malewithstrokemalefemale</code>
	<code>\horizontalmalewithstroke</code>		<code>\neuter</code>
	<code>\interlockedmalefemale</code>		<code>\verticalmalewithstroke</code>
	<code>\male</code>		
































See the `symbats3` package note on page 458.

TABLE 509: twemojis Biological Symbols

	<code>\twemoji{female sign}</code>		<code>\twemoji{transgender symbol}</code>
	<code>\twemoji{male sign}</code>		




















See the `twemojis` package note on page 460.

TABLE 510: fontawesome7 Medical Symbols

	<code>\faBacteria</code>		<code>\faHeadSideMask</code>		<code>\faSquareVirus</code>
	<code>\faBacterium</code>		<code>\faHeadSideVirus</code>		<code>\faStaffSnake</code>
	<code>\faBandage</code>		<code>\faHeartPulse</code>		<code>\faStethoscope</code>
	<code>\faBedPulse</code>		<code>\faHospitalUser</code>		<code>\faSuitcaseMedical</code>
	<code>\faBiohazard</code>		<code>\faKitMedical</code>		<code>\faSyringe</code>
	<code>\faBookMedical</code>		<code>\faLaptopMedical</code>		<code>\faTablets</code>
	<code>\faBrain</code>		<code>\faLungs</code>		<code>\faTruckMedical</code>
	<code>\faBriefcaseMedical</code>		<code>\faLungsVirus</code>		<code>\faVial</code>
	<code>\faCapsules</code>		<code>\faMaskFace</code>		<code>\faVialCircleCheck</code>
	<code>\faCircleH</code>		<code>\faMaskVentilator</code>		<code>\faVials</code>
	<code>\faCommentMedical</code>		<code>\faNotesMedical</code>		<code>\faVialVirus</code>
	<code>\faCrutch</code>		<code>\faPersonDotsFromLine</code>		<code>\faVirus</code>
	<code>\faDisease</code>		<code>\faPills</code>		<code>\faVirusCovid</code>
	<code>\faDna</code>		<code>\faPrescription</code>		<code>\faVirusCovidSlash</code>
	<code>\faHandDots</code>		<code>\faPrescriptionBottle</code>		<code>\faViruses</code>
	<code>\faHeadSideCough</code>		<code>\faPrescriptionBottleMedical</code>		<code>\faVirusSlash</code>
	<code>\faHeadSideCoughSlash</code>		<code>\faPumpMedical</code>		<code>\faXRay</code>










Many of these symbols had different names in `fontawesome5`.

TABLE 511: twemojis Medical Symbols

	<code>\twemoji{A button (blood type)}</code>		<code>\twemoji{motorized wheelchair}</code>
	<code>\twemoji{AB button (blood type)}</code>		<code>\twemoji{O button (blood type)}</code>
	<code>\twemoji{adhesive bandage}</code>		<code>\twemoji{petri dish}</code>
	<code>\twemoji{B button (blood type)}</code>		<code>\twemoji{pill}</code>
	<code>\twemoji{biohazard}</code>		<code>\twemoji{stethoscope}</code>
	<code>\twemoji{crutch}</code>		<code>\twemoji{syringe}</code>
	<code>\twemoji{dna}</code>		<code>\twemoji{test tube}</code>
	<code>\twemoji{drop of blood}</code>		<code>\twemoji{wheelchair symbol}</code>
	<code>\twemoji{manual wheelchair}</code>		<code>\twemoji{x-ray}</code>
	<code>\twemoji{medical symbol}</code>		

See the twemojis package note on page 460.

TABLE 512: lucide-icons Scientific Instruments








































	<code>\lucideicon{beaker}</code>		<code>\lucideicon{telescope}</code>
	<code>\lucideicon{flask-conical}</code>		<code>\lucideicon{test-tube}</code>
	<code>\lucideicon{flask-conical-off}</code>		<code>\lucideicon{test-tube-diagonal}</code>
	<code>\lucideicon{flask-round}</code>		<code>\lucideicon{test-tubes}</code>
	<code>\lucideicon{microscope}</code>		

See the lucide-icons package note on page 454.

TABLE 513: marvosym Safety-related Symbols

	<code>\Biohazard</code>		<code>\CESign</code>		<code>\Explosionsafe</code>		<code>\Radioactivity</code>
	<code>\BSEFree</code>		<code>\Estatically</code>		<code>\Laserbeam</code>		<code>\Stopsign</code>

TABLE 514: feyn Feynman Diagram Symbols

	<code>\bigbosonloop</code>		<code>\hfermion</code>		<code>\smallbosonloopV</code>		
	<code>\bigbosonloopA</code>		<code>\shfermion</code>		<code>\wfermion</code>		
	<code>\bigbosonloopV</code>		<code>\smallbosonloop</code>		<code>\whfermion</code>		
	<code>\gvcropped</code>		<code>\smallbosonloopA</code>				
	<code>\feyn{a}</code>		<code>\feyn{fu}</code>		<code>\feyn{glS}</code>		<code>\feyn{hs}</code>
	<code>\feyn{c}</code>		<code>\feyn{fv}</code>		<code>\feyn{glu}</code>		<code>\feyn{hu}</code>
	<code>\feyn{f}</code>		<code>\feyn{g}</code>		<code>\feyn{gu}</code>		<code>\feyn{m}</code>
	<code>\feyn{fd}</code>		<code>\feyn{gl}</code>		<code>\feyn{gv}</code>		<code>\feyn{ms}</code>
	<code>\feyn{fl}</code>		<code>\feyn{gd}</code>		<code>\feyn{gvs}</code>		<code>\feyn{p}</code>
	<code>\feyn{flS}</code>		<code>\feyn{gl}</code>		<code>\feyn{h}</code>		<code>\feyn{P}</code>
	<code>\feyn{fs}</code>		<code>\feyn{glB}</code>		<code>\feyn{hd}</code>		<code>\feyn{x}</code>

See the feyn package note on page 452.

TABLE 515: svrsymbols Physics Ideograms

$\Delta$	<code>\adsorbate</code>	$\mathbb{X}$	<code>\experimentalsym</code>	$\mathcal{P}$	<code>\protein</code>
$\mathbb{C}$	<code>\adsorbent</code>	$\mathbb{D}$	<code>\externalsym</code>	$p^+$	<code>\proton</code>
$\mu^+$	<code>\antimuon</code>	$\mathcal{F}$	<code>\fermiDistrib</code>	$\mathcal{Q}$	<code>\quadrupole</code>
$\bar{\nu}$	<code>\antineutrino</code>	$\mathcal{F}$	<code>\fermion</code>	$q$	<code>\quark</code>
$\bar{n}$	<code>\antineutron</code>	$g$	<code>\Gluon</code>	$b$	<code>\quarkb</code>
$p^-$	<code>\antiproton</code>	$\mathbb{G}$	<code>\graphene</code>	$c$	<code>\quarkc</code>
$\bar{q}$	<code>\antiquark</code>	$\mathcal{G}$	<code>\graviton</code>	$d$	<code>\quarkd</code>
$\bar{b}$	<code>\antiquarkb</code>	$\mathbb{H}$	<code>\hbond</code>	$s$	<code>\quarks</code>
$\bar{c}$	<code>\antiquarkc</code>	$\mathbb{H}$	<code>\Higgsboson</code>	$t$	<code>\quarkt</code>
$\bar{d}$	<code>\antiquarkd</code>	$h^+$	<code>\hole</code>	$u$	<code>\quarku</code>
$\bar{s}$	<code>\antiquarks</code>	$\mathbb{I}$	<code>\interaction</code>	$R$	<code>\reference</code>
$\bar{t}$	<code>\antiquarkt</code>	$\mathbb{I}$	<code>\internalsym</code>	$\ll$	<code>\resistivity</code>
$\bar{u}$	<code>\antiquarku</code>	$\textcircled{1}$	<code>\ion</code>	$\varrho^-$	<code>\rhomesonminus</code>
$\star$	<code>\anyon</code>	$\oplus$	<code>\ionicbond</code>	$\varrho^0$	<code>\rhomesonnull</code>
$\star$	<code>\assumption</code>	$\mathcal{P}$	<code>\Jpsimeson</code>	$\varrho^+$	<code>\rhomesonplus</code>

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












	<code>\atom</code>	$K^-$	<code>\Kaonminus</code>		<code>\solid</code>
	<code>\bigassumption</code>	$K^0$	<code>\Kaonnull</code>		<code>\spin</code>
	<code>\Bigassumption</code>	$K^+$	<code>\Kaonplus</code>		<code>\spindown</code>
	<code>\biggassumption</code>		<code>\magnon</code>		<code>\spinup</code>
$B^-$	<code>\Bmesonminus</code>	$\mathcal{M}$	<code>\maxwellDistrib</code>	$\Phi$	<code>\surface</code>
$B^0$	<code>\Bmesonnull</code>		<code>\metalbond</code>		<code>\svrexample</code>
$B^+$	<code>\Bmesonplus</code>	$\mathcal{M}$	<code>\method</code>	$f$	<code>\svrphoton</code>
$\text{—}$	<code>\bond</code>	$\mu^-$	<code>\muon</code>	$t$	<code>\tachyon</code>
	<code>\boseDistrib</code>	$\nu$	<code>\neutrino</code>	$\tau^-$	<code>\tauleptonminus</code>
	<code>\boson</code>	$n^0$	<code>\neutron</code>	$\tau^+$	<code>\tauleptonplus</code>
	<code>\conductivity</code>		<code>\nucleus</code>	$T^-$	<code>\Tmesonminus</code>
	<code>\covbond</code>		<code>\orbit</code>	$T^0$	<code>\Tmesonnull</code>
$d^p$	<code>\dipole</code>	$\phi$	<code>\phimeson</code>	$T^+$	<code>\Tmesonplus</code>
$D^-$	<code>\Dmesonminus</code>	$\phi^0$	<code>\phimesonnull</code>		<code>\triplecovbond</code>
$D^0$	<code>\Dmesonnull</code>	$f$	<code>\phonon</code>	$\Upsilon$	<code>\Upsilonmeson</code>
$D^+$	<code>\Dmesonplus</code>	$\pi^-$	<code>\pionminus</code>	$f$	<code>\varphoton</code>
	<code>\doublecovbond</code>	$\pi^0$	<code>\pionnull</code>		<code>\water</code>
$e^-$	<code>\electron</code>	$\pi^+$	<code>\pionplus</code>	$W$	<code>\Wboson</code>
$\mathbb{E}$	<code>\errorsym</code>	$e_{\sim}$	<code>\plasmon</code>	$W^-$	<code>\Wbosonminus</code>
$\eta$	<code>\etameson</code>	$\mathbb{E}$	<code>\polariton</code>	$W^+$	<code>\Wbosonplus</code>
$\eta'$	<code>\etamesonprime</code>	$\mathbb{E}$	<code>\polaron</code>	$Z$	<code>\Zboson</code>
$\eta h^+$	<code>\exciton</code>	$e^+$	<code>\positron</code>		

TABLE 517: metsymb Okta Symbols

	<code>\zerookta</code>		<code>\threeoktas</code>		<code>\sixoktas</code>		<code>\nineoktas</code>
	<code>\oneokta</code>		<code>\fouroktas</code>		<code>\sevenoktas</code>		
	<code>\twooktas</code>		<code>\fiveoktas</code>		<code>\eightoktas</code>		

TABLE 518: metsymb Cloud Genera Symbols











	<code>\altocumulus</code>		<code>\cirrostratus</code>		<code>\cumulus</code>		<code>\stratus</code>
	<code>\altostratus</code>		<code>\cirrus</code>		<code>\nimbostratus</code>		
	<code>\cirrocumulus</code>		<code>\cumulonimbus</code>		<code>\stratocumulus</code>		

TABLE 519: metsymb  $C_L$ ,  $C_M$ , and  $C_H$  Cloud Codes




























































Code	$C_L$	$C_M$	$C_H$
1			
2			
3			
4			
5			
6			
7			
8			
9			

TABLE 520: asapsym Transportation Symbols

	<code>\asapAirplaneLanding</code>		<code>\asapBoat</code>
	<code>\asapAirplaneOverhead</code>		<code>\asapBus</code>
	<code>\asapAirplaneTakeoff</code>		<code>\asapHelicopter</code>
	<code>\asapAutomobile</code>		<code>\asapTaxi</code>
	<code>\asapAutomobileWithKey</code>		<code>\asapTrain</code>
	<code>\asapBicycle</code>		

















See the asapsym package note on page 450.

TABLE 521: figchild Transportation Symbols

	<code>\fcBalloon</code>		<code>\fcMeton</code>		<code>\fcTruck</code>
	<code>\fcBarquet</code>		<code>\fcMotorcycle</code>		<code>\fcTruckA</code>
	<code>\fcBike</code>		<code>\fcMotorScooter</code>		<code>\fcTruckB</code>
	<code>\fcBoat</code>		<code>\fcPlane</code>		<code>\fcTruckC</code>
	<code>\fcBulldozer</code>		<code>\fcPlaneA</code>		<code>\fcTruckD</code>
	<code>\fcBus</code>		<code>\fcScooter</code>		<code>\fcTruckE</code>
	<code>\fcBusA</code>		<code>\fcShip</code>		<code>\fcTruckF</code>

(continued on next page)

*(continued from previous page)*

	<code>\fcCar</code>		<code>\fcSteamroller</code>		<code>\fcTruckG</code>
	<code>\fcCarA</code>		<code>\fcSubmarineA</code>		<code>\fcTruckH</code>
	<code>\fcCart</code>		<code>\fcTractorA</code>		<code>\fcVan</code>
	<code>\fcCrane</code>		<code>\fcTractorB</code>		<code>\fcWagon</code>
	<code>\fcExcavator</code>		<code>\fcTrain</code>		
	<code>\fcHelicopter</code>		<code>\fcTricycle</code>		

See the figchild package note on page 452.

TABLE 523: fontawesome7 Transportation Symbols








































































































	<code>\faBicycle</code>		<code>\faJetFighterUp</code>		<code>\faSuitcase</code>
	<code>\faBridge</code>		<code>\faMotorcycle</code>		<code>\faSuitcaseRolling</code>
	<code>\faBridgeCircleCheck</code>		<code>\faPlane</code>		<code>\faTaxi</code>
	<code>\faBridgeCircleExclamation</code>		<code>\faPlaneArrival</code>		<code>\faTractor</code>
	<code>\faBridgeCircleXmark</code>		<code>\faPlaneCircleCheck</code>		<code>\faTrafficLight</code>
	<code>\faBridgeLock</code>		<code>\faPlaneCircleExclamation</code>		<code>\faTrailer</code>
	<code>\faBridgeWater</code>		<code>\faPlaneCircleXmark</code>		<code>\faTrain</code>
	<code>\faBus</code>		<code>\faPlaneDeparture</code>		<code>\faTrainSubway</code>
	<code>\faBusSide</code>		<code>\faPlaneLock</code>		<code>\faTrainTram</code>
	<code>\faBusSimple</code>		<code>\faPlaneUp</code>		<code>\faTruck</code>
	<code>\faCableCar</code>		<code>\faRoad</code>		<code>\faTruckArrowRight</code>
	<code>\faCar</code>		<code>\faRoadBarrier</code>		<code>\faTruckDroplet</code>
	<code>\faCaravan</code>		<code>\faRoadBridge</code>		<code>\faTruckField</code>
	<code>\faCarOn</code>		<code>\faRoadCircleCheck</code>		<code>\faTruckFieldUn</code>
	<code>\faCarRear</code>		<code>\faRoadCircleExclamation</code>		<code>\faTruckFront</code>
	<code>\faCartFlatbed</code>		<code>\faRoadCircleXmark</code>		<code>\faTruckMonster</code>
	<code>\faCartFlatbedSuitcase</code>		<code>\faRoadLock</code>		<code>\faTruckMoving</code>
	<code>\faCarTunnel</code>		<code>\faRoadSpikes</code>		<code>\faTruckPickup</code>
	<code>\faFerry</code>		<code>\faRocket</code>		<code>\faTruckPlane</code>
	<code>\faHelicopter</code>		<code>\faSailboat</code>		<code>\faTruckRampBox</code>
	<code>\faJetFighter</code>		<code>\faShip</code>		<code>\faVanShuttle</code>

TABLE 524: lucide-icons Transportation Symbols

	<code>\lucideicon{ambulance}</code>		<code>\lucideicon{plane}</code>
	<code>\lucideicon{baggage-claim}</code>		<code>\lucideicon{plane-landing}</code>
	<code>\lucideicon{bike}</code>		<code>\lucideicon{plane-takeoff}</code>
	<code>\lucideicon{briefcase-conveyor-belt}</code>		<code>\lucideicon{rail-symbol}</code>
	<code>\lucideicon{bus}</code>		<code>\lucideicon{rocket}</code>
	<code>\lucideicon{bus-front}</code>		<code>\lucideicon{sailboat}</code>
	<code>\lucideicon{cable-car}</code>		<code>\lucideicon{scooter}</code>
	<code>\lucideicon{car}</code>		<code>\lucideicon{ship}</code>
	<code>\lucideicon{car-front}</code>		<code>\lucideicon{ship-wheel}</code>
	<code>\lucideicon{car-taxi-front}</code>		<code>\lucideicon{tower-control}</code>
	<code>\lucideicon{caravan}</code>		<code>\lucideicon{tractor}</code>
	<code>\lucideicon{ev-charger}</code>		<code>\lucideicon{traffic-cone}</code>
	<code>\lucideicon{forklift}</code>		<code>\lucideicon{train-front}</code>
	<code>\lucideicon{fuel}</code>		<code>\lucideicon{train-front-tunnel}</code>
	<code>\lucideicon{helicopter}</code>		<code>\lucideicon{train-track}</code>
	<code>\lucideicon{kayak}</code>		<code>\lucideicon{tram-front}</code>
	<code>\lucideicon{luggage}</code>		<code>\lucideicon{truck}</code>
	<code>\lucideicon{motorbike}</code>		<code>\lucideicon{truck-electric}</code>
	<code>\lucideicon{parking-meter}</code>		<code>\lucideicon{van}</code>

See the lucide-icons package note on page 454.





































TABLE 525: utfsym Transportation Symbols

	<code>\usym{26DF}</code>	<i>black truck</i>		<code>\usym{1F69C}</code>	<i>tractor</i>
	<code>\usym{26F4}</code>	<i>ferry</i>		<code>\usym{1F69D}</code>	<i>monorail</i>
	<code>\usym{26F5}</code>	<i>sailboat</i>		<code>\usym{1F69E}</code>	<i>mountain railway</i>
	<code>\usym{2708}</code>	<i>airplane</i>		<code>\usym{1F69F}</code>	<i>suspension railway</i>
	<code>\usym{1F3CD}</code>	<i>racing motorcycle</i>		<code>\usym{1F6A0}</code>	<i>mountain cableway</i>
	<code>\usym{1F680}</code>	<i>rocket</i>		<code>\usym{1F6A1}</code>	<i>aerial tramway</i>
	<code>\usym{1F681}</code>	<i>helicopter</i>		<code>\usym{1F6A2}</code>	<i>ship</i>
	<code>\usym{1F682}</code>	<i>steam locomotive</i>		<code>\usym{1F6A3}</code>	<i>rowboat</i>
	<code>\usym{1F683}</code>	<i>railway car</i>		<code>\usym{1F6A4}</code>	<i>speedboat</i>
	<code>\usym{1F684}</code>	<i>high-speed train</i>		<code>\usym{1F6A5}</code>	<i>horizontal traffic light</i>
	<code>\usym{1F685}</code>	<i>high-speed train with bullet nose</i>		<code>\usym{1F6A6}</code>	<i>vertical traffic light</i>
	<code>\usym{1F686}</code>	<i>train</i>		<code>\usym{1F6A7}</code>	<i>construction sign</i>
	<code>\usym{1F687}</code>	<i>metro</i>		<code>\usym{1F6A8}</code>	<i>police cars revolving light</i>
	<code>\usym{1F688}</code>	<i>light rail</i>		<code>\usym{1F6B2}</code>	<i>bicycle</i>
	<code>\usym{1F689}</code>	<i>station</i>		<code>\usym{1F6B4}</code>	<i>bicyclist</i>

(continued on next page)





























*(continued from previous page)*

	<code>\usym{1F68A}</code>	<i>tram</i>		<code>\usym{1F6B5}</code>	<i>mountain bicyclist</i>
	<code>\usym{1F68B}</code>	<i>tram car</i>		<code>\usym{1F6E3}</code>	<i>motorway</i>
	<code>\usym{1F68C}</code>	<i>bus</i>		<code>\usym{1F6E4}</code>	<i>railway track</i>
	<code>\usym{1F68D}</code>	<i>oncoming bus</i>		<code>\usym{1F6E5}</code>	<i>motor boat</i>
	<code>\usym{1F68E}</code>	<i>trolleybus</i>		<code>\usym{1F6E6}</code>	<i>up-pointing military airplane</i>
	<code>\usym{1F68F}</code>	<i>bus stop</i>		<code>\usym{1F6E7}</code>	<i>up-pointing airplane</i>
	<code>\usym{1F690}</code>	<i>minibus</i>		<code>\usym{1F6E8}</code>	<i>up-pointing small airplane</i>
	<code>\usym{1F691}</code>	<i>ambulance</i>		<code>\usym{1F6E9}</code>	<i>small airplane</i>
	<code>\usym{1F692}</code>	<i>fire engine</i>		<code>\usym{1F6EA}</code>	<i>northeast-pointing airplane</i>
	<code>\usym{1F693}</code>	<i>police car</i>		<code>\usym{1F6EB}</code>	<i>airplane departure</i>
	<code>\usym{1F694}</code>	<i>oncoming police car</i>		<code>\usym{1F6EC}</code>	<i>airplane arriving</i>
	<code>\usym{1F695}</code>	<i>taxi</i>		<code>\usym{1F6F1}</code>	<i>oncoming fire engine</i>
	<code>\usym{1F696}</code>	<i>oncoming taxi</i>		<code>\usym{1F6F2}</code>	<i>diesel locomotive</i>
	<code>\usym{1F697}</code>	<i>automobile</i>		<code>\usym{1F6F3}</code>	<i>passenger ship</i>
	<code>\usym{1F698}</code>	<i>oncoming automobile</i>		<code>\usym{1F6F4}</code>	<i>scooter</i>
	<code>\usym{1F699}</code>	<i>recreational vehicle</i>		<code>\usym{1F6F5}</code>	<i>motor scooter</i>
	<code>\usym{1F69A}</code>	<i>delivery truck</i>		<code>\usym{1F6F6}</code>	<i>canoe</i>
	<code>\usym{1F69B}</code>	<i>articulated lorry</i>		<code>\usym{1F3CE}</code>	<i>racing car</i>




















































See the `utfsym` package note on page 461.

TABLE 527: twemojis Transportation Symbols

	<code>\twemoji{1f6f0}</code>		<code>\twemoji{mountain railway}</code>
	<code>\twemoji{aerial tramway}</code>		<code>\twemoji{oncoming automobile}</code>
	<code>\twemoji{airplane}</code>		<code>\twemoji{oncoming bus}</code>
	<code>\twemoji{airplane arrival}</code>		<code>\twemoji{oncoming police car}</code>
	<code>\twemoji{airplane departure}</code>		<code>\twemoji{oncoming taxi}</code>
	<code>\twemoji{ambulance}</code>		<code>\twemoji{passenger ship}</code>
	<code>\twemoji{articulated lorry}</code>		<code>\twemoji{passport control}</code>
	<code>\twemoji{auto rickshaw}</code>		<code>\twemoji{person biking}*</code>
	<code>\twemoji{automobile}</code>		<code>\twemoji{person mountain biking}*</code>
	<code>\twemoji{baggage claim}</code>		<code>\twemoji{person rowing boat}*</code>
	<code>\twemoji{bicycle}</code>		<code>\twemoji{pickup truck}</code>
	<code>\twemoji{bullet train}</code>		<code>\twemoji{police car}</code>
	<code>\twemoji{bus}</code>		<code>\twemoji{police car light}</code>

*(continued on next page)*

(continued from previous page)

	<code>\twemoji{bus stop}</code>		<code>\twemoji{racing car}</code>
	<code>\twemoji{canoe}</code>		<code>\twemoji{railway car}</code>
	<code>\twemoji{construction}</code>		<code>\twemoji{railway track}</code>
	<code>\twemoji{customs}</code>		<code>\twemoji{rocket}</code>
	<code>\twemoji{delivery truck}</code>		<code>\twemoji{roller skate}</code>
	<code>\twemoji{ferry}</code>		<code>\twemoji{sailboat}</code>
	<code>\twemoji{fire engine}</code>		<code>\twemoji{ship}</code>
	<code>\twemoji{flying saucer}</code>		<code>\twemoji{skateboard}</code>
	<code>\twemoji{helicopter}</code>		<code>\twemoji{sled}</code>
	<code>\twemoji{high-speed train}</code>		<code>\twemoji{small airplane}</code>
	<code>\twemoji{horizontal traffic light}</code>		<code>\twemoji{speedboat}</code>
	<code>\twemoji{kick scooter}</code>		<code>\twemoji{sport utility vehicle}</code>
	<code>\twemoji{left luggage}</code>		<code>\twemoji{station}</code>
	<code>\twemoji{light rail}</code>		<code>\twemoji{suspension railway}</code>
	<code>\twemoji{locomotive}</code>		<code>\twemoji{taxi}</code>
	<code>\twemoji{man biking}*</code>		<code>\twemoji{tractor}</code>
	<code>\twemoji{man mountain biking}*</code>		<code>\twemoji{train2}</code>
	<code>\twemoji{man rowing boat}*</code>		<code>\twemoji{tram}</code>
	<code>\twemoji{metro}</code>		<code>\twemoji{tram car}</code>
	<code>\twemoji{minibus}</code>		<code>\twemoji{trolleybus}</code>
	<code>\twemoji{monorail}</code>		<code>\twemoji{vertical traffic light}</code>
	<code>\twemoji{motor boat}</code>		<code>\twemoji{wheel}</code>
	<code>\twemoji{motor scooter}</code>		<code>\twemoji{woman biking}*</code>
	<code>\twemoji{motorcycle}</code>		<code>\twemoji{woman mountain biking}*</code>
	<code>\twemoji{motorway}</code>		<code>\twemoji{woman rowing boat}*</code>
	<code>\twemoji{mountain cableway}</code>		

See the twemojis package note on page 460.

\* Variants of this symbol portraying different colors and styles are not shown. See the example in the twemojis note on page 460.

## Chapter 5

# Dingbats

Dingbats are symbols such as stars, arrows, and geometric shapes. They are commonly used as bullets in itemized lists or, more generally, as a means to draw attention to the text that follows.

The `pifont` dingbat package warrants special mention. Among other capabilities, `pifont` provides a  $\LaTeX$  interface to the Zapf Dingbats font (one of the standard 35 PostScript fonts). However, rather than name each of the dingbats individually, `pifont` provides a `\ding` command, which outputs the  $n$ th character in the font.

TABLE 529: bbding Arrows






	<code>\ArrowBoldDownRight</code>		<code>\ArrowBoldRightShort</code>		<code>\ArrowBoldUpRight</code>
	<code>\ArrowBoldRightCircled</code>		<code>\ArrowBoldRightStrobe</code>		

TABLE 530: pifont Arrows











































	<code>\ding{212}</code>		<code>\ding{221}</code>		<code>\ding{230}</code>		<code>\ding{239}</code>		<code>\ding{249}</code>
	<code>\ding{213}</code>		<code>\ding{222}</code>		<code>\ding{231}</code>		<code>\ding{241}</code>		<code>\ding{250}</code>
	<code>\ding{214}</code>		<code>\ding{223}</code>		<code>\ding{232}</code>		<code>\ding{242}</code>		<code>\ding{251}</code>
	<code>\ding{215}</code>		<code>\ding{224}</code>		<code>\ding{233}</code>		<code>\ding{243}</code>		<code>\ding{252}</code>
	<code>\ding{216}</code>		<code>\ding{225}</code>		<code>\ding{234}</code>		<code>\ding{244}</code>		<code>\ding{253}</code>
	<code>\ding{217}</code>		<code>\ding{226}</code>		<code>\ding{235}</code>		<code>\ding{245}</code>		<code>\ding{254}</code>
	<code>\ding{218}</code>		<code>\ding{227}</code>		<code>\ding{236}</code>		<code>\ding{246}</code>		
	<code>\ding{219}</code>		<code>\ding{228}</code>		<code>\ding{237}</code>		<code>\ding{247}</code>		
	<code>\ding{220}</code>		<code>\ding{229}</code>		<code>\ding{238}</code>		<code>\ding{248}</code>		

TABLE 531: adfsymbols Arrows

➤	<code>\adfarrowe1</code>	↗	<code>\adfarrowne1</code>	⤵	<code>\adfarrows1</code>	↘	<code>\adfarrowsw1</code>
→	<code>\adfarrowe2</code>	↖	<code>\adfarrowne2</code>	⤴	<code>\adfarrows2</code>	↙	<code>\adfarrowsw2</code>
➡	<code>\adfarrowe3</code>	↗	<code>\adfarrowne3</code>	⤵	<code>\adfarrows3</code>	↘	<code>\adfarrowsw3</code>
➤	<code>\adfarrowe4</code>	↗	<code>\adfarrowne4</code>	⤵	<code>\adfarrows4</code>	↘	<code>\adfarrowsw4</code>
→	<code>\adfarrowe5</code>	↖	<code>\adfarrowne5</code>	⤴	<code>\adfarrows5</code>	↙	<code>\adfarrowsw5</code>
➡	<code>\adfarrowe6</code>	↗	<code>\adfarrowne6</code>	⤵	<code>\adfarrows6</code>	↘	<code>\adfarrowsw6</code>
↑	<code>\adfarrown1</code>	↖	<code>\adfarrownw1</code>	↘	<code>\adfarrowse1</code>	←	<code>\adfarrownw1</code>
↑	<code>\adfarrown2</code>	↖	<code>\adfarrownw2</code>	↘	<code>\adfarrowse2</code>	←	<code>\adfarrownw2</code>
↑	<code>\adfarrown3</code>	↖	<code>\adfarrownw3</code>	↘	<code>\adfarrowse3</code>	←	<code>\adfarrownw3</code>
↑	<code>\adfarrown4</code>	↖	<code>\adfarrownw4</code>	↘	<code>\adfarrowse4</code>	←	<code>\adfarrownw4</code>
↑	<code>\adfarrown5</code>	↖	<code>\adfarrownw5</code>	↘	<code>\adfarrowse5</code>	←	<code>\adfarrownw5</code>
↑	<code>\adfarrown6</code>	↖	<code>\adfarrownw6</code>	↘	<code>\adfarrowse6</code>	←	<code>\adfarrownw6</code>
	↙	<code>\adfhalfarrowleft</code>		↘	<code>\adfhalfarrowright</code>		
	➡	<code>\adfhalfarrowleftsolid</code>		➤	<code>\adfhalfarrowrightsolid</code>		

Technically, the digit at the end of each `\adfarrow⟨dir⟩⟨digit⟩` command is a macro argument, not part of the command name.

The preceding symbols can also be produced by passing a number or a style/direction pair to the `\adfarrow` command. For example, both `\adfarrow{19}` and `\adfarrow[comic]{east}` produce “➡”. See the `adfsymbols` documentation for more information.







































TABLE 532: adforn Arrows

↙	<code>\adfhalfleftarrow</code>	➤	<code>\adfhalfrightarrowhead</code>
↙	<code>\adfhalfleftarrowhead</code>	↙	<code>\adleftarrowhead</code>
➤	<code>\adhalfrightarrow</code>	➤	<code>\adrightarrowhead</code>

TABLE 533: arev Arrows

➤	<code>\arrowbullet</code>
---	---------------------------

TABLE 534: utfsym Arrows

	<code>\usym{2794}</code>	<i>heavy wide-headed rightwards arrow</i>		<code>\usym{27AB}</code>	<i>back-tilted shadowed white rightwards arrow</i>
	<code>\usym{2798}</code>	<i>heavy south east arrow</i>		<code>\usym{27AC}</code>	<i>front-tilted shadowed white rightwards arrow</i>
	<code>\usym{2799}</code>	<i>heavy rightwards arrow</i>		<code>\usym{27AD}</code>	<i>heavy lower right-shadowed white rightwards arrow</i>
	<code>\usym{279A}</code>	<i>heavy north east arrow</i>		<code>\usym{27AE}</code>	<i>heavy upper right-shadowed white rightwards arrow</i>
	<code>\usym{279B}</code>	<i>drafting point rightwards arrow</i>		<code>\usym{27AF}</code>	<i>notched lower right-shadowed white rightwards arrow</i>
	<code>\usym{279C}</code>	<i>heavy round-tipped rightwards arrow</i>		<code>\usym{27B1}</code>	<i>notched upper right-shadowed white rightwards arrow</i>
	<code>\usym{279D}</code>	<i>triangle-headed rightwards arrow</i>		<code>\usym{27B2}</code>	<i>circled heavy white rightwards arrow</i>
	<code>\usym{279E}</code>	<i>heavy triangle-headed rightwards arrow</i>		<code>\usym{27B3}</code>	<i>white-feathered rightwards arrow</i>
	<code>\usym{279F}</code>	<i>dashed triangle-headed rightwards arrow</i>		<code>\usym{27B4}</code>	<i>black-feathered south east arrow</i>
	<code>\usym{27A0}</code>	<i>heavy dashed triangle-headed rightwards arrow</i>		<code>\usym{27B5}</code>	<i>black-feathered rightwards arrow</i>
	<code>\usym{27A1}</code>	<i>black rightwards arrow</i>		<code>\usym{27B6}</code>	<i>black-feathered north east arrow</i>
	<code>\usym{27A2}</code>	<i>3-D top-lighted rightwards arrowhead</i>		<code>\usym{27B7}</code>	<i>heavy black-feathered south east arrow</i>
	<code>\usym{27A3}</code>	<i>3-D bottom-lighted rightwards arrowhead</i>		<code>\usym{27B8}</code>	<i>heavy black-feathered rightwards arrow</i>
	<code>\usym{27A4}</code>	<i>black rightwards arrowhead</i>		<code>\usym{27B9}</code>	<i>heavy black-feathered north east arrow</i>
	<code>\usym{27A5}</code>	<i>heavy black curved downwards and rightwards arrow</i>		<code>\usym{27BA}</code>	<i>teardrop-barbed rightwards arrow</i>
	<code>\usym{27A6}</code>	<i>heavy black curved upwards and rightwards arrow</i>		<code>\usym{27BB}</code>	<i>heavy teardrop-shanked rightwards arrow</i>
	<code>\usym{27A7}</code>	<i>squat black rightwards arrow</i>		<code>\usym{27BC}</code>	<i>wedge-tailed rightwards arrow</i>
	<code>\usym{27A8}</code>	<i>heavy concave-pointed black rightwards arrow</i>		<code>\usym{27BD}</code>	<i>heavy wedge-tailed rightwards arrow</i>
	<code>\usym{27A9}</code>	<i>right-shaded white rightwards arrow</i>		<code>\usym{27BE}</code>	<i>open-outlined rightwards arrow</i>

(continued on next page)

(continued from previous page)

⇒ \usym{27AA} *left-shaded white  
rightwards arrow*

See the utfsym package note on page 461.

TABLE 535: twemojis Arrows

← BACK	\twemoji{BACK arrow}	→	\twemoji{right arrow}
↻	\twemoji{clockwise vertical arrows}	↘	\twemoji{right arrow curving down}
↓	\twemoji{down arrow}	↶	\twemoji{right arrow curving left}
↙	\twemoji{down-left arrow}	↗	\twemoji{right arrow curving up}
↘	\twemoji{down-right arrow}	→	\twemoji{SOON arrow}
END	\twemoji{END arrow}	↑	\twemoji{TOP arrow}
←	\twemoji{left arrow}	↑	\twemoji{up arrow}
↻	\twemoji{left arrow curving right}	↓	\twemoji{up-down arrow}
↔	\twemoji{left-right arrow}	↖	\twemoji{up-left arrow}
ON!	\twemoji{ON! arrow}	↗	\twemoji{up-right arrow}

See the twemojis package note on page 460.

TABLE 536: asapsym Arrows

⬇	\asapArrowCircleFillDown	⊖	\asapArrowCircleOpenRight
⬇↶	\asapArrowCircleFillDownLeft	⬆	\asapArrowCircleOpenUp
⬇↷	\asapArrowCircleFillDownRight	⬇↶	\asapArrowCircleOpenUpLeft
⬅	\asapArrowCircleFillLeft	⬇↷	\asapArrowCircleOpenUpRight
➡	\asapArrowCircleFillRight	↓	\asapArrowDown
⬆	\asapArrowCircleFillUp	↙	\asapArrowDownLeft
⬆↶	\asapArrowCircleFillUpLeft	↘	\asapArrowDownRight
⬆↷	\asapArrowCircleFillUpRight	←	\asapArrowLeft
⬇	\asapArrowCircleOpenDown	→	\asapArrowRight
⬇↶	\asapArrowCircleOpenDownLeft	↑	\asapArrowUp
⬇↷	\asapArrowCircleOpenDownRight	↖	\asapArrowUpLeft
⬅	\asapArrowCircleOpenLeft	↗	\asapArrowUpRight

See the asapsym package note on page 450.

TABLE 537: typicons Arrows

↩	<code>\tiArrowBack</code>	↗	<code>\tiArrowMaximise</code>	▼	<code>\tiArrowSortedDown</code>
↩	<code>\tiArrowBackOutline</code>	↗	<code>\tiArrowMaximiseOutline</code>	▲	<code>\tiArrowSortedUp</code>
↓	<code>\tiArrowDown</code>	↖	<code>\tiArrowMinimise</code>	↻	<code>\tiArrowSync</code>
↓	<code>\tiArrowDownOutline</code>	↖	<code>\tiArrowMinimiseOutline</code>	↻	<code>\tiArrowSyncOutline</code>
↓	<code>\tiArrowDownThick</code>	↔	<code>\tiArrowMove</code>	↕	<code>\tiArrowUnsorted</code>
➡	<code>\tiArrowForward</code>	↔	<code>\tiArrowMoveOutline</code>	↑	<code>\tiArrowUp</code>
➡	<code>\tiArrowForwardOutline</code>	↻	<code>\tiArrowRepeat</code>	↑	<code>\tiArrowUpOutline</code>
←	<code>\tiArrowLeft</code>	↻	<code>\tiArrowRepeatOutline</code>	↑	<code>\tiArrowUpThick</code>
←	<code>\tiArrowLeftOutline</code>	→	<code>\tiArrowRight</code>	↗	<code>\tiLocationArrow</code>
←	<code>\tiArrowLeftThick</code>	⇒	<code>\tiArrowRightOutline</code>	↗	<code>\tiLocationArrowOutline</code>
↻	<code>\tiArrowLoop</code>	➡	<code>\tiArrowRightThick</code>		
↻	<code>\tiArrowLoopOutline</code>	↻	<code>\tiArrowShuffle</code>		























































































See the typicons package note on page 460.

TABLE 538: fontawesome7 Arrows

↓	<code>\faArrowDown</code>	⋯	<code>\faArrowsTurnToDots</code>	↻	<code>\faCircleLeft</code>
↓	<code>\faArrowDownLong</code>	↕	<code>\faArrowsUpDown</code>	↻	<code>\faCircleLeft[regular]</code>
←	<code>\faArrowLeft</code>	↑↑	<code>\faArrowsUpToLine</code>	↻	<code>\faCircleRight</code>
←	<code>\faArrowLeftLong</code>	↘	<code>\faArrowTrendDown</code>	↻	<code>\faCircleRight[regular]</code>
→	<code>\faArrowRight</code>	↗	<code>\faArrowTrendUp</code>	↻	<code>\faCircleUp</code>
↔	<code>\faArrowRightArrowLeft</code>	↑	<code>\faArrowUp</code>	↻	<code>\faCircleUp[regular]</code>
→	<code>\faArrowRightLong</code>	↗	<code>\faArrowUpFromBracket</code>	↓	<code>\faDownLong</code>
↕	<code>\faArrowsDownToLine</code>	↑	<code>\faArrowUpLong</code>	←	<code>\faLeftLong</code>
↔	<code>\faArrowsLeftRight</code>	⋯	<code>\faArrowUpRightDots</code>	↔	<code>\faLeftRight</code>
↔	<code>\faArrowsLeftRightToLine</code>	↻	<code>\faCircleArrowDown</code>	↔	<code>\faRightLeft</code>
↻	<code>\faArrowsSpin</code>	↻	<code>\faCircleArrowLeft</code>	→	<code>\faRightLong</code>
↻	<code>\faArrowsSplitUpAndLeft</code>	↻	<code>\faCircleArrowRight</code>	↘	<code>\faTurnDown</code>
↻	<code>\faArrowsToCircle</code>	↻	<code>\faCircleArrowUp</code>	↗	<code>\faTurnUp</code>
↻	<code>\faArrowsToDot</code>	↻	<code>\faCircleDown</code>	↕	<code>\faUpDown</code>
↻	<code>\faArrowsTurnRight</code>	↻	<code>\faCircleDown[regular]</code>	↑	<code>\faUpLong</code>

All of these symbols either had different names or did not exist in fontawesome5.

TABLE 539: lucide-icons Arrows

	<code>\lucideicon{arrow-big-down}</code>		<code>\lucideicon{iteration-ccw}</code>
	<code>\lucideicon{arrow-big-down-dash}</code>		<code>\lucideicon{iteration-cw}</code>
	<code>\lucideicon{arrow-big-left}</code>		<code>\lucideicon{maximize-2}</code>
	<code>\lucideicon{arrow-big-left-dash}</code>		<code>\lucideicon{merge}</code>
	<code>\lucideicon{arrow-big-right}</code>		<code>\lucideicon{minimize-2}</code>
	<code>\lucideicon{arrow-big-right-dash}</code>		<code>\lucideicon{move}</code>
	<code>\lucideicon{arrow-big-up}</code>		<code>\lucideicon{move-3d}</code>
	<code>\lucideicon{arrow-big-up-dash}</code>		<code>\lucideicon{move-diagonal}</code>
	<code>\lucideicon{arrow-down}</code>		<code>\lucideicon{move-diagonal-2}</code>
	<code>\lucideicon{arrow-down-from-line}</code>		<code>\lucideicon{move-down}</code>
	<code>\lucideicon{arrow-down-left}</code>		<code>\lucideicon{move-down-left}</code>
	<code>\lucideicon{arrow-down-right}</code>		<code>\lucideicon{move-down-right}</code>
	<code>\lucideicon{arrow-down-to-dot}</code>		<code>\lucideicon{move-horizontal}</code>
	<code>\lucideicon{arrow-down-to-line}</code>		<code>\lucideicon{move-left}</code>
	<code>\lucideicon{arrow-down-up}</code>		<code>\lucideicon{move-right}</code>
	<code>\lucideicon{arrow-left}</code>		<code>\lucideicon{move-up}</code>
	<code>\lucideicon{arrow-left-from-line}</code>		<code>\lucideicon{move-up-left}</code>
	<code>\lucideicon{arrow-left-right}</code>		<code>\lucideicon{move-up-right}</code>
	<code>\lucideicon{arrow-left-to-line}</code>		<code>\lucideicon{move-vertical}</code>
	<code>\lucideicon{arrow-right}</code>		<code>\lucideicon{redo}</code>
	<code>\lucideicon{arrow-right-from-line}</code>		<code>\lucideicon{redo-2}</code>
	<code>\lucideicon{arrow-right-left}</code>		<code>\lucideicon{redo-dot}</code>
	<code>\lucideicon{arrow-right-to-line}</code>		<code>\lucideicon{refresh-ccw}</code>
	<code>\lucideicon{arrow-up}</code>		<code>\lucideicon{refresh-ccw-dot}</code>
	<code>\lucideicon{arrow-up-down}</code>		<code>\lucideicon{refresh-cw}</code>
	<code>\lucideicon{arrow-up-from-dot}</code>		<code>\lucideicon{refresh-cw-off}</code>
	<code>\lucideicon{arrow-up-from-line}</code>		<code>\lucideicon{reply}</code>
	<code>\lucideicon{arrow-up-left}</code>		<code>\lucideicon{reply-all}</code>
	<code>\lucideicon{arrow-up-right}</code>		<code>\lucideicon{rotate-ccw}</code>
	<code>\lucideicon{arrow-up-to-line}</code>		<code>\lucideicon{rotate-ccw-key}</code>
	<code>\lucideicon{arrows-up-from-line}</code>		<code>\lucideicon{rotate-ccw-square}</code>
	<code>\lucideicon{corner-down-left}</code>		<code>\lucideicon{rotate-cw}</code>
	<code>\lucideicon{corner-down-right}</code>		<code>\lucideicon{rotate-cw-square}</code>
	<code>\lucideicon{corner-left-down}</code>		<code>\lucideicon{shrink}</code>
	<code>\lucideicon{corner-left-up}</code>		<code>\lucideicon{split}</code>
	<code>\lucideicon{corner-right-down}</code>		<code>\lucideicon{trending-down}</code>
	<code>\lucideicon{corner-right-up}</code>		<code>\lucideicon{trending-up}</code>
	<code>\lucideicon{corner-up-left}</code>		<code>\lucideicon{trending-up-down}</code>
	<code>\lucideicon{corner-up-right}</code>		<code>\lucideicon{undo}</code>
	<code>\lucideicon{expand}</code>		<code>\lucideicon{undo-2}</code>
	<code>\lucideicon{fold-horizontal}</code>		<code>\lucideicon{undo-dot}</code>
	<code>\lucideicon{fold-vertical}</code>		<code>\lucideicon{unfold-horizontal}</code>
	<code>\lucideicon{forward}</code>		<code>\lucideicon{unfold-vertical}</code>

See the lucide-icons package note on page 454.



TABLE 541: marvosym Scissors

✂	<code>\CutLeft</code>	✂	<code>\CutRight</code>	✂	<code>\LeftScissors</code>
---	<code>\CutLine</code>	---	<code>\CuttingLine</code>	✂	<code>\RightScissors</code>

TABLE 542: bbding Scissors














	<code>\ScissorHollowLeft</code>		<code>\ScissorLeftBrokenTop</code>
	<code>\ScissorHollowRight</code>		<code>\ScissorRight</code>
	<code>\ScissorLeft</code>		<code>\ScissorRightBrokenBottom</code>
	<code>\ScissorLeftBrokenBottom</code>		<code>\ScissorRightBrokenTop</code>

TABLE 543: pifont Scissors

	<code>\ding{33}</code>	✂	<code>\ding{34}</code>		<code>\ding{35}</code>		<code>\ding{36}</code>
-----------------------------------------------------------------------------------	------------------------	---	------------------------	-----------------------------------------------------------------------------------	------------------------	-------------------------------------------------------------------------------------	------------------------

TABLE 544: utfsym Scissors

	<code>\usym{2700}</code>	<i>black safety scissors</i>		<code>\usym{2703}</code>	<i>lower blade scissors</i>
	<code>\usym{2701}</code>	<i>upper blade scissors</i>		<code>\usym{2704}</code>	<i>white scissors</i>
	<code>\usym{2702}</code>	<i>black scissors</i>			

See the utfsym package note on page 461.

TABLE 545: lucide-icons Scissors

✂	<code>\lucideicon{scissors}</code>	✂	<code>\lucideicon{scissors-line-dashed}</code>
---	------------------------------------	---	------------------------------------------------

See the lucide-icons package note on page 454.

TABLE 546: dingbat Pencils



	<code>\largepencil</code>		<code>\smallpencil</code>
-------------------------------------------------------------------------------------	---------------------------	-------------------------------------------------------------------------------------	---------------------------

TABLE 547: arev Pencils









	<code>\pencil</code>
-------------------------------------------------------------------------------------	----------------------

TABLE 548: typicons Pencils and Pens

 `\tiPen`     `\tiPencil`










See the typicons package note on page 460.

TABLE 549: fontawesome7 Pencils, Pens, and Nibs

 `\faHighlighter`     `\faPencil`     `\faPenNib`  
 `\faMarker`     `\faPenClip`     `\faSquarePen*`  
 `\faPen`     `\faPenFancy`

\* In fontawesome5, `\faSquarePen` was called `\faPenSquare`,

TABLE 550: lucide-icons Pencils, Pens, and Nibs

 `\lucideicon{highlighter}`     `\lucideicon{pencil}`  
 `\lucideicon{pen}`     `\lucideicon{pencil-line}`  
 `\lucideicon{pen-line}`     `\lucideicon{pencil-off}`  
 `\lucideicon{pen-off}`     `\lucideicon{pencil-ruler}`  
 `\lucideicon{pen-tool}`

See the lucide-icons package note on page 454.

TABLE 551: bbding Pencils and Nibs











 `\NibLeft`     `\PencilLeft`     `\PencilRightDown`  
 `\NibRight`     `\PencilLeftDown`     `\PencilRightUp`  
 `\NibSolidLeft`     `\PencilLeftUp`  
 `\NibSolidRight`     `\PencilRight`

TABLE 552: pifont Pencils and Nibs























 `\ding{46}`     `\ding{47}`     `\ding{48}`     `\ding{49}`     `\ding{50}`

TABLE 553: utfsym Writing Utensils

	<code>\usym{270E}</code>	<i>lower right pencil</i>		<code>\usym{1F589}</code>	<i>lower left pencil</i>
	<code>\usym{270F}</code>	<i>pencil</i>		<code>\usym{1F58A}</code>	<i>lower left ballpoint pen</i>
	<code>\usym{2710}</code>	<i>upper right pencil</i>		<code>\usym{1F58B}</code>	<i>lower left fountain pen</i>
	<code>\usym{2711}</code>	<i>white nib</i>		<code>\usym{1F58C}</code>	<i>lower left paintbrush</i>
	<code>\usym{2712}</code>	<i>black nib</i>		<code>\usym{1F58D}</code>	<i>lower left crayon</i>

See the utfsym package note on page 461.

TABLE 554: twemojis Writing Utensils

	<code>\twemoji{270f}</code>		<code>\twemoji{fountain pen}</code>		<code>\twemoji{pencil}</code>
	<code>\twemoji{black nib}</code>		<code>\twemoji{paintbrush}</code>		
	<code>\twemoji{crayon}</code>		<code>\twemoji{pen}</code>		

See the twemojis package note on page 460.

TABLE 555: dingbat Fists








	<code>\leftpointright</code>		<code>\rightpointleft</code>		<code>\rightpointright</code>
	<code>\leftthumbsdown</code>		<code>\rightthumbsdown</code>		
	<code>\leftthumbsup</code>		<code>\rightthumbsup</code>		

TABLE 556: bbding Fists










	<code>\HandCuffLeft</code>		<code>\HandCuffRightUp</code>		<code>\HandPencilLeft</code>
	<code>\HandCuffLeftUp</code>		<code>\HandLeft</code>		<code>\HandRight</code>
	<code>\HandCuffRight</code>		<code>\HandLeftUp</code>		<code>\HandRightUp</code>

TABLE 557: pifont Fists





	<code>\ding{42}</code>		<code>\ding{43}</code>		<code>\ding{44}</code>		<code>\ding{45}</code>
-------------------------------------------------------------------------------------	------------------------	-------------------------------------------------------------------------------------	------------------------	-------------------------------------------------------------------------------------	------------------------	---------------------------------------------------------------------------------------	------------------------

TABLE 558: fourier Fists

	<code>\lefthand</code>		<code>\righthand</code>
-------------------------------------------------------------------------------------	------------------------	-------------------------------------------------------------------------------------	-------------------------

TABLE 559: arev Fists








 `\pointright`

TABLE 560: utfsym Fists

	<code>\usym{261A}</code>	<i>black left pointing index</i>		<code>\usym{1F58F}</code>	<i>turned OK hand sign</i>
	<code>\usym{261B}</code>	<i>black right pointing index</i>		<code>\usym{1F590}</code>	<i>raised hand with fingers splayed</i>
	<code>\usym{261C}</code>	<i>white left pointing index</i>		<code>\usym{1F591}</code>	<i>reversed raised hand with fingers splayed</i>
	<code>\usym{261D}</code>	<i>white up pointing index</i>		<code>\usym{1F592}</code>	<i>reversed thumbs up sign</i>
	<code>\usym{261E}</code>	<i>white right pointing index</i>		<code>\usym{1F593}</code>	<i>reversed thumbs down sign</i>
	<code>\usym{261F}</code>	<i>white down pointing index</i>		<code>\usym{1F594}</code>	<i>reversed victory hand</i>
	<code>\usym{270A}</code>	<i>raised fist</i>		<code>\usym{1F595}</code>	<i>reversed hand with middle finger extended</i>
	<code>\usym{270B}</code>	<i>raised hand</i>		<code>\usym{1F596}</code>	<i>raised hand with part between middle and ring fingers</i>
	<code>\usym{270C}</code>	<i>victory hand</i>		<code>\usym{1F597}</code>	<i>white down pointing left hand index</i>
	<code>\usym{270D}</code>	<i>writing hand</i>		<code>\usym{1F598}</code>	<i>sideways white left pointing index</i>
	<code>\usym{1F446}</code>	<i>white up pointing backhand index</i>		<code>\usym{1F599}</code>	<i>sideways white right pointing index</i>
	<code>\usym{1F447}</code>	<i>white down pointing backhand index</i>		<code>\usym{1F59A}</code>	<i>sideways black left pointing index</i>
	<code>\usym{1F448}</code>	<i>white left pointing backhand index</i>		<code>\usym{1F59B}</code>	<i>sideways black right pointing index</i>
	<code>\usym{1F449}</code>	<i>white right pointing backhand index</i>		<code>\usym{1F59C}</code>	<i>black left pointing backhand index</i>
	<code>\usym{1F44A}</code>	<i>fisted hand sign</i>		<code>\usym{1F59D}</code>	<i>black right pointing backhand index</i>
	<code>\usym{1F44B}</code>	<i>waving hand sign</i>		<code>\usym{1F59E}</code>	<i>sideways white up pointing index</i>
	<code>\usym{1F44C}</code>	<i>OK hand sign</i>		<code>\usym{1F59F}</code>	<i>sideways white down pointing index</i>
	<code>\usym{1F44D}</code>	<i>thumbs up sign</i>		<code>\usym{1F5A0}</code>	<i>sideways black up pointing index</i>
	<code>\usym{1F44E}</code>	<i>thumbs down sign</i>		<code>\usym{1F5A1}</code>	<i>sideways black down pointing index</i>








































(continued on next page)

(continued from previous page)

	<code>\usym{1F44F}</code>	<i>clapping hands sign</i>		<code>\usym{1F5A2}</code>	<i>black up pointing backhand index</i>
	<code>\usym{1F450}</code>	<i>open hands sign</i>		<code>\usym{1F5A3}</code>	<i>black down pointing backhand index</i>
	<code>\usym{1F58E}</code>	<i>left writing hand</i>			




See the `utfsym` package note on page 461.

TABLE 561: twemojis Fists

	<code>\twemoji{backhand index pointing down}</code>		<code>\twemoji{open hands}</code>
	<code>\twemoji{backhand index pointing left}</code>		<code>\twemoji{palm down hand}</code>
	<code>\twemoji{backhand index pointing right}</code>		<code>\twemoji{palm up hand}</code>
	<code>\twemoji{backhand index pointing up}</code>		<code>\twemoji{palms up together}</code>
	<code>\twemoji{call me hand}</code>		<code>\twemoji{pinched fingers}</code>
	<code>\twemoji{clapping hands}</code>		<code>\twemoji{pinching hand}</code>
	<code>\twemoji{crossed fingers}</code>		<code>\twemoji{raised back of hand}</code>
	<code>\twemoji{folded hands}</code>		<code>\twemoji{raised fist}</code>
	<code>\twemoji{hand with fingers splayed}</code>		<code>\twemoji{raised hand}</code>
	<code>\twemoji{hand with index finger and thumb crossed}</code>		<code>\twemoji{raising hands}</code>
	<code>\twemoji{handshake}</code>		<code>\twemoji{right-facing fist}</code>
	<code>\twemoji{heart hands}</code>		<code>\twemoji{rightwards hand}</code>
	<code>\twemoji{index pointing at the viewer}</code>		<code>\twemoji{sign of the horns}</code>
	<code>\twemoji{index pointing up}</code>		<code>\twemoji{thumbs down}</code>
	<code>\twemoji{left-facing fist}</code>		<code>\twemoji{thumbs up}</code>
	<code>\twemoji{leftwards hand}</code>		<code>\twemoji{victory hand}</code>
	<code>\twemoji{love-you gesture}</code>		<code>\twemoji{vulcan salute}</code>
	<code>\twemoji{middle finger}</code>		<code>\twemoji{waving hand}</code>
	<code>\twemoji{OK hand}</code>		<code>\twemoji{writing hand}</code>
	<code>\twemoji{oncoming fist}</code>		















































See the `twemojis` package note on page 460, in particular the example showing symbol variants.

TABLE 563: typicons Fists

 \tiThumbsDown    \tiThumbsOk    \tiThumbsUp










See the typicons package note on page 460.

TABLE 564: fontawesome7 Fists

	\faHand		\faHandPointRight[regular]
	\faHand[regular]		\faHandPointUp
	\faHandBackFist		\faHandPointUp[regular]
	\faHandBackFist[regular]		\faHands
	\faHandFist		\faHandsBound
	\faHandHolding		\faHandsBubbles
	\faHandHoldingDollar		\faHandScissors
	\faHandHoldingDroplet		\faHandScissors[regular]
	\faHandHoldingHand		\faHandsClapping
	\faHandHoldingHeart		\faHandshake
	\faHandHoldingMedical		\faHandshake[regular]
	\faHandLizard		\faHandshakeAngle
	\faHandLizard[regular]		\faHandshakeSlash
	\faHandMiddleFinger		\faHandsHolding
	\faHandPeace		\faHandsHoldingChild
	\faHandPeace[regular]		\faHandsHoldingCircle
	\faHandPointDown		\faHandSparkles
	\faHandPointDown[regular]		\faHandSpock
	\faHandPointer		\faHandSpock[regular]
	\faHandPointer[regular]		\faThumbsDown
	\faHandPointLeft		\faThumbsDown[regular]
	\faHandPointLeft[regular]		\faThumbsUp
	\faHandPointRight		\faThumbsUp[regular]

Many of these symbols had different names in fontawesome5.

TABLE 566: lucide-icons Fists

	\lucideicon{hand}		\lucideicon{hand-helping}
	\lucideicon{hand-coins}		\lucideicon{hand-metal}
	\lucideicon{hand-fist}		\lucideicon{thumbs-down}
	\lucideicon{hand-grab}		\lucideicon{thumbs-up}
	\lucideicon{hand-heart}		

See the lucide-icons package note on page 454.

TABLE 567: bbding Crosses and Plusses

†	<code>\Cross</code>	†	<code>\CrossOpenShadow</code>	+	<code>\PlusOutline</code>
†	<code>\CrossBoldOutline</code>	†	<code>\CrossOutline</code>	+	<code>\PlusThinCenterOpen</code>
✚	<code>\CrossClowerTips</code>	+	<code>\Plus</code>		
✠	<code>\CrossMaltese</code>	+	<code>\PlusCenterOpen</code>		

TABLE 568: pifont Crosses and Plusses

✚	<code>\ding{57}</code>	+	<code>\ding{59}</code>	†	<code>\ding{61}</code>	†	<code>\ding{63}</code>
+	<code>\ding{58}</code>	✚	<code>\ding{60}</code>	†	<code>\ding{62}</code>	✠	<code>\ding{64}</code>

TABLE 569: adfsymbols Crosses and Plusses

✚	<code>\adfbullet{4}</code>	✚	<code>\adfbullet{6}</code>	✚	<code>\adfbullet{8}</code>	✚	<code>\adfbullet{10}</code>
✚	<code>\adfbullet{5}</code>	+	<code>\adfbullet{7}</code>	✚	<code>\adfbullet{9}</code>		

TABLE 570: utfsym Crosses and Plusses

+	<code>\usym{2719}</code>	<i>outlined Greek cross</i>	✚	<code>\usym{2723}</code>	<i>four balloon-spoked asterisk</i>
+	<code>\usym{271A}</code>	<i>heavy Greek cross</i>	✚	<code>\usym{2724}</code>	<i>heavy four balloon-spoked asterisk</i>
+	<code>\usym{271B}</code>	<i>open center cross</i>	✚	<code>\usym{2725}</code>	<i>four club-spoked asterisk</i>
✚	<code>\usym{271C}</code>	<i>heavy open center cross</i>	⊕	<code>\usym{1F540}</code>	<i>circled cross pommee</i>
†	<code>\usym{271D}</code>	<i>Latin cross</i>	⊕	<code>\usym{1F541}</code>	<i>cross pommee with half-circle below</i>
†	<code>\usym{271E}</code>	<i>shadowed white Latin cross</i>	✚	<code>\usym{1F542}</code>	<i>cross pommee</i>
†	<code>\usym{271F}</code>	<i>outlined Latin cross</i>	†	<code>\usym{1F546}</code>	<i>white Latin cross</i>
✠	<code>\usym{2720}</code>	<i>Maltese cross</i>	†	<code>\usym{1F547}</code>	<i>heavy Latin cross</i>
+	<code>\usym{2722}</code>	<i>four teardrop-spoked asterisk</i>	✚	<code>\usym{1F548}</code>	<i>Celtic cross</i>

See the utfsym package note on page 461.

TABLE 571: arev Crosses

†	<code>\eastcross</code>	†	<code>\westcross</code>
---	-------------------------	---	-------------------------

TABLE 572: bbding Xs and Check Marks

✓	<code>\Checkmark</code>	✕	<code>\XSolid</code>	✕	<code>\XSolidBrush</code>
✓	<code>\CheckmarkBold</code>	✕	<code>\XSolidBold</code>		

TABLE 573: pifont Xs and Check Marks

✓	<code>\ding{51}</code>	×	<code>\ding{53}</code>	✕	<code>\ding{55}</code>
✓	<code>\ding{52}</code>	✕	<code>\ding{54}</code>	✕	<code>\ding{56}</code>

TABLE 574: wasysym Xs and Check Marks

☑	<code>\CheckedBox</code>	□	<code>\Square</code>	☒	<code>\XBox</code>
---	--------------------------	---	----------------------	---	--------------------

TABLE 575: marvosym Xs and Check Marks

☑	<code>\Checkedbox</code>	☒	<code>\CrossedBox*</code>	□	<code>\HollowBox</code>
---	--------------------------	---	---------------------------	---	-------------------------

\* marvosym defines `\Crossedbox` as a synonym for `\CrossedBox`.

TABLE 576: arev Xs and Check Marks

✓	<code>\ballotcheck</code>	✕	<code>\ballotx</code>
---	---------------------------	---	-----------------------

TABLE 577: utfsym Xs and Check Marks

□	<code>\usym{2610}</code>	<i>ballot box</i>	✕	<code>\usym{274C}</code>	<i>cross mark</i>
☑	<code>\usym{2611}</code>	<i>ballot box with check</i>	☒	<code>\usym{274E}</code>	<i>negative squared cross mark</i>
☒	<code>\usym{2612}</code>	<i>ballot box with X</i>	✕	<code>\usym{1F5F4}</code>	<i>ballot script X</i>
×	<code>\usym{2613}</code>	<i>saltire</i>	☒	<code>\usym{1F5F5}</code>	<i>ballot box with script X</i>
✓	<code>\usym{2705}</code>	<i>white heavy check mark</i>	✕	<code>\usym{1F5F6}</code>	<i>ballot bold script X</i>
✓	<code>\usym{2713}</code>	<i>check mark</i>	☒	<code>\usym{1F5F7}</code>	<i>ballot box with bold script X</i>
✓	<code>\usym{2714}</code>	<i>heavy check mark</i>	✓	<code>\usym{1F5F8}</code>	<i>light check mark</i>
✕	<code>\usym{2717}</code>	<i>ballot X</i>	☑	<code>\usym{1F5F9}</code>	<i>ballot box with bold check</i>
✕	<code>\usym{2718}</code>	<i>heavy ballot X</i>			

See the `utfsym` package note on page 461.

TABLE 578: twemojis Xs and Check Marks

☑	<code>\twemoji{check box with check}</code>	✕	<code>\twemoji{cross mark}</code>
✓	<code>\twemoji{check mark}</code>	☒	<code>\twemoji{cross mark button}</code>
☑	<code>\twemoji{check mark button}</code>		

See the `twemojis` package note on page 460.



TABLE 579: typicons Xs and Check Marks

⊗	<code>\tiDelete</code>	☑	<code>\tiInputCheckedOutline</code>	✕	<code>\tiTimes</code>
⊗	<code>\tiDeleteOutline</code>	✓	<code>\tiTick</code>	⊗	<code>\tiTimesOutline</code>
☑	<code>\tiInputChecked</code>	✔	<code>\tiTickOutline</code>		

See the typicons package note on page 460.

TABLE 580: fontawesome7 Xs and Check Marks

✓	<code>\faCheck</code>	⊗	<code>\faCircleXmark[regular]</code>
✓✓	<code>\faCheckDouble</code>	☑	<code>\faSquareCheck</code>
●	<code>\faCircleCheck</code>	☑	<code>\faSquareCheck[regular]</code>
●	<code>\faCircleCheck[regular]</code>	✕	<code>\faXmark</code>
⊗	<code>\faCircleXmark</code>		

Almost all of these symbols had different names in fontawesome5.

TABLE 581: lucide-icons Check Marks

✓	<code>\lucideicon{check}</code>	✕	<code>\lucideicon{check-line}</code>
✓✓	<code>\lucideicon{check-check}</code>		

See the lucide-icons package note on page 454.

TABLE 582: pifont Circled Numerals

①	<code>\ding{172}</code>	❶	<code>\ding{182}</code>	①	<code>\ding{192}</code>	❶	<code>\ding{202}</code>
②	<code>\ding{173}</code>	❷	<code>\ding{183}</code>	②	<code>\ding{193}</code>	❷	<code>\ding{203}</code>
③	<code>\ding{174}</code>	❸	<code>\ding{184}</code>	③	<code>\ding{194}</code>	❸	<code>\ding{204}</code>
④	<code>\ding{175}</code>	❹	<code>\ding{185}</code>	④	<code>\ding{195}</code>	❹	<code>\ding{205}</code>
⑤	<code>\ding{176}</code>	❺	<code>\ding{186}</code>	⑤	<code>\ding{196}</code>	❺	<code>\ding{206}</code>
⑥	<code>\ding{177}</code>	❻	<code>\ding{187}</code>	⑥	<code>\ding{197}</code>	❻	<code>\ding{207}</code>
⑦	<code>\ding{178}</code>	❼	<code>\ding{188}</code>	⑦	<code>\ding{198}</code>	❼	<code>\ding{208}</code>
⑧	<code>\ding{179}</code>	❽	<code>\ding{189}</code>	⑧	<code>\ding{199}</code>	❽	<code>\ding{209}</code>
⑨	<code>\ding{180}</code>	❾	<code>\ding{190}</code>	⑨	<code>\ding{200}</code>	❾	<code>\ding{210}</code>
⑩	<code>\ding{181}</code>	❿	<code>\ding{191}</code>	⑩	<code>\ding{201}</code>	❿	<code>\ding{211}</code>

pifont (part of the psnfss package) provides a `dingautolist` environment which resembles `enumerate` but uses circled numbers as bullets.<sup>1</sup> See the psnfss documentation for more information.

<sup>1</sup>In fact, `dingautolist` can use any set of consecutive Zapf Dingbats symbols.

TABLE 583: `utfsym` Circled Numerals

❶	<code>\usym{2776}</code>	<i>dingbat negative circled digit one</i>	❶	<code>\usym{2785}</code>	<i>dingbat circled sans-serif digit six</i>
❷	<code>\usym{2777}</code>	<i>dingbat negative circled digit two</i>	❷	<code>\usym{2786}</code>	<i>dingbat circled sans-serif digit seven</i>
❸	<code>\usym{2778}</code>	<i>dingbat negative circled digit three</i>	❸	<code>\usym{2787}</code>	<i>dingbat circled sans-serif digit eight</i>
❹	<code>\usym{2779}</code>	<i>dingbat negative circled digit four</i>	❹	<code>\usym{2788}</code>	<i>dingbat circled sans-serif digit nine</i>
❺	<code>\usym{277A}</code>	<i>dingbat negative circled digit five</i>	❺	<code>\usym{2789}</code>	<i>dingbat circled sans-serif number ten</i>
❻	<code>\usym{277B}</code>	<i>dingbat negative circled digit six</i>	❶	<code>\usym{278A}</code>	<i>dingbat negative circled sans-serif digit one</i>
❼	<code>\usym{277C}</code>	<i>dingbat negative circled digit seven</i>	❷	<code>\usym{278B}</code>	<i>dingbat negative circled sans-serif digit two</i>
❽	<code>\usym{277D}</code>	<i>dingbat negative circled digit eight</i>	❸	<code>\usym{278C}</code>	<i>dingbat negative circled sans-serif digit three</i>
❾	<code>\usym{277E}</code>	<i>dingbat negative circled digit nine</i>	❹	<code>\usym{278D}</code>	<i>dingbat negative circled sans-serif digit four</i>
❿	<code>\usym{277F}</code>	<i>dingbat negative circled number ten</i>	❺	<code>\usym{278E}</code>	<i>dingbat negative circled sans-serif digit five</i>
❶	<code>\usym{2780}</code>	<i>dingbat circled sans-serif digit one</i>	❻	<code>\usym{278F}</code>	<i>dingbat negative circled sans-serif digit six</i>
❷	<code>\usym{2781}</code>	<i>dingbat circled sans-serif digit two</i>	❼	<code>\usym{2790}</code>	<i>dingbat negative circled sans-serif digit seven</i>
❸	<code>\usym{2782}</code>	<i>dingbat circled sans-serif digit three</i>	❽	<code>\usym{2791}</code>	<i>dingbat negative circled sans-serif digit eight</i>
❹	<code>\usym{2783}</code>	<i>dingbat circled sans-serif digit four</i>	❾	<code>\usym{2792}</code>	<i>dingbat negative circled sans-serif digit nine</i>
❺	<code>\usym{2784}</code>	<i>dingbat circled sans-serif digit five</i>	❿	<code>\usym{2793}</code>	<i>dingbat negative circled sans-serif number ten</i>

See the `utfsym` package note on page 461.

TABLE 584: `wasysym` Stars

☆ `\davidssstar` ✱ `\hexstar` ✱ `\varhexstar`

TABLE 585: bbding Stars, Flowers, and Similar Shapes

















































	<code>\Asterisk</code>		<code>\FiveFlowerPetal</code>		<code>\JackStar</code>
	<code>\AsteriskBold</code>		<code>\FiveStar</code>		<code>\JackStarBold</code>
	<code>\AsteriskCenterOpen</code>		<code>\FiveStarCenterOpen</code>		<code>\SixFlowerAlternate</code>
	<code>\AsteriskRoundedEnds</code>		<code>\FiveStarConvex</code>		<code>\SixFlowerAltPetal</code>
	<code>\AsteriskThin</code>		<code>\FiveStarLines</code>		<code>\SixFlowerOpenCenter</code>
	<code>\AsteriskThinCenterOpen</code>		<code>\FiveStarOpen</code>		<code>\SixFlowerPetalDotted</code>
	<code>\DavidStar</code>		<code>\FiveStarOpenCircled</code>		<code>\SixFlowerPetalRemoved</code>
	<code>\DavidStarSolid</code>		<code>\FiveStarOpenDotted</code>		<code>\SixFlowerRemovedOpenPetal</code>
	<code>\EightAsterisk</code>		<code>\FiveStarOutline</code>		<code>\SixStar</code>
	<code>\EightFlowerPetal</code>		<code>\FiveStarOutlineHeavy</code>		<code>\SixteenStarLight</code>
	<code>\EightFlowerPetalRemoved</code>		<code>\FiveStarShadow</code>		<code>\Snowflake</code>
	<code>\EightStar</code>		<code>\FourAsterisk</code>		<code>\SnowflakeChevron</code>
	<code>\EightStarBold</code>		<code>\FourFlowerOpen</code>		<code>\SnowflakeChevronBold</code>
	<code>\EightStarConvex</code>		<code>\FourFlowerSolid</code>		<code>\Sparkle</code>
	<code>\EightStarTaper</code>		<code>\FourStar</code>		<code>\SparkleBold</code>
	<code>\FiveFlowerOpen</code>		<code>\FourStarOpen</code>		<code>\TwelveStar</code>

TABLE 586: pifont Stars, Flowers, and Similar Shapes












































	<code>\ding{65}</code>		<code>\ding{74}</code>		<code>\ding{83}</code>		<code>\ding{92}</code>		<code>\ding{101}</code>
	<code>\ding{66}</code>		<code>\ding{75}</code>		<code>\ding{84}</code>		<code>\ding{93}</code>		<code>\ding{102}</code>
	<code>\ding{67}</code>		<code>\ding{76}</code>		<code>\ding{85}</code>		<code>\ding{94}</code>		<code>\ding{103}</code>
	<code>\ding{68}</code>		<code>\ding{77}</code>		<code>\ding{86}</code>		<code>\ding{95}</code>		<code>\ding{104}</code>
	<code>\ding{69}</code>		<code>\ding{78}</code>		<code>\ding{87}</code>		<code>\ding{96}</code>		<code>\ding{105}</code>
	<code>\ding{70}</code>		<code>\ding{79}</code>		<code>\ding{88}</code>		<code>\ding{97}</code>		<code>\ding{106}</code>
	<code>\ding{71}</code>		<code>\ding{80}</code>		<code>\ding{89}</code>		<code>\ding{98}</code>		<code>\ding{107}</code>
	<code>\ding{72}</code>		<code>\ding{81}</code>		<code>\ding{90}</code>		<code>\ding{99}</code>		
	<code>\ding{73}</code>		<code>\ding{82}</code>		<code>\ding{91}</code>		<code>\ding{100}</code>		

TABLE 587: adfsymbols Stars, Flowers, and Similar Shapes


























	<code>\adfbullet{1}</code>		<code>\adfbullet{13}</code>		<code>\adfbullet{18}</code>		<code>\adfbullet{23}</code>
	<code>\adfbullet{2}</code>		<code>\adfbullet{14}</code>		<code>\adfbullet{19}</code>		<code>\adfbullet{24}</code>
	<code>\adfbullet{3}</code>		<code>\adfbullet{15}</code>		<code>\adfbullet{20}</code>		<code>\adfbullet{25}</code>
	<code>\adfbullet{11}</code>		<code>\adfbullet{16}</code>		<code>\adfbullet{21}</code>		<code>\adfbullet{26}</code>
	<code>\adfbullet{12}</code>		<code>\adfbullet{17}</code>		<code>\adfbullet{22}</code>		

TABLE 588: utfsym Stars, Flowers, and Similar Shapes

★	<code>\usym{2605}</code>	<i>black star</i>	✱	<code>\usym{2736}</code>	<i>six pointed black star</i>
☆	<code>\usym{2606}</code>	<i>white star</i>	✱	<code>\usym{2737}</code>	<i>eight pointed rectilinear black star</i>
☆	<code>\usym{269D}</code>	<i>outlined white star</i>	✱	<code>\usym{2738}</code>	<i>heavy eight pointed rectilinear black star</i>
★	<code>\usym{26E4}</code>	<i>pentagram</i>	✱	<code>\usym{2739}</code>	<i>twelve pointed black star</i>
★	<code>\usym{26E5}</code>	<i>right-handed interlaced pentagram</i>	✱	<code>\usym{273A}</code>	<i>sixteen pointed asterisk</i>
★	<code>\usym{26E6}</code>	<i>left-handed interlaced pentagram</i>	✱	<code>\usym{273B}</code>	<i>teardrop-spoked asterisk</i>
✱	<code>\usym{26E7}</code>	<i>inverted pentagram</i>	✱	<code>\usym{273C}</code>	<i>open center teardrop-spoked asterisk</i>
☆	<code>\usym{2721}</code>	<i>star of David</i>	✱	<code>\usym{273D}</code>	<i>heavy teardrop-spoked asterisk</i>
◆	<code>\usym{2726}</code>	<i>black four pointed star</i>	✱	<code>\usym{273E}</code>	<i>six petalled black and white florette</i>
◇	<code>\usym{2727}</code>	<i>white four pointed star</i>	✱	<code>\usym{273F}</code>	<i>black florette</i>
✧	<code>\usym{2728}</code>	<i>sparkles</i>	✱	<code>\usym{2740}</code>	<i>white florette</i>
☆	<code>\usym{2729}</code>	<i>stress outlined white star</i>	✱	<code>\usym{2741}</code>	<i>eight petalled outlined black florette</i>
⊛	<code>\usym{272A}</code>	<i>circled white star</i>	⊛	<code>\usym{2742}</code>	<i>circled open center eight pointed star</i>
★	<code>\usym{272B}</code>	<i>open center black star</i>	✱	<code>\usym{2743}</code>	<i>heavy teardrop-spoked pinwheel asterisk</i>
★	<code>\usym{272C}</code>	<i>black center white star</i>	✱	<code>\usym{2744}</code>	<i>snowflake</i>
★	<code>\usym{272D}</code>	<i>outlined black star</i>	✱	<code>\usym{2745}</code>	<i>tight trifoliate snowflake</i>
★	<code>\usym{272E}</code>	<i>heavy outlined black star</i>	✱	<code>\usym{2746}</code>	<i>heavy chevron snowflake</i>
★	<code>\usym{272F}</code>	<i>pinwheel star</i>	✱	<code>\usym{2747}</code>	<i>sparkle</i>
☆	<code>\usym{2730}</code>	<i>shadowed white star</i>	✱	<code>\usym{2748}</code>	<i>heavy sparkle</i>
✱	<code>\usym{2731}</code>	<i>heavy asterisk</i>	✱	<code>\usym{2749}</code>	<i>balloon-spoked asterisk</i>
✱	<code>\usym{2732}</code>	<i>open center asterisk</i>	✱	<code>\usym{274A}</code>	<i>eight teardrop-spoked propeller asterisk</i>
✱	<code>\usym{2733}</code>	<i>eight spoked asterisk</i>	✱	<code>\usym{274B}</code>	<i>heavy eight teardrop-spoked propeller asterisk</i>
✱	<code>\usym{2734}</code>	<i>eight pointed black star</i>	✱	<code>\usym{1F52F}</code>	<i>six pointed star with middle dot</i>
✱	<code>\usym{2735}</code>	<i>eight pointed pinwheel star</i>			

See the `utfsym` package note on page 461.

TABLE 589: twemojis Stars

	<code>\twemoji{dotted six-pointed star}</code>		<code>\twemoji{glowing star}</code>
	<code>\twemoji{eight-pointed star}</code>		<code>\twemoji{shooting star}</code>
	<code>\twemoji{eight-spoked asterisk}</code>		<code>\twemoji{star}</code>

See the twemojis package note on page 460.

TABLE 590: adorn Stars


















	<code>\adfast{1}</code>		<code>\adfast{3}</code>		<code>\adfast{5}</code>		<code>\adfast{7}</code>		<code>\adfast{9}</code>
	<code>\adfast{2}</code>		<code>\adfast{4}</code>		<code>\adfast{6}</code>		<code>\adfast{8}</code>		<code>\adfast{10}</code>

TABLE 591: typicons Stars

	<code>\tiStar</code>		<code>\tiStarFullOutline</code>		<code>\tiStarOutline</code>
	<code>\tiStarburst</code>		<code>\tiStarHalf</code>		
	<code>\tiStarburstOutline</code>		<code>\tiStarHalfOutline</code>		

See the typicons package note on page 460.

TABLE 592: fontawesome7 Stars










	<code>\faStar</code>		<code>\faStarHalf</code>		<code>\faStarHalfStroke</code>
	<code>\faStar[regular]</code>		<code>\faStarHalf[regular]</code>		<code>\faStarOfLife</code>

TABLE 593: symbats3 Stars

	<code>\aegishjalmur</code>		<code>\eightsabbats</code>		<code>\fylfotilkley</code>
-------------------------------------------------------------------------------------	----------------------------	-------------------------------------------------------------------------------------	----------------------------	-------------------------------------------------------------------------------------	----------------------------

See the symbats3 package note on page 458.

TABLE 594: symbats3 Pentagrams

★	\pentagram	✧	\pentagraminvintR
⬠	\pentagramcircled	⬠	\pentagraminvintRcircled
☆	\pentagramintL	⬠	\pentagraminvintRsolid
⬠	\pentagramintLcircled	⬠	\pentagraminvsolid
☆	\pentagramintR	☆	\pentagramrough
⬠	\pentagramintRcircled	⬠	\pentagramroughcircled
⬠	\pentagramintRsolid	✧	\pentagramroughinv
⬠	\pentagramintRtriangle	⬠	\pentagramroughinvcircled
✧	\pentagraminv	⬠	\pentagramroughinvsolid
⬠	\pentagraminvcircled	⬠	\pentagramroughsolid
✧	\pentagraminvintL	⬠	\pentagramsolid
⬠	\pentagraminvintLcircled	⬠	\pentagramwithtriangle

See the symbats3 package note on page 458.

TABLE 595: fourier Fleurons and Flowers

🌀	\aldine	✖	\decoone	🌀	\floweroneright
🌀	\aldineleft	✧	\decosix	🍃	\leafleft
🌀	\aldineright	🌀	\decothreeleft	🍃	\leafNE
🌀	\aldinesmall	🌀	\decothreeright	🍃	\leafright
🌀	\decofourleft	🌀	\decotwo	+	\starredbullet
🌀	\decofourright	🌀	\floweroneleft		

TABLE 596: adorn Fleurons and Flowers

🌀	\adfdowndownhalfleafleft	🌀	\adfdowndownhalfleafright
🌀	\adfdownleafleft	🌀	\adfdownleafright
🌀	\adfflatdownhalfleafleft	🌀	\adfflatdownhalfleafright
🌀	\adfflatdownoutlineleafleft	🌀	\adfflatdownoutlineleafright
🌀	\adfflatleafleft	🌀	\adfflatleafright
🌀	\adfflatleafoutlineleft	🌀	\adfflatleafoutlineright
🌀	\adfflatleafsolidleft	🌀	\adfflatleafsolidright
🌀	\adfflowerleft	🌀	\adfflowerright
🌀	\adfhalfleafleft	🌀	\adfhalfleafright
🌀	\adfhangingflatleafleft	🌀	\adfhangingflatleafright
🌀	\adfhangingleafleft	🌀	\adfhangingleafright
🌀	\adfleafleft	🌀	\adfleafright
🌀	\adfoutlineleafleft	🌀	\adfoutlineleafright
🌀	\adfsmallhangingleafleft	🌀	\adfsmallhangingleafright
🌀	\adfsmallleafleft	🌀	\adfsmallleafright
🌀	\adfsolidleafleft	🌀	\adfsolidleafright

TABLE 597: wasysym Geometric Shapes

○	<code>\Circle</code>	◐	<code>\LEFTcircle</code>	◯	<code>\octagon</code>	◑	<code>\RIGHTcircle</code>
●	<code>\CIRCLE</code>	◓	<code>\LEFTCIRCLE</code>	◕	<code>\pentagon</code>	◒	<code>\RIGHTCIRCLE</code>
◊	<code>\hexagon</code>	◔	<code>\Leftcircle</code>	◖	<code>\Rightcircle</code>	◌	<code>\varhexagon</code>

TABLE 598: MnSymbol Geometric Shapes

★	<code>\filledlargestar</code>	◊	<code>\largelozenge</code>	◊	<code>\medlozenge</code>
◆	<code>\filledlozenge</code>	☆	<code>\largepentagram</code>	☆	<code>\medstarofdavid</code>
◆	<code>\filledmedlozenge</code>	◻	<code>\largetsquare</code>	◊	<code>\smalllozenge</code>
○	<code>\largecircle</code>	☆	<code>\largestar</code>		
◊	<code>\largediamond</code>	☆	<code>\largestarofdavid</code>		

MnSymbol defines `\bigcirc` as a synonym for `\largecircle`; `\bigstar` as a synonym for `\filledlargestar`; `\lozenge` as a synonym for `\medlozenge`; and, `\blacklozenge` as a synonym for `\filledmedlozenge`.

TABLE 599: FdSymbol Geometric Shapes

●	<code>\largeblackcircle</code>	▽	<code>\largetriangleup</code>	◊	<code>\medlozenge</code>
■	<code>\largeblacksquare</code>	△	<code>\largetriangleup</code>	◆	<code>\smallblacklozenge</code>
★	<code>\largeblackstar</code>	☆	<code>\largewhitestar</code>	◊	<code>\smalllozenge</code>
○	<code>\largecircle</code>	◊	<code>\lozengeminus</code>	☆	<code>\starofdavid</code>
◻	<code>\largetsquare</code>	◆	<code>\medblacklozenge</code>		

FdSymbol defines synonyms for almost all of the preceding symbols:

○	<code>\bigcirc</code>	■	<code>\lgblksquare</code>	◊	<code>\mdlgwhtlozenge</code>
★	<code>\bigstar</code>	○	<code>\lgwhtcircle</code>	◊	<code>\mdwhtlozenge</code>
▽	<code>\bigtriangledown</code>	◻	<code>\lgwhtsquare</code>	◆	<code>\smbklozenge</code>
△	<code>\bigtriangleup</code>	◊	<code>\lozenge</code>	◊	<code>\smwhtlozenge</code>
◆	<code>\blacklozenge</code>	◆	<code>\mdblklozenge</code>		
●	<code>\lgblkcicle</code>	◆	<code>\mdlgblklozenge</code>		

TABLE 600: boisik Geometric Shapes

★	<code>\bigstar</code>	◊	<code>\diamond</code>	▽	<code>\triangledown</code>
◆	<code>\blacklozenge</code>	◊	<code>\lozenge</code>	◁	<code>\triangleleft</code>
■	<code>\blacksquare</code>	◊	<code>\lozengedot</code>	▷	<code>\triangleright</code>
▲	<code>\blacktriangle</code>	◻	<code>\square</code>	⚡	<code>\varlrrtriangle</code>
▼	<code>\blacktriangledown</code>	★	<code>\star</code>		

TABLE 601: stix Geometric Shapes

	<code>\acwopencirclearrow</code>		<code>\enclosecircle</code>		<code>\smbldiamond</code>
	<code>\barovernorthwestarrow</code>		<code>\enclosediamond</code>		<code>\smbloklozenge</code>
	<code>\benzenr</code>		<code>\enclosesquare</code>		<code>\smbllksquare</code>
	<code>\bigblacktriangledown</code>		<code>\enclosetriangle</code>		<code>\smwhitestar</code>
	<code>\bigblacktriangleup</code>		<code>\errbarblackcircle</code>		<code>\smwhtcircle</code>
	<code>\bigstar</code>		<code>\errbarblackdiamond</code>		<code>\smwhtdiamond</code>
	<code>\bigtriangledown</code>		<code>\errbarblacksquare</code>		<code>\smwhtlozenge</code>
	<code>\bigtriangleleft</code>		<code>\errbarcircle</code>		<code>\smwhtsquare</code>
	<code>\bigtriangleup</code>		<code>\errbardiamond</code>		<code>\sqlozenge</code>
	<code>\bigwhitestar</code>		<code>\errbarsquare</code>		<code>\squarebotblack</code>
	<code>\blackcircledownarrow</code>		<code>\fisheye</code>		<code>\squarecrossfill</code>
	<code>\blackcircledrightrightdot</code>		<code>\fltns</code>		<code>\squarehfill</code>
	<code>\blackcircledtwodots</code>		<code>\hexagon</code>		<code>\squarehvfill</code>
	<code>\blackcircleulquadwhite</code>		<code>\hexagonblack</code>		<code>\squareleftblack</code>
	<code>\blackdiamonddownarrow</code>		<code>\house</code>		<code>\squarellblack</code>
	<code>\blackinwhitediamond</code>		<code>\hrectangle</code>		<code>\squarellquad</code>
	<code>\blackinwhitesquare</code>		<code>\hrectangleblack</code>		<code>\squarelrblack</code>
	<code>\blacklefthalfcircle</code>		<code>\inversewhitecircle</code>		<code>\squarelrquad</code>
	<code>\blackpointerleft</code>		<code>\invwhitelowerhalfcircle</code>		<code>\squareneswfill</code>
	<code>\blackpointerright</code>		<code>\invwhiteupperhalfcircle</code>		<code>\squarenwsefill</code>
	<code>\blackrighthalfcircle</code>		<code>\lgblkcircle</code>		<code>\squarerightblack</code>
	<code>\blacktriangle</code>		<code>\lgblksquare</code>		<code>\squaretopblack</code>
	<code>\blacktriangledown</code>		<code>\lgwhtcircle</code>		<code>\squareulblack</code>
	<code>\blacktriangleleft</code>		<code>\lgwhtsquare</code>		<code>\squareulquad</code>
	<code>\blacktriangleright</code>		<code>\llblacktriangle</code>		<code>\squareurblack</code>
	<code>\blkhorzoval</code>		<code>\lltriangle</code>		<code>\squareurquad</code>
	<code>\blkvertoval</code>		<code>\lrblacktriangle</code>		<code>\squarevfill</code>
	<code>\botsemicircle</code>		<code>\lrtriangle</code>		<code>\squoval</code>
	<code>\boxonbox</code>		<code>\mdblkcircle</code>		<code>\topsemicircle</code>
	<code>\bullseye</code>		<code>\mdblkdiamond</code>		<code>\trapezium</code>
	<code>\circ</code>		<code>\mdblklozenge</code>		<code>\trianglecdot</code>
	<code>\circlebottomhalfblack</code>		<code>\mdblksquare</code>		<code>\triangledown</code>
	<code>\circledbullet</code>		<code>\mdlgblkcircle</code>		<code>\triangleleftblack</code>
	<code>\circledownarrow</code>		<code>\mdlgblkdiamond</code>		<code>\triangleodot</code>
	<code>\circledrightrightdot</code>		<code>\mdlgblklozenge</code>		<code>\trianglerightblack</code>
	<code>\circledstar</code>		<code>\mdlgblksquare</code>		<code>\triangles</code>
	<code>\circledtwodots</code>		<code>\mdlgwhtdiamond</code>		<code>\triangleubar</code>
	<code>\circledwhitebullet</code>		<code>\mdlgwhtlozenge</code>		<code>\ulblacktriangle</code>
	<code>\circlelefthalfblack</code>		<code>\mdlgwhtsquare</code>		<code>\ultriangle</code>
	<code>\circlellquad</code>		<code>\mdsmbllcircle</code>		<code>\uparrowoncircle</code>
	<code>\circlelrquad</code>		<code>\mdsmbllsquare</code>		<code>\urblacktriangle</code>
	<code>\cirlclerighthalfblack</code>		<code>\mdsmwhtcircle</code>		<code>\urtriangle</code>
	<code>\cirlcletophalfblack</code>		<code>\mdsmwhtsquare</code>		<code>\varhexagon</code>

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	<code>\circleulquad</code>		<code>\mdwhtcircle</code>		<code>\varhexagonblack</code>
	<code>\circleurquad</code>		<code>\mdwhtdiamond</code>		<code>\varhexagonlrbonds</code>
	<code>\circleurquadblack</code>		<code>\mdwhtlozenge</code>		<code>\varlrtriangle</code>
	<code>\circlevertfill</code>		<code>\mdwhtsquare</code>		<code>\varstar</code>
	<code>\cirE</code>		<code>\medblackstar</code>		<code>\vartriangleleft</code>
	<code>\cirscir</code>		<code>\medwhitestar</code>		<code>\vartriangleright</code>
	<code>\cwopencirclearrow</code>		<code>\parallelogram</code>		<code>\vrectangle</code>
	<code>\diamondbotblack</code>		<code>\parallelogramblack</code>		<code>\vrectangleblack</code>
	<code>\diamondcdot</code>		<code>\pentagon</code>		<code>\vysmblksquare</code>
	<code>\diamondleftblack</code>		<code>\pentagonblack</code>		<code>\vysmwhtsquare</code>
	<code>\diamondrightblack</code>		<code>\rightpentagon</code>		<code>\whiteinwhitetriangle</code>
	<code>\diamondtopblack</code>		<code>\rightpentagonblack</code>		<code>\whitepointerleft</code>
	<code>\dottedcircle</code>		<code>\smallblacktriangleleft</code>		<code>\whitepointerright</code>
	<code>\dottedsquare</code>		<code>\smallblacktriangleright</code>		<code>\whthorzoval</code>
	<code>\downtriangleleftblack</code>		<code>\smalltriangleleft</code>		<code>\whtvertoval</code>
	<code>\downtrianglerightblack</code>		<code>\smalltriangleright</code>		

stix defines `\diamond` as a synonym for `\smwhtdiamond`, `\blacksquare` as a synonym for `\mdlgblksquare`, `\square` and `\Box` as synonyms for `\mdlgwhtsquare`, `\triangle` and `\varbigtriangleup` as synonyms for `\bigtriangleup`, `\rhd` as a synonym for `\vartriangleright`, `\varbigtriangledown` as a synonym for `\bigtriangledown`, `\lhd` as a synonym for `\vartriangleleft`, `\Diamond` and `\lozenge` as synonyms for `\mdlgwhtlozenge`, `\bigcirc` as a synonym for `\mdlgwhtcircle`, `\circ` as a synonym for `\smwhtcircle`. and `\blacklozenge` as a synonym for `\mdlgblklozenge`.

TABLE 603: ifsym Geometric Shapes

	<code>\BigCircle</code>		<code>\FilledBigTriangleRight</code>		<code>\SmallCircle</code>
	<code>\BigCross</code>		<code>\FilledBigTriangleUp</code>		<code>\SmallCross</code>
	<code>\BigDiamondshape</code>		<code>\FilledCircle</code>		<code>\SmallDiamondshape</code>
	<code>\BigHBar</code>		<code>\FilledDiamondShadowA</code>		<code>\SmallHBar</code>
	<code>\BigLowerDiamond</code>		<code>\FilledDiamondShadowC</code>		<code>\SmallLowerDiamond</code>
	<code>\BigRightDiamond</code>		<code>\FilledDiamondshape</code>		<code>\SmallRightDiamond</code>
	<code>\BigSquare</code>		<code>\FilledSmallCircle</code>		<code>\SmallSquare</code>
	<code>\BigTriangleDown</code>		<code>\FilledSmallDiamondshape</code>		<code>\SmallTriangleDown</code>
	<code>\BigTriangleLeft</code>		<code>\FilledSmallSquare</code>		<code>\SmallTriangleLeft</code>
	<code>\BigTriangleRight</code>		<code>\FilledSmallTriangleDown</code>		<code>\SmallTriangleRight</code>
	<code>\BigTriangleUp</code>		<code>\FilledSmallTriangleLeft</code>		<code>\SmallTriangleUp</code>

(continued on next page)

*(continued from previous page)*

	\BigVBar	►	\FilledSmallTriangleRight		\SmallVBar
○	\Circle	▲	\FilledSmallTriangleUp	↓	\SpinDown
×	\Cross	■	\FilledSquare	↑	\SpinUp
◊	\DiamondShadowA	▣	\FilledSquareShadowA	□	\Square
◊	\DiamondShadowB	▣	\FilledSquareShadowC	▤	\SquareShadowA
◊	\DiamondShadowC	▼	\FilledTriangleDown	▥	\SquareShadowB
◊	\Diamondshape	◄	\FilledTriangleLeft	▦	\SquareShadowC
●	\FilledBigCircle	►	\FilledTriangleRight	▽	\TriangleDown
◆	\FilledBigDiamondshape	▲	\FilledTriangleUp	◄	\TriangleLeft
■	\FilledBigSquare	—	\HBar	►	\TriangleRight
▼	\FilledBigTriangleDown	◊	\LowerDiamond	△	\TriangleUp
◄	\FilledBigTriangleLeft	◊	\RightDiamond		\VBar

The ifsym documentation points out that one can use \rlap to combine some of the above into useful, new symbols. For example, \BigCircle and \FilledSmallCircle combine to give “●”. Likewise, \Square and \Cross combine to give “⊠”. See Section 13.4 for more information about constructing new symbols out of existing symbols.

TABLE 605: bbding Geometric Shapes

○	\CircleShadow	▬	\Rectangle	▤	\SquareShadowTopLeft
●	\CircleSolid	▬	\RectangleBold	▥	\SquareShadowTopRight
◆	\DiamondSolid	▬	\RectangleThin	■	\SquareSolid
○	\Ellipse	□	\Square	▼	\TriangleDown
○	\EllipseShadow	▣	\SquareCastShadowBottomRight	▲	\TriangleUp
●	\EllipseSolid	▣	\SquareCastShadowTopLeft		
◐	\HalfCircleLeft	▣	\SquareCastShadowTopRight		
◑	\HalfCircleRight	▣	\SquareShadowBottomRight		

TABLE 606: pifont Geometric Shapes

●	\ding{108}	□	\ding{111}	□	\ding{114}	◆	\ding{117}	▬	\ding{121}
○	\ding{109}	□	\ding{112}	▲	\ding{115}	◐	\ding{119}	■	\ding{122}
■	\ding{110}	□	\ding{113}	▼	\ding{116}		\ding{120}		







































TABLE 607: universa Geometric Shapes

● \baucircle    ■ \bausquare    ▲ \bautriangle

TABLE 608: adfsymbols Geometric Shapes

• \adfbullet{27}	► \adfbullet{32}	• \adfbullet{43}	✦ \adfbullet{48}
• \adfbullet{28}	▲ \adfbullet{33}	• \adfbullet{44}	✦ \adfbullet{49}
■ \adfbullet{29}	▼ \adfbullet{34}	• \adfbullet{45}	✦ \adfbullet{50}
◆ \adfbullet{30}	• \adfbullet{41}	■ \adfbullet{46}	◆ \adfbullet{51}
◄ \adfbullet{31}	• \adfbullet{42}	■ \adfbullet{47}	◦ \adfbullet{52}

TABLE 609: lucide-icons Geometric Shapes

	\lucideicon{blocks}		\lucideicon{octagon-pause}
	\lucideicon{box}		\lucideicon{octagon-x}
	\lucideicon{boxes}		\lucideicon{pentagon}
	\lucideicon{circle}		\lucideicon{pyramid}
	\lucideicon{circle-dashed}		\lucideicon{rectangle-circle}
	\lucideicon{circle-pile}		\lucideicon{rectangle-ellipsis}
	\lucideicon{circle-small}		\lucideicon{rectangle-horizontal}
	\lucideicon{cone}		\lucideicon{rectangle-vertical}
	\lucideicon{cuboid}		\lucideicon{shapes}
	\lucideicon{cylinder}		\lucideicon{square}
	\lucideicon{diamond}		\lucideicon{squircle}
	\lucideicon{diamond-minus}		\lucideicon{squircle-dashed}
	\lucideicon{diamond-percent}		\lucideicon{star}
	\lucideicon{diamond-plus}		\lucideicon{star-half}
	\lucideicon{dot}		\lucideicon{star-off}
	\lucideicon{hexagon}		\lucideicon{torus}
	\lucideicon{octagon}		\lucideicon{triangle}
	\lucideicon{octagon-alert}		\lucideicon{triangle-dashed}
	\lucideicon{octagon-minus}		\lucideicon{triangle-right}

See the lucide-icons package note on page 454.

TABLE 610: utfsym Geometric Shapes

⊙	<code>\usym{2686}</code>	<i>white circle with dot right</i>	●	<code>\usym{1F535}</code>	<i>large blue circle</i>
☉	<code>\usym{2687}</code>	<i>white circle with two dots</i>	◆	<code>\usym{1F536}</code>	<i>large orange diamond</i>
●	<code>\usym{2688}</code>	<i>black circle with white dot right</i>	◆	<code>\usym{1F537}</code>	<i>large blue diamond</i>
⦿	<code>\usym{2689}</code>	<i>black circle with two white dots</i>	◆	<code>\usym{1F538}</code>	<i>small orange diamond</i>
○	<code>\usym{26AA}</code>	<i>medium white circle</i>	◆	<code>\usym{1F539}</code>	<i>small blue diamond</i>
●	<code>\usym{26AB}</code>	<i>medium black circle</i>	▲	<code>\usym{1F53A}</code>	<i>up-pointing red triangle</i>
○	<code>\usym{26AC}</code>	<i>medium small white circle</i>	▼	<code>\usym{1F53B}</code>	<i>down-pointing red triangle</i>
⊠	<code>\usym{26CB}</code>	<i>white diamond in square</i>	▲	<code>\usym{1F53C}</code>	<i>up-pointing small red triangle</i>
⦿	<code>\usym{26E3}</code>	<i>heavy circle with stroke and two dots above</i>	▼	<code>\usym{1F53D}</code>	<i>down-pointing small red triangle</i>
●	<code>\usym{1F534}</code>	<i>large red circle</i>			

See the utfsym package note on page 461.

TABLE 611: twemojis Geometric Shapes

●	<code>\twemoji{black circle}</code>	●	<code>\twemoji{purple circle}</code>
■	<code>\twemoji{black large square}</code>	■	<code>\twemoji{purple square}</code>
■	<code>\twemoji{black medium square}</code>	●	<code>\twemoji{red circle}</code>
■	<code>\twemoji{black medium-small square}</code>	■	<code>\twemoji{red square}</code>
■	<code>\twemoji{black small square}</code>	▼	<code>\twemoji{red triangle pointed down}</code>
□	<code>\twemoji{black square button}</code>	▲	<code>\twemoji{red triangle pointed up}</code>
●	<code>\twemoji{blue circle}</code>	◆	<code>\twemoji{small blue diamond}</code>
■	<code>\twemoji{blue square}</code>	◆	<code>\twemoji{small orange diamond}</code>
●	<code>\twemoji{brown circle}</code>	●	<code>\twemoji{white circle}</code>
■	<code>\twemoji{brown square}</code>	■	<code>\twemoji{white large square}</code>
●	<code>\twemoji{green circle}</code>	■	<code>\twemoji{white medium square}</code>
■	<code>\twemoji{green square}</code>	■	<code>\twemoji{white medium-small square}</code>
○	<code>\twemoji{hollow red circle}</code>	■	<code>\twemoji{white small square}</code>
◆	<code>\twemoji{large blue diamond}</code>	■	<code>\twemoji{white square button}</code>
◆	<code>\twemoji{large orange diamond}</code>	●	<code>\twemoji{yellow circle}</code>
●	<code>\twemoji{orange circle}</code>	■	<code>\twemoji{yellow square}</code>
■	<code>\twemoji{orange square}</code>		

See the twemojis package note on page 460.

TABLE 612: fontawesome7 Geometric Shapes

●	<code>\faCircle</code>	◆	<code>\faDiamond</code>	🌀	<code>\faSpiral</code>
○	<code>\faCircle[regular]</code>	⬢	<code>\faHexagon</code>	■	<code>\faSquare</code>
●	<code>\faCircleDot*</code>	⬢	<code>\faOctagon</code>	□	<code>\faSquare[regular]</code>
⦿	<code>\faCircleDot[regular]*</code>	⬠	<code>\faPentagon</code>	■	<code>\faSquareFull</code>
◯	<code>\faCircleNotch</code>	⬢	<code>\faSeptagon</code>	□	<code>\faSquareFull[regular]</code>

\* In fontawesome5, `\faCircleDot` was called `\faDotCircle`.

TABLE 613: oplotsymb1 Geometric Shapes

○	<code>\circlet</code>	◆	<code>\rhombusfillha</code>	△	<code>\trianglepalineh</code>
⊗	<code>\circletcross</code>	◆	<code>\rhombusfillhb</code>	△	<code>\trianglepalinev</code>
⊙	<code>\circletdot</code>	◆	<code>\rhombusfillhl</code>	△	<code>\trianglepalinevh</code>
●	<code>\circletfill</code>	◆	<code>\rhombusfillhr</code>	▽	<code>\trianglepb</code>
●	<code>\circletfillha</code>	◇	<code>\rhombuslineh</code>	⊗	<code>\trianglepbcross</code>
●	<code>\circletfillhb</code>	◇	<code>\rhombuslinev</code>	▽	<code>\trianglepbdot</code>
●	<code>\circletfillhl</code>	◇	<code>\rhombuslinevh</code>	▼	<code>\trianglepbfill</code>
●	<code>\circletfillhr</code>	□	<code>\squad</code>	▼	<code>\trianglepbfillha</code>
⊖	<code>\circletlineh</code>	⊗	<code>\squadcross</code>	▼	<code>\trianglepbfillhb</code>
⊖	<code>\circletlinev</code>	◻	<code>\squaddot</code>	▼	<code>\trianglepbfillhl</code>
⊖	<code>\circletlinevh</code>	■	<code>\squadfill</code>	▼	<code>\trianglepbfillhr</code>
⬡	<code>\hexago</code>	■	<code>\squadfillha</code>	▽	<code>\trianglepblineh</code>
⊗	<code>\hexagocross</code>	■	<code>\squadfillhb</code>	▽	<code>\trianglepblinev</code>
⊙	<code>\hexagodot</code>	■	<code>\squadfillhl</code>	▽	<code>\trianglepblinevh</code>
●	<code>\hexagofill</code>	■	<code>\squadfillhr</code>	◁	<code>\trianglepl</code>
●	<code>\hexagofillha</code>	▢	<code>\squadlineh</code>	⊗	<code>\triangleplcross</code>
●	<code>\hexagofillhb</code>	▢	<code>\squadlinev</code>	◁	<code>\trianglepldot</code>
●	<code>\hexagofillhl</code>	▢	<code>\squadlinevh</code>	◀	<code>\triangleplfill</code>
●	<code>\hexagofillhr</code>	☆	<code>\starlet</code>	◁	<code>\triangleplfillha</code>
⊖	<code>\hexagolineh</code>	✳	<code>\starletcross</code>	◁	<code>\triangleplfillhb</code>
⊖	<code>\hexagolinev</code>	☆	<code>\starletdot</code>	◁	<code>\triangleplfillhl</code>
⊖	<code>\hexagolinevh</code>	★	<code>\starletfill</code>	◁	<code>\triangleplfillhr</code>
⬡	<code>\pentago</code>	★	<code>\starletfillha</code>	◁	<code>\trianglepllineh</code>
⊗	<code>\pentagocross</code>	★	<code>\starletfillhb</code>	◁	<code>\trianglepllinev</code>
⊙	<code>\pentagodot</code>	★	<code>\starletfillhl</code>	◁	<code>\trianglepllinevh</code>
●	<code>\pentagofill</code>	★	<code>\starletfillhr</code>	▷	<code>\trianglepr</code>
●	<code>\pentagofillha</code>	☆	<code>\starletlineh</code>	⊗	<code>\triangleprcross</code>
●	<code>\pentagofillhb</code>	☆	<code>\starletlinev</code>	▷	<code>\triangleprdot</code>
●	<code>\pentagofillhl</code>	☆	<code>\starletlinevh</code>	▶	<code>\triangleprfill</code>
●	<code>\pentagofillhr</code>	△	<code>\trianglepa</code>	▶	<code>\triangleprfillha</code>

(continued on next page)

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	<code>\pentagolineh</code>		<code>\trianglepacross</code>		<code>\triangleprfillhb</code>
	<code>\pentagolinev</code>		<code>\trianglepadot</code>		<code>\triangleprfillhl</code>
	<code>\pentagolinevh</code>		<code>\trianglepafill</code>		<code>\triangleprfillhr</code>
	<code>\rhombus</code>		<code>\trianglepafillha</code>		<code>\triangleprlineh</code>
	<code>\rhombuscross</code>		<code>\trianglepafillhb</code>		<code>\triangleprlinev</code>
	<code>\rhombusdot</code>		<code>\trianglepafillhl</code>		<code>\triangleprlinevh</code>
	<code>\rhombusfill</code>		<code>\trianglepafillhr</code>		

“fillha”, “fillhb”, “fillhl”, and “fillhr”, imply, respectively, “half-filled above”, “half-filled below”, “half-filled left”, and “half-filled right”. In the `\triangle_____` symbols, “pa”, “pb”, “pr”, and “pl” refer respectively to “peak above”, “peak below”, “peak left”, and “peak right”.

All `oplotsymb` symbols are implemented with TikZ graphics, not with a font.

TABLE 615: adorn Flourishes

	<code>\adfclosedflourishleft</code>		<code>\adfclosedflourishright</code>
	<code>\adfdoubleflourishleft</code>		<code>\adfdoubleflourishright</code>
	<code>\adfdoublesharpflourishleft</code>		<code>\adfdoublesharpflourishright</code>
	<code>\adfflourishleft</code>		<code>\adfflourishright</code>
	<code>\adfflourishlefthdouble</code>		<code>\adfflourishrightdouble</code>
	<code>\adfopenflourishleft</code>		<code>\adfopenflourishright</code>
	<code>\adfsharpflourishleft</code>		<code>\adfsharpflourishright</code>
	<code>\adfsickleflourishleft</code>		<code>\adfsickleflourishright</code>
	<code>\adfsingleflourishleft</code>		<code>\adfsingleflourishright</code>
	<code>\adftripleflourishleft</code>		<code>\adftripleflourishright</code>
	<code>\adfwavesleft</code>		<code>\adfwavesright</code>

TABLE 616: Miscellaneous `oplotsymb` Symbols

<code>_</code>	<code>\lineh</code>	<code> </code>	<code>\linev</code>	<code>+</code>	<code>\linevh</code>	<code>×</code>	<code>\scross</code>	<code>*</code>	<code>\scrossvh</code>
----------------	---------------------	----------------	---------------------	----------------	----------------------	----------------	----------------------	----------------	------------------------

All `oplotsymb` symbols are implemented with TikZ graphics, not with a font.

TABLE 617: Miscellaneous `dingbat` Dingbats

	<code>\anchor</code>		<code>\eye</code>		<code>\Sborder</code>
	<code>\carriagereturn</code>		<code>\filledsquarewithdots</code>		<code>\squarewithdots</code>
	<code>\checkmark</code>		<code>\satellitedish</code>		<code>\Zborder</code>

TABLE 618: Miscellaneous bbding Dingbats

✉	<code>\Envelope</code>	☺	<code>\Peace</code>	📞	<code>\PhoneHandset</code>	☀	<code>\SunshineOpenCircled</code>
❖	<code>\OrnamentDiamondSolid</code>	☎	<code>\Phone</code>	✈	<code>\Plane</code>	📼	<code>\Tape</code>

TABLE 619: Miscellaneous pifont Dingbats

☎	<code>\ding{37}</code>	✈	<code>\ding{40}</code>	♥	<code>\ding{164}</code>	♣	<code>\ding{167}</code>	♠	<code>\ding{171}</code>
🕒	<code>\ding{38}</code>	✉	<code>\ding{41}</code>	♣	<code>\ding{165}</code>	♣	<code>\ding{168}</code>	♦	<code>\ding{169}</code>
🕒	<code>\ding{39}</code>	❖	<code>\ding{118}</code>	🕒	<code>\ding{166}</code>	♥	<code>\ding{170}</code>		

TABLE 620: Miscellaneous adforn Dingbats

- `\adftextbullet`    ♦ `\adfdiamond`    § `\adfgee`    § `\adfS`    ◻ `\adfsquare`

TABLE 621: Miscellaneous utfsym Dingbats

🌹	<code>\usym{2619}</code>	<i>reversed rotated floral heart bullet</i>	🌹	<code>\usym{2765}</code>	<i>rotated heavy black heart bullet</i>
◻	<code>\usym{2750}</code>	<i>upper right drop-shadowed white square</i>	🌹	<code>\usym{2766}</code>	<i>floral heart</i>
◻	<code>\usym{2751}</code>	<i>lower right shadowed white square</i>	🌹	<code>\usym{2767}</code>	<i>rotated floral heart bullet</i>
◻	<code>\usym{2752}</code>	<i>upper right shadowed white square</i>	◯	<code>\usym{274D}</code>	<i>shadowed white circle</i>
❖	<code>\usym{2756}</code>	<i>black diamond minus white X</i>	◻	<code>\usym{274F}</code>	<i>lower right drop-shadowed white square</i>
♥	<code>\usym{2764}</code>	<i>heavy black heart</i>			

See the `utfsym` package note on page 461.

## Chapter 6

# Ancient languages

This chapter presents letters and ideograms from various ancient scripts. Some of these symbols may be useful in other, non-philological contexts because of their pictorial nature.

TABLE 622: phaistos Symbols from the Phaistos Disk









































	<code>\PHarrow</code>		<code>\PHeagle</code>		<code>\PHplumedHead</code>
	<code>\PHbee</code>		<code>\PHflute</code>		<code>\PHram</code>
	<code>\PHbeehive</code>		<code>\PHgaunlet</code>		<code>\PHrosette</code>
	<code>\PHboomerang</code>		<code>\PHgrater</code>		<code>\PHsaw</code>
	<code>\PHbow</code>		<code>\PHhelmet</code>		<code>\PHshield</code>
	<code>\PHbullLeg</code>		<code>\PHhide</code>		<code>\PHship</code>
	<code>\PHcaptive</code>		<code>\PHhorn</code>		<code>\PHsling</code>
	<code>\PHcarpentryPlane</code>		<code>\PHlid</code>		<code>\PHsmallAxe</code>
	<code>\PHcat</code>		<code>\PHlily</code>		<code>\PHstrainer</code>
	<code>\PHchild</code>		<code>\PHmanacles</code>		<code>\PHtattooedHead</code>
	<code>\PHclub</code>		<code>\PHmattock</code>		<code>\PHtiara</code>
	<code>\PHcolumn</code>		<code>\PHoxBack</code>		<code>\PHtunny</code>
	<code>\PHcomb</code>		<code>\PHpapyrus</code>		<code>\PHvine</code>
	<code>\PHdolium</code>		<code>\PHpedestrian</code>		<code>\PHwavyBand</code>
	<code>\PHdove</code>		<code>\PHplaneTree</code>		<code>\PHwoman</code>



TABLE 623: protosem Proto-Semitic Characters

𐤀	\Aaleph	𐤁	\AAhe	𐤂	\Akaph	𐤃	\AAayin	𐤄	\AAresh
𐤅	\AAaleph	𐤆	\Avav	𐤇	\AAkaph	𐤈	\Ape	𐤉	\Ashin
𐤊	\Abeth	𐤋	\Azayin	𐤌	\Alamed	𐤍	\AApe	𐤎	\Atav
𐤏	\AAbeth	𐤐	\Aheth	𐤑	\AAlamed	𐤒	\Asade	𐤓	\Ahelmet
𐤔	\Agimel	𐤕	\AAheth	𐤖	\Amem	𐤗	\AAsade	𐤘	\AAhelmet
𐤙	\Adaleth	𐤚	\Ateth	𐤛	\Anun	𐤜	\Aqoph		
𐤝	\AAdaleth	𐤞	\Ayod	𐤟	\Asamekh	𐤠	\AAqoph		
𐤡	\Ahe	𐤢	\AAyod	𐤣	\Aayin	𐤤	\Aresh		

See the protosem package note on page 457.

TABLE 624: symbats3 Ogham Characters

ᚠ	\OGbeith	ᚡ	\OGtinne	ᚢ	\OGruis	ᚣ	\OGor
ᚤ	\OGluis	ᚥ	\OGcoll	ᚦ	\OGailm	ᚧ	\OGuilleann
ᚨ	\OGfearn	ᚩ	\OGceirt	ᚪ	\OGonn	ᚫ	\OGifin
ᚬ	\OGsail	ᚭ	\OGmuin	ᚮ	\OGur	ᚯ	\OGeamhancholl
ᚰ	\OGnion	ᚱ	\OGgort	ᚲ	\OGeadhadh	ᚳ	\OGpeith
ᚴ	\OGuath	ᚵ	\OGngeadal	ᚶ	\OGiodhadh	ᚷ	\OGfeather
ᚸ	\OGdair	ᚹ	\OGstraif	ᚺ	\OGeabhadh	ᚻ	\OGreversedfeather

See the symbats3 package note on page 458.

TABLE 625: hieroglf Hieroglyphics

	\HA		\HI		\Hn		\HT
	\Ha		\Hi		\HO		\Ht
	\HB		\Hibl		\Ho		\Htongue
	\Hb		\Hibp		\Hp		\HU
	\Hc		\Hibs		\HP		\Hu
	\HC		\Hibw		\Hplural		\HV
	\HD		\HJ		\Hplus		\Hv
	\Hd		\Hj		\HQ		\Hvbar
	\Hdual		\Hk		\Hq		\Hw
	\He		\HK		\Hquery		\HW
	\HE		\HL		\HR		\HX
	\Hf		\Hl		\Hr		\Hx
	\HF		\Hm		\Hs		\HY
	\HG		\HM		\HS		\Hy
	\Hg		\Hman		\Hscribe		\Hz
	\Hh		\Hms		\Hslash		\HZ
	\HH		\HN		\Hsv		
	\Hone		\Hhundred		\HXthousand		\Hmillion
	\Hten		\Hthousand		\HCthousand		

See the hieroglf package note on page 453.

TABLE 626: linearA Linear A Script

	\LinearAI		\LinearAXCIX		\LinearACXCVII		\LinearACCXCV
	\LinearAII		\LinearAC		\LinearACXCVIII		\LinearACCXCVI
	\LinearAIII		\LinearACI		\LinearACXCIX		\LinearACCXCVII
	\LinearAIV		\LinearACII		\LinearACC		\LinearACCXCVIII
	\LinearAV		\LinearACIII		\LinearACCI		\LinearACCXCIX
	\LinearAVI		\LinearACIV		\LinearACCII		\LinearACCC
	\LinearAVII		\LinearACV		\LinearACCIII		\LinearACCCI
	\LinearAVIII		\LinearACVI		\LinearACCIV		\LinearACCCII

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Ċ	\LinearAIX	𐤀	\LinearACVII	𐤁	\LinearACCV	𐤂	\LinearACCCIII
𐤃	\LinearAX	𐤄	\LinearACVIII	𐤅	\LinearACCVI	𐤆	\LinearACCCIV
𐤇	\LinearAXI	𐤈	\LinearACIX	𐤉	\LinearACCVII	𐤊	\LinearACCCV
𐤋	\LinearAXII	𐤌	\LinearACX	𐤍	\LinearACCVIII	𐤎	\LinearACCCVI
𐤏	\LinearAXIII	𐤐	\LinearACXI	𐤑	\LinearACCIX	𐤒	\LinearACCCVII
𐤓	\LinearAXIV	𐤔	\LinearACXII	𐤕	\LinearACCX	𐤖	\LinearACCCVIII
𐤗	\LinearAXV	𐤘	\LinearACXIII	𐤙	\LinearACCXI	𐤚	\LinearACCCIX
𐤛	\LinearAXVI	𐤜	\LinearACXIV	𐤝	\LinearACCXII	𐤞	\LinearACCCX
𐤟	\LinearAXVII	𐤠	\LinearACXV	𐤡	\LinearACCXIII	𐤢	\LinearACCCXI
𐤣	\LinearAXVIII	𐤤	\LinearACXVI	𐤥	\LinearACCXIV	𐤦	\LinearACCCXII
𐤧	\LinearAXIX	𐤨	\LinearACXVII	𐤩	\LinearACCXV	𐤪	\LinearACCCXIII
𐤫	\LinearAXX	𐤬	\LinearACXVIII	𐤭	\LinearACCXVI	𐤮	\LinearACCCXIV
𐤱	\LinearAXXI	𐤲	\LinearACXIX	𐤳	\LinearACCXVII	𐤴	\LinearACCCXV
𐤷	\LinearAXXII	𐤸	\LinearACXX	𐤹	\LinearACCXVIII	𐤺	\LinearACCCXVI
𐤻	\LinearAXXIII	𐤼	\LinearACXXI	𐤽	\LinearACCXIX	𐤾	\LinearACCCXVII
𐤿	\LinearAXXIV	𐥀	\LinearACXXII	𐥁	\LinearACCXX	𐥂	\LinearACCCXVIII
𐥃	\LinearAXXV	𐥄	\LinearACXXIII	𐥅	\LinearACCXXI	𐥆	\LinearACCCXIX
𐥇	\LinearAXXVI	𐥈	\LinearACXXIV	𐥉	\LinearACCXXII	𐥊	\LinearACCCXX
𐥋	\LinearAXXVII	𐥌	\LinearACXXV	𐥍	\LinearACCXXIII	𐥎	\LinearACCCXXI
𐥏	\LinearAXXVIII	𐥐	\LinearACXXVI	𐥑	\LinearACCXXIV	𐥒	\LinearACCCXXII
𐥓	\LinearAXXIX	𐥔	\LinearACXXVII	𐥕	\LinearACCXXV	𐥖	\LinearACCCXXIII
𐥗	\LinearAXXX	𐥘	\LinearACXXVIII	𐥙	\LinearACCXXVI	𐥚	\LinearACCCXXIV
𐥛	\LinearAXXXI	𐥜	\LinearACXXIX	𐥝	\LinearACCXXVII	𐥞	\LinearACCCXXV
𐥟	\LinearAXXXII	𐥠	\LinearACXXX	𐥡	\LinearACCXXVIII	𐥢	\LinearACCCXXVI
𐥣	\LinearAXXXIII	𐥤	\LinearACXXXI	𐥥	\LinearACCXXIX	𐥦	\LinearACCCXXVII
𐥧	\LinearAXXXIV	𐥨	\LinearACXXXII	𐥩	\LinearACCXXX	𐥪	\LinearACCCXXVIII
𐥫	\LinearAXXXV	𐥬	\LinearACXXXIII	𐥭	\LinearACCXXXI	𐥮	\LinearACCCXXXIX
𐥱	\LinearAXXXVI	𐥲	\LinearACXXXIV	𐥳	\LinearACCXXXII	𐥴	\LinearACCCXXX
𐥷	\LinearAXXXVII	𐥸	\LinearACXXXV	𐥹	\LinearACCXXXIII	𐥺	\LinearACCCXXXI
𐥻	\LinearAXXXVIII	𐥼	\LinearACXXXVI	𐥽	\LinearACCXXXIV	𐥾	\LinearACCCXXXII
𐥿	\LinearAXXXIX	𐦀	\LinearACXXXVII	𐦁	\LinearACCXXXV	𐦂	\LinearACCCXXXIII
𐦃	\LinearAXL	𐦄	\LinearACXXXVIII	𐦅	\LinearACCXXXVI	𐦆	\LinearACCCXXXIV
𐦇	\LinearAXLI	𐦈	\LinearACXXXIX	𐦉	\LinearACCXXXVII	𐦊	\LinearACCCXXXV
𐦋	\LinearAXLII	𐦌	\LinearACXL	𐦍	\LinearACCXXXVIII	𐦎	\LinearACCCXXXVI
𐦏	\LinearAXLIII	𐦐	\LinearACXLI	𐦑	\LinearACCXXXIX	𐦒	\LinearACCCXXXVII
𐦓	\LinearAXLIV	𐦔	\LinearACXLII	𐦕	\LinearACCXL	𐦖	\LinearACCCXXXVIII
𐦗	\LinearAXLV	𐦘	\LinearACXLIII	𐦙	\LinearACCXLI	𐦚	\LinearACCCXXXIX
𐦛	\LinearAXLVI	𐦜	\LinearACXLIV	𐦝	\LinearACCXLII	𐦞	\LinearACCCXL
𐦟	\LinearAXLVII	𐦠	\LinearACXLV	𐦡	\LinearACCXLIII	𐦢	\LinearACCCXLI
𐦣	\LinearAXLVIII	𐦤	\LinearACXLVI	𐦥	\LinearACCXLIV	𐦦	\LinearACCCXLII
𐦧	\LinearAXLIX	𐦨	\LinearACXLVII	𐦩	\LinearACCXLV	𐦪	\LinearACCCXLIII
𐦫	\LinearAL	𐦬	\LinearACXLVIII	𐦭	\LinearACCXLVI	𐦮	\LinearACCCXLIV
𐦱	\LinearALI	𐦲	\LinearACXLIX	𐦳	\LinearACCXLVII	𐦴	\LinearACCCXLV
𐦷	\LinearALII	𐦸	\LinearACL	𐦹	\LinearACCXLVIII	𐦺	\LinearACCCXLVI
𐦻	\LinearALIII	𐦼	\LinearACLI	𐦽	\LinearACCXLIX	𐦾	\LinearACCCXLVII

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𐎠	\LinearALIV	𐎡	\LinearACLII	𐎢	\LinearACCL	𐎣	\LinearACCCXLVIII
𐎤	\LinearALV	𐎥	\LinearACLIII	𐎦	\LinearACCLI	𐎧	\LinearACCCXLIX
𐎨	\LinearALVI	𐎩	\LinearACLIV	𐎪	\LinearACCLII	𐎫	\LinearACCCCL
𐎬	\LinearALVII	𐎭	\LinearACLV	𐎮	\LinearACCLIII	𐎯	\LinearACCCCLI
𐎱	\LinearALVIII	𐎲	\LinearACLVI	𐎳	\LinearACCLIV	𐎴	\LinearACCCCLII
𐎶	\LinearALIX	𐎷	\LinearACLVII	𐎸	\LinearACCLV	𐎹	\LinearACCCCLIII
𐎺	\LinearALX	𐎻	\LinearACLVIII	𐎼	\LinearACCLVI	𐎽	\LinearACCCCLIV
𐎿	\LinearALXI	𐏀	\LinearACLIX	𐏁	\LinearACCLVII	𐏂	\LinearACCCCLV
𐏃	\LinearALXII	𐏄	\LinearACLX	𐏅	\LinearACCLVIII	𐏆	\LinearACCCCLVI
𐏇	\LinearALXIII	𐏈	\LinearACLXI	𐏉	\LinearACCLIX	𐏊	\LinearACCCCLVII
𐏋	\LinearALXIV	𐏌	\LinearACLXII	𐏍	\LinearACCLX	𐏎	\LinearACCCCLVIII
𐏏	\LinearALXV	𐏐	\LinearACLXIII	𐏑	\LinearACCLXI	𐏒	\LinearACCCCLIX
𐏓	\LinearALXVI	𐏔	\LinearACLXIV	𐏕	\LinearACCLXII	𐏖	\LinearACCCCLX
𐏗	\LinearALXVII	𐏘	\LinearACLXV	𐏙	\LinearACCLXIII	𐏚	\LinearACCCCLXI
𐏛	\LinearALXVIII	𐏜	\LinearACLXVI	𐏝	\LinearACCLXIV	𐏞	\LinearACCCCLXII
𐏟	\LinearALXIX	𐏠	\LinearACLXVII	𐏡	\LinearACCLXV	𐏢	\LinearACCCCLXIII
𐏣	\LinearALXX	𐏤	\LinearACLXVIII	𐏥	\LinearACCLXVI	𐏦	\LinearACCCCLXIV
𐏧	\LinearALXXI	𐏨	\LinearACLXIX	𐏩	\LinearACCLXVII	𐏪	\LinearACCCCLXV
𐏬	\LinearALXXII	𐏭	\LinearACLXX	𐏮	\LinearACCLXVIII	𐏯	\LinearACCCCLXVI
𐏱	\LinearALXXIII	𐏲	\LinearACLXXI	𐏳	\LinearACCLXIX	𐏴	\LinearACCCCLXVII
𐏶	\LinearALXXIV	𐏷	\LinearACLXXII	𐏸	\LinearACCLXX	𐏹	\LinearACCCCLXVIII
𐏻	\LinearALXXV	𐏼	\LinearACLXXIII	𐏽	\LinearACCLXXI	𐏾	\LinearACCCCLXIX
𐏿	\LinearALXXVI	𐐀	\LinearACLXXIV	𐐁	\LinearACCLXXII	𐐂	\LinearACCCCLXX
𐐃	\LinearALXXVII	𐐄	\LinearACLXXV	𐐅	\LinearACCLXXIII	𐐆	\LinearACCCCLXXI
𐐇	\LinearALXXVIII	𐐈	\LinearACLXXVI	𐐉	\LinearACCLXXIV	𐐊	\LinearACCCCLXXII
𐐋	\LinearALXXIX	𐐌	\LinearACLXXVII	𐐍	\LinearACCLXXV	𐐎	\LinearACCCCLXXIII
𐐏	\LinearALXXX	𐐐	\LinearACLXXVIII	𐐑	\LinearACCLXXVI	𐐒	\LinearACCCCLXXIV
𐐓	\LinearALXXXI	𐐔	\LinearACLXXIX	𐐕	\LinearACCLXXVII	𐐖	\LinearACCCCLXXV
𐐗	\LinearALXXXII	𐐘	\LinearACLXXX	𐐙	\LinearACCLXXVIII	𐐚	\LinearACCCCLXXVI
𐐛	\LinearALXXXIII	𐐜	\LinearACLXXXI	𐐝	\LinearACCLXXIX	𐐞	\LinearACCCCLXXVII
𐐟	\LinearALXXXIV	𐐠	\LinearACLXXXII	𐐡	\LinearACCLXXX	𐐢	\LinearACCCCLXXVIII
𐐤	\LinearALXXXV	𐐥	\LinearACLXXXIII	𐐦	\LinearACCLXXXI	𐐧	\LinearACCCCLXXXIX
𐐨	\LinearALXXXVI	𐐩	\LinearACLXXXIV	𐐪	\LinearACCLXXXII	𐐫	\LinearACCCCLXXX
𐐬	\LinearALXXXVII	𐐭	\LinearACLXXXV	𐐮	\LinearACCLXXXIII	𐐯	\LinearACCCCLXXXI
𐐱	\LinearALXXXVIII	𐐲	\LinearACLXXXVI	𐐳	\LinearACCLXXXIV	𐐴	\LinearACCCCLXXXII
𐐶	\LinearALXXXIX	𐐷	\LinearACLXXXVII	𐐸	\LinearACCLXXXV	𐐹	\LinearACCCCLXXXIII
𐐺	\LinearALXXXX	𐐻	\LinearACLXXXVIII	𐐼	\LinearACCLXXXVI	𐐽	\LinearACCCCLXXXIV
𐐿	\LinearALXXXXI	𐑀	\LinearACLXXXIX	𐑁	\LinearACCLXXXVII	𐑂	\LinearACCCCLXXXV
𐑃	\LinearALXXXXII	𐑄	\LinearACLXXXX	𐑅	\LinearACCLXXXVIII	𐑆	\LinearACCCCLXXXVI
𐑇	\LinearALXXXXIII	𐑈	\LinearACLXXXXI	𐑉	\LinearACCLXXXIX	𐑊	\LinearACCCCLXXXVII
𐑋	\LinearALXXXXIV	𐑌	\LinearACLXXXXII	𐑍	\LinearACCLXXXX	𐑎	\LinearACCCCLXXXVIII
𐑏	\LinearALXXXXV	𐑐	\LinearACLXXXXIII	𐑑	\LinearACCLXXXXI	𐑒	\LinearACCCCLXXXIX
𐑓	\LinearALXXXXVI	𐑔	\LinearACLXXXXIV	𐑕	\LinearACCLXXXXII	𐑖	\LinearACCCCLXXX
𐑗	\LinearALXXXXVII	𐑘	\LinearACLXXXXV	𐑙	\LinearACCLXXXXIII	𐑚	\LinearACCCCLXXXI
𐑛	\LinearALXXXXVIII	𐑜	\LinearACLXXXXVI	𐑝	\LinearACCLXXXXIV	𐑞	\LinearACCCCLXXXII
𐑟	\LinearALXXXXIX	𐑠	\LinearACLXXXXVII	𐑡	\LinearACCLXXXXV	𐑢	\LinearACCCCLXXXIII
𐑣	\LinearALXXXXX	𐑤	\LinearACLXXXXVIII	𐑥	\LinearACCLXXXXVI	𐑦	\LinearACCCCLXXXIV
𐑧	\LinearALXCI	𐑨	\LinearACLXXXXIX	𐑩	\LinearACCLXXXXVII	𐑪	\LinearACCCCLXXXV
𐑬	\LinearALXCII	𐑭	\LinearACLXXXXX	𐑮	\LinearACCLXXXXVIII	𐑯	\LinearACCCCLXXXVI
𐑱	\LinearALXCIII	𐑲	\LinearALXCII	𐑳	\LinearACCLXXXXIX	𐑴	\LinearACCCCLXXXVII
𐑶	\LinearALXCIV	𐑷	\LinearALXCII	𐑸	\LinearACCLXXXXX	𐑹	\LinearACCCCLXXXVIII
𐑺	\LinearALXCV	𐑻	\LinearALXCIII	𐑼	\LinearACCLXCII	𐑽	\LinearACCCCLXXXIX
𐑿	\LinearALXCVI	𐑟	\LinearALXCIV	𐑠	\LinearACCLXCII		
𐑣	\LinearALXCVII	𐑤	\LinearALXCV	𐑥	\LinearACCLXCIII		
𐑧	\LinearALXCVIII	𐑨	\LinearALXCVI	𐑩	\LinearACCLXCIV		

TABLE 628: linearb Linear B Basic and Optional Letters

	\Ba		\Bja		\Bmu		\Bpte		\Broii		\Bto
	\Baii		\Bje		\Bna		\Bpu		\Bru		\Btu
	\Baiiii		\Bjo		\Bne		\Bpuui		\Bsa		\Btwo
	\Bau		\Bju		\Bni		\Bqa		\Bse		\Bu
	\Bda		\Bka		\Bno		\Bqe		\Bsi		\Bwa
	\Bde		\Bke		\Bnu		\Bqi		\Bso		\Bwe
	\Bdi		\Bki		\Bnwa		\Bqo		\Bsu		\Bwi
	\Bdo		\Bko		\Bo		\Bra		\Bswa		\Bwo
	\Bdu		\Bku		\Bpa		\Brai		\Bswi		\Bza
	\Bdwe		\Bma		\Bpaiiii		\Brai		\Bta		\Bze
	\Bdwo		\Bme		\Bpe		\Bre		\Btai		\Bzo
	\Be		\Bmi		\Bpi		\Bri		\Bte		
	\Bi		\Bmo		\Bpo		\Bro		\Bti		

See the linearb package note on page 454.

TABLE 629: linearb Linear B Numerals

	\BNi		\BNvii		\BNx1		\BNc		\BNdcc
	\BNii		\BNviii		\BN1		\BNcc		\BNdccc
	\BNiii		\BNix		\BN1x		\BNccc		\BNcm
	\BNiv		\BNx		\BN1xx		\BNcd		\BNm
	\BNv		\BNxx		\BN1xxx		\BNd		
	\BNvi		\BNxxx		\BNxc		\BNdc		

See the linearb package note on page 454.

TABLE 630: linearb Linear B Weights and Measures

	\BPtalent		\BPvolb		\BPvolcf		\BPwtb		\BPwtd
	\BPvola		\BPvolcd		\BPwta		\BPwtc		

See the linearb package note on page 454.

TABLE 631: linearb Linear B Ideograms

	\BPamphora		\BPchassis		\BPman		\BPwheat
	\BParrow		\BPcloth		\BPnanny		\BPwheel
	\BPbarley		\BPcow		\BPolive		\BPwine
	\BPbilly		\BPCup		\BPox		\BPwineiih
	\BPboar		\BPewe		\BPpig		\BPwineiiih
	\BPbronze		\BPfoal		\BPram		\BPwineivh
	\BPbull		\BPgoat		\BPsheep		\BPwoman
	\BPcauldroni		\BPgoblet		\BPsow		\BPwool
	\BPcauldronii		\BPgold		\BPspear		
	\BPchariot		\BPhorse		\BPsword		

See the linearb package note on page 454.

TABLE 632: linearb Unidentified Linear B Symbols

	\BUi		\BUiv		\BUvii		\BUX		\Btwe
	\BUii		\BUv		\BUviii		\BUxi		
	\BUiii		\BUvi		\BUix		\BUxii		

See the linearb package note on page 454.

TABLE 633: cypriot Cypriot Letters

	\Ca		\Cku		\Cmu		\Cpo		\Cso		\Cwi
	\Ce		\Cla		\Cna		\Cpu		\Csu		\Cwo
	\Cga		\Cle		\Cne		\Cra		\Cta		\Cxa
	\Ci		\Cli		\Cni		\Cre		\Cte		\Cxe
	\Cja		\Clo		\Cno		\Cri		\Cti		\Cya
	\Cjo		\Clu		\Cnu		\Cro		\Cto		\Cyo
	\Cka		\Cma		\Co		\Cru		\Ctu		\Cza
	\Cke		\Cme		\Cpa		\Csa		\Cu		\Czo
	\Cki		\Cmi		\Cpe		\Cse		\Cwa		
	\Cko		\Cmo		\Cpi		\Csi		\Cwe		

See the cypriot package note on page 451.

TABLE 634: sarabian South Arabian Letters

◦	\SAa	𐩦	\SAz	𐩡	\SAm	𐩨	\SAsd	𐩢	\SAdb
◻	\SAb	𐩣	\SAhd	𐩧	\SAn	𐩩	\SAq	𐩤	\SAtb
⌈	\SAg	𐩥	\SAtd	𐩪	\SAs	𐩣	\SAr	𐩦	\SAGA
𐩡	\SAd	𐩧	\SAy	𐩨	\SAf	𐩢	\SAsv	𐩤	\SAzd
𐩣	\SAh	𐩥	\SAk	𐩧	\SAlq	𐩨	\SAt	𐩩	\SAsa
⊙	\SAw	𐩦	\SAl	𐩧	\SAo	𐩨	\SAhu	𐩢	\SAdd

See the `sarabian` package note on page 457.

TABLE 635: teubner Archaic Greek Letters and Greek Numerals

Ϟ	\Coppa <sup>†</sup>	Ϟ	\Digamma <sup>*</sup>	ϡ	\sampi <sup>*</sup>	ϣ	\varstigma
ϙ	\coppa <sup>†</sup>	ϙ	\koppa <sup>*</sup>	Ϡ	\Stigma		
Ϛ	\digamma <sup>*,‡</sup>	Ϛ	\Sampi	ϣ	\stigma <sup>*</sup>		

\* Technically, these symbols do not require `teubner`; it is sufficient to load the `babel` package with the `greek` option (upon which `teubner` depends)—but use `\qoppa` for `\koppa` and `\ddigamma` for `\digamma`.

† For compatibility with other naming conventions `teubner` defines `\Koppa` as a synonym for `\Coppa` and `\varcoppa` as a synonym for `\coppa`.

‡ If both `teubner` and `amssymb` are loaded, `teubner`’s `\digamma` replaces `amssymb`’s `\digamma`, regardless of package-loading order.

TABLE 636: boisik Archaic Greek Letters and Greek Numerals

Ϟ	\Digamma	ϙ	\qoppa	ϣ	\stigma	ϡ	\varsampi
ϙ	\digamma	Ϟ	\Qoppa	ϣ	\Stigma		
ϡ	\heta	ϡ	\Sampi	ϣ	\vardigamma		
ϡ	\Heta	ϡ	\sampi	ϣ	\Varsampi		

TABLE 637: newcomputermodern Aegean Numbers

'	\aegeanone	≡	\aegeanseventy	#	\aegeanfourthousand
"	\aegeantwo	≡	\aegeaneighty	##	\aegeanfivethousand
'''	\aegeanthree	≡≡	\aegeanninety	###	\aegeansixthousand
'''	\aegeanfour	°	\aegeanonehundred	###	\aegeanseventhousand
'''	\aegeanfive	°°	\aegeantwohundred	###	\aegeaneighthousand
'''	\aegeansix	°°	\aegeanthreehundred	###	\aegeanninethousand
'''	\aegeanseven	°°	\aegeanfourhundred	+	\aegeantenthousand
'''	\aegeaneight	°°	\aegeanfivehundred	++	\aegeantwentythousand
'''	\aegeanine	°°	\aegeansixhundred	+	\aegeanthirtythousand
-	\aegeanten	°°	\aegeansevenhundred	##	\aegeanfourtythousand
=	\aegeantwenty	°°	\aegeaneighthundred	##	\aegeanfiftythousand
≡	\aegeanthirty	°°	\aegeanninehundred	##	\aegeansixtythousand
≡	\aegeanfourty	+	\aegeanonethousand	##	\aegeanseventythousand
≡	\aegeanfifty	++	\aegeantwothousand	##	\aegeaneightythousand
≡	\aegeansixty	+	\aegeanthreethousand	##	\aegeanninetythousand

See the newcomputermodern package note on page 455.







TABLE 639: newcomputermodern Aegean Measurement Units

'	\aegeanseparator	⌘	\aegeanweightthirdsubunit
·	\aegeanseparatordot	⌘	\aegeanweightfourthsubunit
×	\aegeancheckmark	⌘	\aegeandrymeasurefirstsubunit
⌘	\aegeanweightbaseunit	⌘	\aegeanliquidmeasurefirstsubunit
⌘	\aegeanweightfirstsubunit	⌘	\aegeansecondsubunit
⌘	\aegeanweightsecondsubunit	⌘	\aegeanthirdsubunit

See the newcomputermodern package note on page 455.



TABLE 640: epiolmec Epi-Olmec Script

	\EOafter		\EOMiddle		\EOStarWarrior
	\EOandThen		\EOmonster		\EOstep
	\EOAppear		\EOMountain		\EOSu
	\EOBeardMask		\EOmuu		\EOsu
	\EOBedeck		\EOna		\EOSun
	\EOBlood		\EOne		\EOSuu
	\EObrace		\EOni		\EOSuu
	\EObuilding		\EOnow		\E0ta
	\EOBundle		\EOnu		\E0te
	\EOChop		\EOnuu		\E0throne
	\EOChronI		\EOofficerI		\E0ti
	\EOCloth		\EOofficerII		\E0time
	\E0DealWith		\EOofficerIII		\E0Time
	\E0Deer		\EOofficerIV		\E0Title
	\EOeat		\EOpa		\E0TitleII
	\EOflint		\EOpak		\E0TitleIV
	\EOflower		\EOPatron		\E0to
	\E0Fold		\EOPatronII		\E0tu
	\EOGod		\EOpe		\E0tuki
	\EOGoUp		\EOpenis		\E0tukpa
	\EOgovernor		\EOpi		\E0turtle
	\EOGuisse		\EOPierce		\E0tuu
	\EOHallow		\EOPlant		\E0tza
	\EOja		\EOPlay		\E0tze
	\EOjaguar		\EOpo		\E0tzetze

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







































	\EOje		\EOpriest		\EOtzi
	\EOji		\EOPrince		\EOtzu
	\EOJI		\EOpu		\EOtzuu
	\EOjo		\EOpuu		\EOundef
	\EOju		\EOpuuk		\EOvarBeardMask
	\EOkak		\EORain		\EOvarja
	\EOke		\EOSa		\EOvarji
	\EOki		\EOSa		\EOvarki
	\EOkij		\EOSacrifice		\EOvarkuu
	\EOKing		\EOSaw		\EOvarni
	\EOknottedCloth		\EOScorpius		\EOvarpa
	\EOknottedClothStraps		\EOset		\EOvarSi
	\EOko		\EOsi		\EOvarsi
	\EOku		\EOSi		\EOvartzza
	\EOkuu		\EOSing		\EOvarwuu
	\EOLetBlood		\EOSini		\EOvarYear
	\EOloinCloth		\EOSkin		\EOwa
	\EOlongLipII		\EOSky		\EOwe
	\EOLord		\EOSkyAnimal		\EOwi
	\EOLose		\EOSkyPillar		\EOwo
	\EOma		\EOSnake		\EOwuu
	\EOmacaw		\EOSo		\EOya
	\EOmacawI		\EOSpan		\EOyaj
	\EOme		\EOSprinkle		\EOye
	\EOMexNew		\EOstar		\EOYear
	\EOmi		\EOstarWarrior		\EOyuu

TABLE 642: epiolmec Epi-Olmec Numerals

	<code>\EOzero</code>		<code>\EOvi</code>		<code>\EOxii</code>		<code>\EOxviii</code>
	<code>\EOi</code>		<code>\EOvii</code>		<code>\EOxiii</code>		<code>\EOxix</code>
	<code>\EOii</code>		<code>\EOviii</code>		<code>\EOxiv</code>		<code>\EOxx</code>
	<code>\EOiii</code>		<code>\EOix</code>		<code>\EOxv</code>		
	<code>\EOiv</code>		<code>\EOx</code>		<code>\EOxvi</code>		
	<code>\EOv</code>		<code>\EOxi</code>		<code>\EOxvii</code>		

TABLE 643: allrunes Runes

	<code>\a</code>		<code>E</code>		<code>\ING</code>		<code>m</code>		<code>R</code>		<code>\sthree</code>
	<code>\A</code>		<code>F</code>		<code>\ing</code>		<code>n</code>		<code>\RR</code>		<code>T</code>
	<code>a</code>		<code>f</code>		<code>\Ing</code>		<code>\NG</code>		<code>\s</code>		<code>t</code>
	<code>A</code>		<code>g</code>		<code>\j</code>		<code>\ng</code>		<code>s</code>		<code>\textsection</code>
	<code>b</code>		<code>h</code>		<code>j</code>		<code>o</code>		<code>S</code>		<code>\th</code>
	<code>B</code>		<code>H</code>		<code>J</code>		<code>p</code>		<code>\seight</code>		<code>U</code>
	<code>\d</code>		<code>h</code>		<code>\k</code>		<code>p</code>		<code>\sfive</code>		<code>u</code>
	<code>D</code>		<code>\i</code>		<code>\K</code>		<code>P</code>		<code>\sfour</code>		<code>w</code>
	<code>d</code>		<code>i</code>		<code>k</code>		<code>\R</code>		<code>\sseven</code>		
	<code>e</code>		<code>I</code>		<code>l</code>		<code>r</code>		<code>\ssix</code>		


























































































See the `allrunes` package note on page 449.

TABLE 644: allrunes Rune Separators

	<code>\bar</code>		<code>\doubleeye</code>		<code>\plus</code>		<code>\tripleddot</code>
	<code>\cross</code>		<code>\doubleplus</code>		<code>\quaddot</code>		<code>\tripleeye</code>
	<code>\dot</code>		<code>\doublestar</code>		<code>\quadeye</code>		<code>\tripleplus</code>
	<code>\doublebar</code>		<code>\eye</code>		<code>\star</code>		
	<code>\doublecross</code>		<code>\pentdot</code>		<code>\triplebar</code>		
	<code>\doubledot</code>		<code>\penteye</code>		<code>\triplecross</code>		

See the `allrunes` package note on page 449.

TABLE 645: symbats3 Runes

	<code>\Rufehufef</code>		<code>\RUnaudiznydnaudn</code>		<code>\RUingwaz</code>
	<code>\RUv</code>		<code>\RUshorttwignaudn</code>		<code>\RUing</code>
	<code>\RUuruzuru</code>		<code>\RUpdottedn</code>		<code>\RUpdagazdaegd</code>
	<code>\RUyr</code>		<code>\RUisazisissi</code>		<code>\RUothalanethelo</code>
	<code>\RUy</code>		<code>\RUe</code>		<code>\RUear</code>
	<code>\RUw</code>		<code>\RUjeranj</code>		<code>\RUior</code>
	<code>\RUthurisazthursthorn</code>		<code>\RUger</code>		<code>\RUCweorth</code>
	<code>\RUeth</code>		<code>\RUlongbrancharae</code>		<code>\RUcalc</code>
	<code>\RUansuza</code>		<code>\RUshorttwigara</code>		<code>\RUcealc</code>
	<code>\RUoso</code>		<code>\RUiwazeoh</code>		<code>\RUstan</code>
	<code>\RUaca</code>		<code>\RUperthopeorthp</code>		<code>\RUlongbranchyr</code>
	<code>\RUaesc</code>		<code>\RUalgizeolhx</code>		<code>\RUshorttwigyr</code>
	<code>\RUlongbranchosso</code>		<code>\RUsowilos</code>		<code>\RUicelandicyr</code>
	<code>\RUshorttwigosso</code>		<code>\RUsigellongbranchsols</code>		<code>\RUq</code>
	<code>\RUo</code>		<code>\RUshorttwigsols</code>		<code>\RUx</code>
	<code>\RUoe</code>		<code>\RUC</code>		<code>\RUsinglepunctuation</code>
	<code>\RUon</code>		<code>\RUz</code>		<code>\RUMultiplepunctuation</code>
	<code>\RUraidoradreidr</code>		<code>\RUTiwaztirtyr</code>		<code>\RUCrosspunctuation</code>
	<code>\RUkauna</code>		<code>\RUshorttwigtirt</code>		<code>\RUarlaugsymbol</code>
	<code>\RUcen</code>		<code>\RUD</code>		<code>\RUVimadursymbol</code>
	<code>\RUkaunk</code>		<code>\RUBerkananbeorcbjarkanb</code>		<code>\RUBelgthorsymbol</code>
	<code>\RUG</code>		<code>\RUshorttwigbjarkanb</code>		<code>\RUK</code>
	<code>\RUeng</code>		<code>\RUpdottedp</code>		<code>\RUsh</code>
	<code>\RUgebogyfug</code>		<code>\RUopenp</code>		<code>\RUoo</code>
	<code>\RUGar</code>		<code>\RUehwazehe</code>		<code>\RUfrankscasketos</code>
	<code>\RUwunjowynnw</code>		<code>\RUMannazmanm</code>		<code>\RUfrankscasketis</code>
	<code>\RUhaglzh</code>		<code>\RUlongbranchmadr</code>		<code>\RUfrankscasketeh</code>
	<code>\RUhaeglh</code>		<code>\RUshorttwigmadr</code>		<code>\RUfrankscasketac</code>
	<code>\RUlongbranchhagallh</code>		<code>\RULaukazlagulogr1</code>		<code>\RUfrankscasketaes</code>
	<code>\RUshorttwighagallh</code>		<code>\RUpdottedl</code>		

See the symbats3 package note on page 458.

## Chapter 7

# Musical symbols

The following symbols are used to typeset musical notation. The *lily<sup>2</sup>ly<sup>2</sup>bs* package provides a large subset of the symbols in this chapter. Note, however, that *lily<sup>2</sup>ly<sup>2</sup>bs* depends upon the *fontspec* package and OpenType (*.otf*) fonts and therefore works only with Lua<sup>2</sup>La<sup>2</sup>TeX or Xe<sup>2</sup>La<sup>2</sup>TeX.

A simple way to typeset time signatures, due to Daniel Hirst, is to attach a superscript and a subscript to an empty math object. For example,  $\{ \}^3_4$  renders as “ $\frac{3}{4}$ ”. Because superscripts and subscripts are left-justified, some extra padding may need to be added if the beats per measure and beat unit contain different numbers of digits. A 5mu space (“\;”) vertically centers the “8” relative to the “12” in  $\{ \}^{12}_{\;8}$  (“ $\frac{12}{8}$ ”). For boldface time signatures (e.g., “ $\frac{4}{4}$ ”), consider the boldface-math options presented in Section 13.6. See also Table 661 on page 257.

TABLE 647: L<sup>2</sup>A<sup>2</sup>T<sub>E</sub>X 2<sub>ε</sub> Musical Symbols

$\flat$  \flat  $\natural$  \natural  $\sharp$  \sharp

TABLE 648: textcomp Musical Symbols

$\text{musicalnote}$  \textmusicalnote

TABLE 649: wasysym Musical Symbols

$\text{eighthnote}$  \eighthnote  $\text{halfnote}$  \halfnote  $\text{twonotes}$  \twonotes  $\text{fullnote}$  \fullnote  $\text{quarternote}$  \quarternote

TABLE 650: MnSymbol Musical Symbols

$\flat$  \flat  $\natural$  \natural  $\sharp$  \sharp

TABLE 651: FdSymbol Musical Symbols

$\flat$  `\flat`  $\natural$  `\natural`  $\sharp$  `\sharp`

TABLE 652: boisik Musical Symbols

$\flat$  `\flat`  $\natural$  `\natural`  $\sharp$  `\sharp`

TABLE 653: stix Musical Symbols

$\text{♪}$  `\eighthnote`  $\text{♩}$  `\natural`  $\sharp$  `\sharp`  
 $\flat$  `\flat`  $\text{♪}$  `\quarternote`  $\text{♩}$  `\twonotes`

TABLE 654: arev Musical Symbols























































$\text{♪}$  `\quarternote`  $\text{♪}$  `\eighthnote`  $\text{♩}$  `\sixteenthnote`

TABLE 655: utfsym Musical Symbols

$\text{♪}$ <code>\usym{2669}</code>	<i>quarter note</i>	$\sharp$ <code>\usym{266F}</code>	<i>music sharp sign</i>
$\text{♩}$ <code>\usym{266A}</code>	<i>eighth note</i>	$\text{♩}$ <code>\usym{1F39C}</code>	<i>beamed ascending musical notes</i>
$\text{♩}$ <code>\usym{266B}</code>	<i>beamed eighth notes</i>	$\text{♩}$ <code>\usym{1F39D}</code>	<i>beamed descending musical notes</i>
$\text{♩}$ <code>\usym{266C}</code>	<i>beamed sixteenth notes</i>	$\text{♩}$ <code>\usym{1F3B5}</code>	<i>musical note</i>
$\flat$ <code>\usym{266D}</code>	<i>music flat sign</i>	$\text{♩}$ <code>\usym{1F3B6}</code>	<i>multiple musical notes</i>
$\natural$ <code>\usym{266E}</code>	<i>music natural sign</i>	$\text{♩}$ <code>\usym{1F3BC}</code>	<i>musical score</i>

See the `utfsym` package note on page 461.

TABLE 656: MusiX<sub>TEX</sub> Musical Symbols

	<code>\allabreve</code>		<code>\lsf</code>		<code>\shake</code>
	<code>\altoclef</code>		<code>\lsfz</code>		<code>\Shake</code>
	<code>\backturn</code>		<code>\maxima</code>		<code>\Shakel</code>
	<code>\bassclef</code>		<code>\meterplus</code>		<code>\Shakene</code>
	<code>\caesura</code>		<code>\mordent</code>		<code>\Shakenw</code>
	<code>\coda</code>		<code>\Mordent</code>		<code>\Shakesw</code>
	<code>\Coda</code>		<code>\PAUSE</code>		<code>\smallaltoclef</code>
	<code>\Dep</code>		<code>\PAUSE</code>		<code>\smallbassclef</code>
	<code>\doublethumb</code>		<code>\pause</code>		<code>\smalltrebleclef</code>
	<code>\downbow</code>		<code>\Ped</code>		<code>\sPed</code>
	<code>\ds</code>		<code>\qp</code>		<code>\trebleclef</code>
	<code>\duevolte</code>		<code>\qqq</code>		<code>\trill</code>
	<code>\fermatadown</code>		<code>\qs</code>		<code>\turn</code>
	<code>\fermataup</code>		<code>\reverseallabreve</code>		<code>\upbow</code>
	<code>\flageolet</code>		<code>\reverseC</code>		<code>\usf</code>
	<code>\hpause</code>		<code>\sDep</code>		<code>\usfz</code>
	<code>\hs</code>		<code>\Segno</code>		<code>\wq</code>
	<code>\longa</code>		<code>\segno</code>		<code>\wqq</code>




























All of these symbols are intended to be used in the context of typesetting musical scores. See the MusiX<sub>TEX</sub> documentation for more information.

TABLE 658: MusiX<sub>TEX</sub> Alternative Clefs

	<code>\drumclef</code>		<code>\gregorianFclef</code>
	<code>\gregorianCclef</code>		<code>\oldGclef</code>

In addition to MusiX<sub>TEX</sub>, `\drumclef` requires the `musixper` package; `\oldGclef` requires the `musixlit` package; and both `\gregorianCclef` and `\gregorianFclef` require the `musixgre` package. Together with MusiX<sub>TEX</sub>, these packages provide a complete system for typesetting percussion notation (`musixper`), liturgical music (`musixlit`), and Gregorian chants (`musixgre`, including the staves and all of the necessary neumes. See the MusiX<sub>TEX</sub> documentation for more information.





















TABLE 659: harmony Musical Symbols

	<code>\AAcht</code>		<code>\DDohne</code>		<code>\Halb</code>		<code>\SechBR</code>		<code>\VM</code>
	<code>\Acht</code>		<code>\Dohne</code>		<code>\HaPa</code>		<code>\SechBr</code>		<code>\Zwdr</code>
	<code>\AchtBL</code>		<code>\Ds</code>		<code>\Pu</code>		<code>\SePa</code>		<code>\ZwPa</code>
	<code>\AchtBR</code>		<code>\DS</code>		<code>\Sech</code>		<code>\UB</code>		
	<code>\AcPa</code>		<code>\Ganz</code>		<code>\SechBL</code>		<code>\Vier</code>		
	<code>\DD</code>		<code>\GaPa</code>		<code>\SechBl</code>		<code>\ViPa</code>		

See the harmony package note on page 453.









TABLE 660: musicography Musical Symbols

	<code>\musDoubleFlat</code>		<code>\musNatural</code>		<code>\musSixtyFourth</code>
	<code>\musDoubleSharp</code>		<code>\musQuarter</code>		<code>\musSixtyFourthDotted</code>
	<code>\musEighth</code>		<code>\musQuarterDotted</code>		<code>\musThirtySecond</code>
	<code>\musEighthDotted</code>		<code>\musSegno</code>		<code>\musThirtySecondDotted</code>
	<code>\musFlat</code>		<code>\musSharp</code>		<code>\musWhole</code>
	<code>\musHalf</code>		<code>\musSixteenth</code>		<code>\musWholeDotted</code>
	<code>\musHalfDotted</code>		<code>\musSixteenthDotted</code>		

musicography defines `\fl`, `\sh`, and `\na` as shorthands for `\musFlat`, `\musSharp`, and `\musNatural`, respectively. It also defines `\musCorchea` as an alias for `\musEighth`, `\musCorcheaDotted` as an alias for `\musEighthDotted`, `\musFusa` as an alias for `\musEighth`, `\musFusaDotted` as an alias for `\musEighthDotted`, `\musMinim` as an alias for `\musHalf`, `\musMinimDotted` as an alias for `\musHalfDotted`, `\musSemibreve` as an alias for `\musWhole`, `\musSemibreveDotted` as an alias for `\musWholeDotted`, `\musSemiminim` as an alias for `\musQuarter`, and `\musSeminiminimDotted` as an alias for `\musQuarterDotted`.

See also the musicography package note on page 455.

TABLE 661: musicography Time Signatures

	<code>\meterC</code>		<code>\meterCThreeTwo</code>		<code>\meterCZ</code>
	<code>\meterCThree</code>		<code>\meterCutC</code>		<code>\meterO</code>

Other time signatures can be specified with `\musMeter`, as in

$$\text{\musMeter\{2\}\{4\}} \rightarrow \frac{2}{4}$$

See also the musicography package note on page 455.

TABLE 662: harmony Musical Accents

































$\hat{\text{A}}\hat{\text{a}}$	<code>\Ferli{A}\Ferli{a}</code> *	$\acute{\text{A}}\acute{\text{a}}$	<code>\Ohne{A}\Ohne{a}</code> *
$\hat{\text{A}}\hat{\text{a}}$	<code>\Fermi{A}\Fermi{a}</code>	$\widetilde{\text{A}}\widetilde{\text{a}}$	<code>\Umd{A}\Umd{a}</code> *
$\textcircled{\text{A}}\textcircled{\text{a}}$	<code>\Kr{A}\Kr{a}</code>		

In addition to the accents shown above, `\HH` is a special accent command that accepts five period-separated characters and typesets them such that “`\HH.X.a.b.c.d.`” produces “ $X_a^b$ ”. All arguments except the first can be omitted: “`\HH.X.....`” produces “ $X$ ”. `\Takt` takes two arguments and composes them into a musical time signature. For example, “`\Takt{12}{8}`” produces “ $\frac{12}{8}$ ”. As two special cases, “`\Takt{c}{0}`” produces “**C**” and “`\Takt{c}{1}`” produces “**♯**”.

See also the **harmony** package note on page 453.

\* These symbols take an optional argument which shifts the accent either horizontally or vertically (depending on the command) by the given distance.

TABLE 663: *lilypond* Single Notes

	<code>\eighthNote</code>		<code>\quarterNoteDottedDown</code>
	<code>\eighthNoteDotted</code>		<code>\quarterNoteDown</code>
	<code>\eighthNoteDottedDouble</code>		<code>\sixteenthNote</code>
	<code>\eighthNoteDottedDoubleDown</code>		<code>\sixteenthNoteDotted</code>
	<code>\eighthNoteDottedDown</code>		<code>\sixteenthNoteDottedDouble</code>
	<code>\eighthNoteDown</code>		<code>\sixteenthNoteDottedDoubleDown</code>
	<code>\halfNote</code>		<code>\sixteenthNoteDottedDown</code>
	<code>\halfNoteDotted</code>		<code>\sixteenthNoteDown</code>
	<code>\halfNoteDottedDouble</code>		<code>\thirtysecondNote</code>
	<code>\halfNoteDottedDoubleDown</code>		<code>\thirtysecondNoteDotted</code>
	<code>\halfNoteDottedDown</code>		<code>\thirtysecondNoteDottedDouble</code>
	<code>\halfNoteDown</code>		<code>\thirtysecondNoteDottedDoubleDown</code>
	<code>\quarterNote</code>		<code>\thirtysecondNoteDottedDown</code>
	<code>\quarterNoteDotted</code>		<code>\thirtysecondNoteDown</code>
	<code>\quarterNoteDottedDouble</code>		<code>\wholeNote</code>
	<code>\quarterNoteDottedDoubleDown</code>		<code>\wholeNoteDotted</code>

*lilypond* defines synonyms for all of the preceding symbols:

































	<code>\crotchet</code>		<code>\minimDottedDown</code>
	<code>\crotchetDotted</code>		<code>\minimDown</code>
	<code>\crotchetDottedDouble</code>		<code>\quaver</code>
	<code>\crotchetDottedDoubleDown</code>		<code>\quaverDotted</code>
	<code>\crotchetDottedDown</code>		<code>\quaverDottedDouble</code>
	<code>\crotchetDown</code>		<code>\quaverDottedDoubleDown</code>
	<code>\demisemiquaver</code>		<code>\quaverDottedDown</code>
	<code>\demisemiquaverDotted</code>		<code>\quaverDown</code>
	<code>\demisemiquaverDottedDouble</code>		<code>\semibreve</code>
	<code>\demisemiquaverDottedDoubleDown</code>		<code>\semibreveDotted</code>
	<code>\demisemiquaverDottedDown</code>		<code>\semiquaver</code>
	<code>\demisemiquaverDown</code>		<code>\semiquaverDotted</code>
	<code>\minim</code>		<code>\semiquaverDottedDouble</code>
	<code>\minimDotted</code>		<code>\semiquaverDottedDoubleDown</code>
	<code>\minimDottedDouble</code>		<code>\semiquaverDottedDown</code>
	<code>\minimDottedDoubleDown</code>		<code>\semiquaverDown</code>

TABLE 666: *lily $\p{bs}$*  Beamed Notes









	<code>\twoBeamedQuavers</code>		<code>\threeBeamedQuaversII</code>
	<code>\threeBeamedQuavers</code>		<code>\threeBeamedQuaversIII</code>
	<code>\threeBeamedQuaversI</code>		

TABLE 667: *lily $\p{bs}$*  Clefs

	<code>\clefC</code>		<code>\clefF</code>		<code>\clefG</code>
-------------------------------------------------------------------------------------	---------------------	-------------------------------------------------------------------------------------	---------------------	-------------------------------------------------------------------------------------	---------------------

Each of these symbols provides a smaller, “inline” form (`\clefCInline`, `\clefFInline`, and `\clefGInline`, respectively) intended for use within a paragraph. See the *lily $\p{bs}$*  documentation for more information.

TABLE 668: *lily $\p{bs}$*  Time Signatures

	<code>\lilyTimeC</code>		<code>\lilyTimeCHalf</code>
-------------------------------------------------------------------------------------	-------------------------	-------------------------------------------------------------------------------------	-----------------------------

*lily $\p{bs}$*  also provides a `\lilyTimeSignature` command that lets a user typeset single and compound time signatures by specifying a numerator and a denominator. See the *lily $\p{bs}$*  documentation for more information.

TABLE 669: *lily<sub>g</sub>ly<sub>p</sub>bs* Accidentals

<b>×</b>	<code>\doublesharp</code>	<b>#</b>	<code>\sharpArrowdown</code>
<b>b</b>	<code>\flat</code>	<b>#</b>	<code>\sharpArrowup</code>
<b>bb</b>	<code>\flatflat</code>	<b>#</b>	<code>\sharpSlashslashslashStem</code>
<b>q</b>	<code>\natural</code>	<b>#</b>	<code>\sharpSlashslashslashStemstem</code>
<b>#</b>	<code>\sharp</code>	<b>#</b>	<code>\sharpSlashslashStem</code>
<b>#</b>	<code>\sharpArrowboth</code>	<b>#</b>	<code>\sharpSlashslashStemstemstem</code>

TABLE 670: *lily<sub>g</sub>ly<sub>p</sub>bs* Rests

<b>z</b>	<code>\crotchetRest</code>	<b>7</b>	<code>\quaverRestDotted</code>
<b>z</b>	<code>\crotchetRestDotted</code>	<b>7</b>	<code>\semiquaverRest</code>
<b>—</b>	<code>\halfNoteRest</code>	<b>7</b>	<code>\semiquaverRestDotted</code>
<b>—</b>	<code>\halfNoteRestDotted</code>	<b>—</b>	<code>\wholeNoteRest</code>
<b>7</b>	<code>\quaverRest</code>	<b>—</b>	<code>\wholeNoteRestDotted</code>

Multiply dotted rests can be produced with the `\lilyPrintMoreDots` command. See the *lily<sub>g</sub>ly<sub>p</sub>bs* documentation for more information.

TABLE 671: *lily<sub>g</sub>ly<sub>p</sub>bs* Dynamics Letters

<b><i>f</i></b>	<code>\lilyDynamics{f}</code>	<b><i>r</i></b>	<code>\lilyDynamics{r}</code>
<b><i>p</i></b>	<code>\lilyDynamics{p}</code>	<b><i>s</i></b>	<code>\lilyDynamics{s}</code>
<b><i>m</i></b>	<code>\lilyDynamics{m}</code>	<b><i>z</i></b>	<code>\lilyDynamics{z}</code>
<b><i>rf</i></b>	<code>\lilyRF</code>	<b><i>rfz</i></b>	<code>\lilyRFZ</code>

These letters and the digits 0–9 are the only alphanumerics defined by *lily<sub>g</sub>ly<sub>p</sub>bs*’s underlying Emmentaler fonts.

TABLE 672: *lily<sub>g</sub>ly<sub>p</sub>bs* Dynamics Symbols

<b>&lt;</b>	<code>\crescHairpin</code>	<b>&gt;</b>	<code>\decrescHairpin</code>
-------------	----------------------------	-------------	------------------------------

TABLE 673: *lilyglyphs* Articulations

>	\lilyAccent	^	\marcato	'	\staccatissimo
<>	\lilyEspressivo	v	\marcatoDown	-	\tenuto
.	\lilyStaccato	÷	\portato		
ø	\lilyThumb	÷	\portatoDown		

TABLE 674: *lilyglyphs* Scripts

⤿	\fermata
---	----------

TABLE 675: *lilyglyphs* Accordion Notation








































































⌘	\accordionBayanBass	⊗	\accordionOldEE	⊖	\accordionStdBass
⊖	\accordionDiscant	⌘	\accordionPull		
⊖	\accordionFreeBass	>	\accordionPush		

TABLE 676: *lilyglyphs* Named Time Signatures

⌘	\lilyGlyph{timesig.C22}	⌘	\lilyGlyph{timesig.mensural98}
⌘	\lilyGlyph{timesig.C44}	⌘	\lilyGlyph{timesig.neomensural22}
⌘	\lilyGlyph{timesig.mensural22}	⌘	\lilyGlyph{timesig.neomensural24}
⌘	\lilyGlyph{timesig.mensural24}	⌘	\lilyGlyph{timesig.neomensural32}
⌘	\lilyGlyph{timesig.mensural32}	⌘	\lilyGlyph{timesig.neomensural34}
⌘	\lilyGlyph{timesig.mensural34}	⌘	\lilyGlyph{timesig.neomensural44}
⌘	\lilyGlyph{timesig.mensural44}	⌘	\lilyGlyph{timesig.neomensural48}
⌘	\lilyGlyph{timesig.mensural48}	⌘	\lilyGlyph{timesig.neomensural64}
⌘	\lilyGlyph{timesig.mensural64}	⌘	\lilyGlyph{timesig.neomensural68}
⌘	\lilyGlyph{timesig.mensural68}	⌘	\lilyGlyph{timesig.neomensural68alt}
⌘	\lilyGlyph{timesig.mensural68alt}	⌘	\lilyGlyph{timesig.neomensural94}
⌘	\lilyGlyph{timesig.mensural94}	⌘	\lilyGlyph{timesig.neomensural98}

*lilyglyphs* defines shorter names for a few of these symbols. See Table 668 on the following page.

TABLE 677: *lilyglyphs* Named Scripts

	<code>\lilyGlyph{scripts.arpeggio}</code>		<code>\lilyGlyph{scripts.prallmordent}</code>
	<code>\lilyGlyph{scripts.arpeggio.arrow.1}</code>		<code>\lilyGlyph{scripts.prallprall}</code>
	<code>\lilyGlyph{scripts.arpeggio.arrow.M1}</code>		<code>\lilyGlyph{scripts.prallup}</code>
	<code>\lilyGlyph{scripts.augmentum}</code>		<code>\lilyGlyph{scripts.rcomma}</code>
	<code>\lilyGlyph{scripts.barline.kievian}</code>		<code>\lilyGlyph{scripts.reverseturn}</code>
	<code>\lilyGlyph{scripts.caesura.curved}</code>		<code>\lilyGlyph{scripts.rvarcomma}</code>
	<code>\lilyGlyph{scripts.caesura.straight}</code>		<code>\lilyGlyph{scripts.segno}</code>
	<code>\lilyGlyph{scripts.circulus}</code>		<code>\lilyGlyph{scripts.sforzato}</code>
	<code>\lilyGlyph{scripts.coda}</code>		<code>\lilyGlyph{scripts.snappizzicato}</code>
	<code>\lilyGlyph{scripts.daccentus}</code>		<code>\lilyGlyph{scripts.staccato}</code>
	<code>\lilyGlyph{scripts.dfermata}</code>		<code>\lilyGlyph{scripts.stopped}</code>
	<code>\lilyGlyph{scripts.dlongfermata}</code>		<code>\lilyGlyph{scripts.tenuto}</code>
	<code>\lilyGlyph{scripts.dmarcato}</code>		<code>\lilyGlyph{scripts.thumb}</code>
	<code>\lilyGlyph{scripts.downbow}</code>		<code>\lilyGlyph{scripts.tickmark}</code>
	<code>\lilyGlyph{scripts.downmordent}</code>		<code>\lilyGlyph{scripts.trilelement}</code>
	<code>\lilyGlyph{scripts.downprall}</code>		<code>\lilyGlyph{scripts.trill}</code>
	<code>\lilyGlyph{scripts.dpedalheel}</code>		<code>\lilyGlyph{scripts.trill_element}</code>
	<code>\lilyGlyph{scripts.dpedaltoe}</code>		<code>\lilyGlyph{scripts.turn}</code>
	<code>\lilyGlyph{scripts.dportato}</code>		<code>\lilyGlyph{scripts.uaccentus}</code>
	<code>\lilyGlyph{scripts.dsemicirculus}</code>		<code>\lilyGlyph{scripts.ufermata}</code> *
	<code>\lilyGlyph{scripts.dshortfermata}</code>		<code>\lilyGlyph{scripts.ulongfermata}</code>
	<code>\lilyGlyph{scripts.dsignumcongruentiae}</code>		<code>\lilyGlyph{scripts.umarcato}</code>
	<code>\lilyGlyph{scripts.dstaccatissimo}</code>		<code>\lilyGlyph{scripts.upbow}</code>
	<code>\lilyGlyph{scripts.dverylongfermata}</code>		<code>\lilyGlyph{scripts.upedalheel}</code>
	<code>\lilyGlyph{scripts.espr}</code>		<code>\lilyGlyph{scripts.upedaltoe}</code>
	<code>\lilyGlyph{scripts.flageolet}</code>		<code>\lilyGlyph{scripts.upmordent}</code>
	<code>\lilyGlyph{scripts.halfopen}</code>		<code>\lilyGlyph{scripts.uportato}</code>
	<code>\lilyGlyph{scripts.halfopenvertical}</code>		<code>\lilyGlyph{scripts.upprall}</code>
	<code>\lilyGlyph{scripts.ictus}</code>		<code>\lilyGlyph{scripts.usemicirculus}</code>
	<code>\lilyGlyph{scripts.lcomma}</code>		<code>\lilyGlyph{scripts.ushortfermata}</code>
	<code>\lilyGlyph{scripts.lineprall}</code>		<code>\lilyGlyph{scripts.usignumcongruentiae}</code>
	<code>\lilyGlyph{scripts.lvarcomma}</code>		<code>\lilyGlyph{scripts.ustaccatissimo}</code>
	<code>\lilyGlyph{scripts.mordent}</code>		<code>\lilyGlyph{scripts.uverylongfermata}</code>
	<code>\lilyGlyph{scripts.open}</code>		<code>\lilyGlyph{scripts.varcoda}</code>
	<code>\lilyGlyph{scripts.prall}</code>		<code>\lilyGlyph{scripts.varsegno}</code>
	<code>\lilyGlyph{scripts.pralldown}</code>		

































\* *lilyglyphs* defines `\fermata` as a shorter name than `\lilyGlyph{scripts.ufermata}` for “”. See Table 674.

TABLE 679: *lilyglyphs* Named Rests

	<code>\lilyGlyph{rests.0}</code>		<code>\lilyGlyph{rests.4mensural}</code>
	<code>\lilyGlyph{rests.0mensural}</code>		<code>\lilyGlyph{rests.4neomensural}</code>
	<code>\lilyGlyph{rests.0neomensural}</code>		<code>\lilyGlyph{rests.5}</code>
	<code>\lilyGlyph{rests.0o}*</code>		<code>\lilyGlyph{rests.6}</code>
	<code>\lilyGlyph{rests.1}</code>		<code>\lilyGlyph{rests.7}</code>
	<code>\lilyGlyph{rests.1mensural}</code>		<code>\lilyGlyph{rests.M1}</code>
	<code>\lilyGlyph{rests.1neomensural}</code>		<code>\lilyGlyph{rests.M1mensural}</code>
	<code>\lilyGlyph{rests.1o}*</code>		<code>\lilyGlyph{rests.M1neomensural}</code>
	<code>\lilyGlyph{rests.2}*</code>		<code>\lilyGlyph{rests.M1o}</code>
	<code>\lilyGlyph{rests.2classical}</code>		<code>\lilyGlyph{rests.M2}</code>
	<code>\lilyGlyph{rests.2mensural}</code>		<code>\lilyGlyph{rests.M2mensural}</code>
	<code>\lilyGlyph{rests.2neomensural}</code>		<code>\lilyGlyph{rests.M2neomensural}</code>
	<code>\lilyGlyph{rests.3}*</code>		<code>\lilyGlyph{rests.M3}</code>
	<code>\lilyGlyph{rests.3mensural}</code>		<code>\lilyGlyph{rests.M3mensural}</code>
	<code>\lilyGlyph{rests.3neomensural}</code>		<code>\lilyGlyph{rests.M3neomensural}</code>
	<code>\lilyGlyph{rests.4}*</code>		

\* *lilyglyphs* defines shorter names for these symbols. See Table 670 on page 260.

TABLE 680: *lilyglyphs* Named Pedals








	<code>\lilyGlyph{pedal.*}</code>		<code>\lilyGlyph{pedal.M}</code>
	<code>\lilyGlyph{pedal..}</code>		<code>\lilyGlyph{pedal.P}</code>
	<code>\lilyGlyph{pedal.d}</code>		<code>\lilyGlyph{pedal.Ped}</code>
	<code>\lilyGlyph{pedal.e}</code>		

TABLE 681: *lilyglyphs* Named Flags



















































∕	<code>\lilyGlyph{flags.d3}</code>	,	<code>\lilyGlyph{flags.mensuralu03}</code>
∕	<code>\lilyGlyph{flags.d4}</code>	}	<code>\lilyGlyph{flags.mensuralu04}</code>
∕	<code>\lilyGlyph{flags.d5}</code>	}	<code>\lilyGlyph{flags.mensuralu05}</code>
∕	<code>\lilyGlyph{flags.d6}</code>	}	<code>\lilyGlyph{flags.mensuralu06}</code>
∕	<code>\lilyGlyph{flags.d7}</code>	,	<code>\lilyGlyph{flags.mensuralu13}</code>
∕	<code>\lilyGlyph{flags.dgrace}</code>	}	<code>\lilyGlyph{flags.mensuralu14}</code>
∕	<code>\lilyGlyph{flags.mensurald03}</code>	}	<code>\lilyGlyph{flags.mensuralu15}</code>
{	<code>\lilyGlyph{flags.mensurald04}</code>	}	<code>\lilyGlyph{flags.mensuralu16}</code>
{	<code>\lilyGlyph{flags.mensurald05}</code>	,	<code>\lilyGlyph{flags.mensuralu23}</code>
{	<code>\lilyGlyph{flags.mensurald06}</code>	}	<code>\lilyGlyph{flags.mensuralu24}</code>
∕	<code>\lilyGlyph{flags.mensurald13}</code>	}	<code>\lilyGlyph{flags.mensuralu25}</code>
{	<code>\lilyGlyph{flags.mensurald14}</code>	}	<code>\lilyGlyph{flags.mensuralu26}</code>
{	<code>\lilyGlyph{flags.mensurald15}</code>	}	<code>\lilyGlyph{flags.u3}</code>
{	<code>\lilyGlyph{flags.mensurald16}</code>	,	<code>\lilyGlyph{flags.u4}</code>
∕	<code>\lilyGlyph{flags.mensurald23}</code>	,	<code>\lilyGlyph{flags.u5}</code>
{	<code>\lilyGlyph{flags.mensurald24}</code>	,	<code>\lilyGlyph{flags.u6}</code>
{	<code>\lilyGlyph{flags.mensurald25}</code>	,	<code>\lilyGlyph{flags.u7}</code>
{	<code>\lilyGlyph{flags.mensurald26}</code>	∕	<code>\lilyGlyph{flags.ugrace}</code>

TABLE 682: *lilyglyphs* Named Custodes

∧	<code>\lilyGlyph{custodes.hufnagel.d0}</code>	↘	<code>\lilyGlyph{custodes.mensural.d0}</code>
∧	<code>\lilyGlyph{custodes.hufnagel.d1}</code>	↘	<code>\lilyGlyph{custodes.mensural.d1}</code>
∧	<code>\lilyGlyph{custodes.hufnagel.d2}</code>	↘	<code>\lilyGlyph{custodes.mensural.d2}</code>
✓	<code>\lilyGlyph{custodes.hufnagel.u0}</code>	↘	<code>\lilyGlyph{custodes.mensural.u0}</code>
✓	<code>\lilyGlyph{custodes.hufnagel.u1}</code>	↘	<code>\lilyGlyph{custodes.mensural.u1}</code>
✓	<code>\lilyGlyph{custodes.hufnagel.u2}</code>	↘	<code>\lilyGlyph{custodes.mensural.u2}</code>
,	<code>\lilyGlyph{custodes.medicaea.d0}</code>	,	<code>\lilyGlyph{custodes.vaticana.d0}</code>
,	<code>\lilyGlyph{custodes.medicaea.d1}</code>	,	<code>\lilyGlyph{custodes.vaticana.d1}</code>
,	<code>\lilyGlyph{custodes.medicaea.d2}</code>	,	<code>\lilyGlyph{custodes.vaticana.d2}</code>
,	<code>\lilyGlyph{custodes.medicaea.u0}</code>	,	<code>\lilyGlyph{custodes.vaticana.u0}</code>
,	<code>\lilyGlyph{custodes.medicaea.u1}</code>	,	<code>\lilyGlyph{custodes.vaticana.u1}</code>
,	<code>\lilyGlyph{custodes.medicaea.u2}</code>	,	<code>\lilyGlyph{custodes.vaticana.u2}</code>



TABLE 683: *lilyglyphs* Named Clefs

	<code>\lilyGlyph{clefs.blackmensural.c}</code>		<code>\lilyGlyph{clefs.mensural.g_change}</code>
	<code>\lilyGlyph{clefs.blackmensural.c_change}</code>		<code>\lilyGlyph{clefs.neomensural.c}</code>
	<code>\lilyGlyph{clefs.C}*</code>		<code>\lilyGlyph{clefs.neomensural.c_change}</code>
	<code>\lilyGlyph{clefs.C_change}*</code>		<code>\lilyGlyph{clefs.percussion}</code>
	<code>\lilyGlyph{clefs.F}*</code>		<code>\lilyGlyph{clefs.percussion_change}</code>
	<code>\lilyGlyph{clefs.F_change}*</code>		<code>\lilyGlyph{clefs.petrucci.c1}</code>
	<code>\lilyGlyph{clefs.G}*</code>		<code>\lilyGlyph{clefs.petrucci.c1_change}</code>
	<code>\lilyGlyph{clefs.G_change}*</code>		<code>\lilyGlyph{clefs.petrucci.c2}</code>
	<code>\lilyGlyph{clefs.hufnagel.do}</code>		<code>\lilyGlyph{clefs.petrucci.c2_change}</code>
	<code>\lilyGlyph{clefs.hufnagel.do.fa}</code>		<code>\lilyGlyph{clefs.petrucci.c3}</code>
	<code>\lilyGlyph{clefs.hufnagel.do.fa_change}</code>		<code>\lilyGlyph{clefs.petrucci.c3_change}</code>
	<code>\lilyGlyph{clefs.hufnagel.do_change}</code>		<code>\lilyGlyph{clefs.petrucci.c4}</code>
	<code>\lilyGlyph{clefs.hufnagel.fa}</code>		<code>\lilyGlyph{clefs.petrucci.c4_change}</code>
	<code>\lilyGlyph{clefs.hufnagel.fa_change}</code>		<code>\lilyGlyph{clefs.petrucci.c5}</code>
	<code>\lilyGlyph{clefs.kievan.do}</code>		<code>\lilyGlyph{clefs.petrucci.c5_change}</code>
	<code>\lilyGlyph{clefs.kievan.do_change}</code>		<code>\lilyGlyph{clefs.petrucci.f}</code>
	<code>\lilyGlyph{clefs.medicaea.do}</code>		<code>\lilyGlyph{clefs.petrucci.f_change}</code>
	<code>\lilyGlyph{clefs.medicaea.do_change}</code>		<code>\lilyGlyph{clefs.petrucci.g}</code>
	<code>\lilyGlyph{clefs.medicaea.fa}</code>		<code>\lilyGlyph{clefs.petrucci.g_change}</code>
	<code>\lilyGlyph{clefs.medicaea.fa_change}</code>		<code>\lilyGlyph{clefs.tab}</code>
	<code>\lilyGlyph{clefs.mensural.c}</code>		<code>\lilyGlyph{clefs.tab_change}</code>
	<code>\lilyGlyph{clefs.mensural.c_change}</code>		<code>\lilyGlyph{clefs.vaticana.do}</code>
	<code>\lilyGlyph{clefs.mensural.f}</code>		<code>\lilyGlyph{clefs.vaticana.do_change}</code>
	<code>\lilyGlyph{clefs.mensural.f_change}</code>		<code>\lilyGlyph{clefs.vaticana.fa}</code>
	<code>\lilyGlyph{clefs.mensural.g}</code>		<code>\lilyGlyph{clefs.vaticana.fa_change}</code>











































\* *lilyglyphs* defines shorter names for these symbols. See Table 667 on page 259.

TABLE 685: *lilyglyphs* Named Noteheads

◦	<code>\lilyGlyph{noteheads.d0doFunk}</code>
◡	<code>\lilyGlyph{noteheads.d0fa}</code>
◡	<code>\lilyGlyph{noteheads.d0faFunk}</code>
◡	<code>\lilyGlyph{noteheads.d0faThin}</code>
◦	<code>\lilyGlyph{noteheads.d0miFunk}</code>
◡	<code>\lilyGlyph{noteheads.d0reFunk}</code>
◡	<code>\lilyGlyph{noteheads.d0tiFunk}</code>
◡	<code>\lilyGlyph{noteheads.d1do}</code>
◦	<code>\lilyGlyph{noteheads.d1doFunk}</code>
◡	<code>\lilyGlyph{noteheads.d1doThin}</code>
◡	<code>\lilyGlyph{noteheads.d1doWalker}</code>
◡	<code>\lilyGlyph{noteheads.d1fa}</code>
◡	<code>\lilyGlyph{noteheads.d1faFunk}</code>
◡	<code>\lilyGlyph{noteheads.d1faThin}</code>
◡	<code>\lilyGlyph{noteheads.d1faWalker}</code>
◦	<code>\lilyGlyph{noteheads.d1miFunk}</code>
◡	<code>\lilyGlyph{noteheads.d1re}</code>
◡	<code>\lilyGlyph{noteheads.d1reFunk}</code>
◡	<code>\lilyGlyph{noteheads.d1reThin}</code>
◡	<code>\lilyGlyph{noteheads.d1reWalker}</code>
◦	<code>\lilyGlyph{noteheads.d1ti}</code>
◡	<code>\lilyGlyph{noteheads.d1tiFunk}</code>
◦	<code>\lilyGlyph{noteheads.d1tiThin}</code>
◡	<code>\lilyGlyph{noteheads.d1tiWalker}</code>
◡	<code>\lilyGlyph{noteheads.d1triangle}</code>
◡	<code>\lilyGlyph{noteheads.d2do}</code>
◦	<code>\lilyGlyph{noteheads.d2doFunk}</code>
◡	<code>\lilyGlyph{noteheads.d2doThin}</code>
◡	<code>\lilyGlyph{noteheads.d2doWalker}</code>
◡	<code>\lilyGlyph{noteheads.d2fa}</code>
◡	<code>\lilyGlyph{noteheads.d2faFunk}</code>
◡	<code>\lilyGlyph{noteheads.d2faThin}</code>
◡	<code>\lilyGlyph{noteheads.d2faWalker}</code>
◡	<code>\lilyGlyph{noteheads.d2kievan}</code>
◡	<code>\lilyGlyph{noteheads.d2re}</code>
◡	<code>\lilyGlyph{noteheads.d2reFunk}</code>
◡	<code>\lilyGlyph{noteheads.d2reThin}</code>
◡	<code>\lilyGlyph{noteheads.d2reWalker}</code>
◦	<code>\lilyGlyph{noteheads.d2ti}</code>
◡	<code>\lilyGlyph{noteheads.d2tiFunk}</code>
◡	<code>\lilyGlyph{noteheads.d2tiThin}</code>
◡	<code>\lilyGlyph{noteheads.d2tiWalker}</code>
◡	<code>\lilyGlyph{noteheads.d2triangle}</code>

(continued on next page)

*(continued from previous page)*

	<code>\lilyGlyph{noteheads.d3kievan}</code>
	<code>\lilyGlyph{noteheads.dM2}</code>
	<code>\lilyGlyph{noteheads.dM2blackmensural}</code>
	<code>\lilyGlyph{noteheads.dM2mensural}</code>
	<code>\lilyGlyph{noteheads.dM2neomensural}</code>
	<code>\lilyGlyph{noteheads.dM2semimensural}</code>
	<code>\lilyGlyph{noteheads.dM3blackmensural}</code>
	<code>\lilyGlyph{noteheads.dM3mensural}</code>
	<code>\lilyGlyph{noteheads.dM3neomensural}</code>
	<code>\lilyGlyph{noteheads.dM3semimensural}</code>
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	<code>\lilyGlyph{noteheads.s0sol}</code>

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⊞ \lilyGlyph{noteheads.s1laThin}
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■ \lilyGlyph{noteheads.s2laFunk}
■ \lilyGlyph{noteheads.s2laThin}
■ \lilyGlyph{noteheads.s2laWalker}
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◊ \lilyGlyph{noteheads.s2miThin}
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• \lilyGlyph{noteheads.s2neomensural}
♦ \lilyGlyph{noteheads.s2petrucci}
/ \lilyGlyph{noteheads.s2slash}
• \lilyGlyph{noteheads.s2sol}
• \lilyGlyph{noteheads.s2solFunk}
⊗ \lilyGlyph{noteheads.s2xcircle}
⬢ \lilyGlyph{noteheads.shufnagel.lpes}

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♦ \lilyGlyph{noteheads.shufnagel.punctum}
† \lilyGlyph{noteheads.shufnagel.virga}
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✠ \lilyGlyph{noteheads.sM1blackmensural}
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✠ \lilyGlyph{noteheads.sM3ligmensural}
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♦ \lilyGlyph{noteheads.smedicaea.rvirga}
♦ \lilyGlyph{noteheads.smedicaea.virga}
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. \lilyGlyph{noteheads.ssolesmes.oriscus}
. \lilyGlyph{noteheads.ssolesmes.stropha}
. \lilyGlyph{noteheads.ssolesmes.stropha.aucta}
♦ \lilyGlyph{noteheads.svaticana.cephalicus}
♦ \lilyGlyph{noteheads.svaticana.epiphonus}
♦ \lilyGlyph{noteheads.svaticana.inclinatum}
♦ \lilyGlyph{noteheads.svaticana.inner.cephalicus}
♦ \lilyGlyph{noteheads.svaticana.linea.punctum}
♦ \lilyGlyph{noteheads.svaticana.linea.punctum.cavum}
♦ \lilyGlyph{noteheads.svaticana.lpes}
♦ \lilyGlyph{noteheads.svaticana.plica}
♦ \lilyGlyph{noteheads.svaticana.punctum}
♦ \lilyGlyph{noteheads.svaticana.punctum.cavum}

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▷ \lilyGlyph{noteheads.u2reFunk}
. \lilyGlyph{noteheads.u2reThin}
. \lilyGlyph{noteheads.u2reWalker}

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• \lilyGlyph{noteheads.u2ti}
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• \lilyGlyph{noteheads.u2tiThin}
• \lilyGlyph{noteheads.u2tiWalker}
v \lilyGlyph{noteheads.u2triangle}
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u \lilyGlyph{noteheads.urM3neomensural}
u \lilyGlyph{noteheads.urM3semimensural}

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TABLE 687: *lily<sup>♩</sup>pbs* Named Accordion Symbols

目	\lilyGlyph{accordion.bayanbass}	⊗	\lilyGlyph{accordion.oldEE}
⊖	\lilyGlyph{accordion.discant}	↑	\lilyGlyph{accordion.pull}
.	\lilyGlyph{accordion.dot}	>	\lilyGlyph{accordion.push}
⊖	\lilyGlyph{accordion.freebass}	⊖	\lilyGlyph{accordion.stdbass}

*lily<sup>♩</sup>pbs* defines shorter names for all of these symbols except \lilyGlyph{accordion.dot}. See Table 675 on page 261.

TABLE 688: *lilyglyphs* Named Accidentals

×	<code>\lilyGlyph{accidentals.doublersharp}</code> *
♭	<code>\lilyGlyph{accidentals.flat}</code> *
↕	<code>\lilyGlyph{accidentals.flat.arrowboth}</code>
↴	<code>\lilyGlyph{accidentals.flat.arrowdown}</code>
↵	<code>\lilyGlyph{accidentals.flat.arrowup}</code>
/	<code>\lilyGlyph{accidentals.flat.slash}</code>
//	<code>\lilyGlyph{accidentals.flat.slashslash}</code>
♭♭	<code>\lilyGlyph{accidentals.flatflat}</code> *
♭/	<code>\lilyGlyph{accidentals.flatflat.slash}</code>
ℳ	<code>\lilyGlyph{accidentals.hufnagelM1}</code>
⌘	<code>\lilyGlyph{accidentals.kievan1}</code>
ℳ	<code>\lilyGlyph{accidentals.kievanM1}</code>
(	<code>\lilyGlyph{accidentals.leftparen}</code>
⋈	<code>\lilyGlyph{accidentals.medicaeaM1}</code>
×	<code>\lilyGlyph{accidentals.mensural1}</code>
ℳ	<code>\lilyGlyph{accidentals.mensuralM1}</code>
♭	<code>\lilyGlyph{accidentals.mirroredflat}</code>
♭\	<code>\lilyGlyph{accidentals.mirroredflat.backslash}</code>
♭♭	<code>\lilyGlyph{accidentals.mirroredflat.flat}</code>
♮	<code>\lilyGlyph{accidentals.natural}</code> *
↕	<code>\lilyGlyph{accidentals.natural.arrowboth}</code>
↴	<code>\lilyGlyph{accidentals.natural.arrowdown}</code>
↵	<code>\lilyGlyph{accidentals.natural.arrowup}</code>
)	<code>\lilyGlyph{accidentals.rightparen}</code>
#	<code>\lilyGlyph{accidentals.sharp}</code> *
↕	<code>\lilyGlyph{accidentals.sharp.arrowboth}</code> *
↴	<code>\lilyGlyph{accidentals.sharp.arrowdown}</code> *
↵	<code>\lilyGlyph{accidentals.sharp.arrowup}</code> *
/	<code>\lilyGlyph{accidentals.sharp.slashslash.stem}</code> *
//	<code>\lilyGlyph{accidentals.sharp.slashslash.stemstemstem}</code> *
/	<code>\lilyGlyph{accidentals.sharp.slashslashslash.stem}</code> *
//	<code>\lilyGlyph{accidentals.sharp.slashslashslash.stemstem}</code> *
ℳ	<code>\lilyGlyph{accidentals.vaticana0}</code>
ℳ	<code>\lilyGlyph{accidentals.vaticanaM1}</code>

\* *lilyglyphs* defines shorter names for these symbols. See Table 669 on page 260.



TABLE 690: *lily<sup>♩</sup>lyp<sup>bs</sup>* Named Arrowheads

➤ <code>\lilyGlyph{arrowheads.close.01}</code>	➤ <code>\lilyGlyph{arrowheads.open.01}</code>
➤ <code>\lilyGlyph{arrowheads.close.0M1}</code>	➤ <code>\lilyGlyph{arrowheads.open.0M1}</code>
➤ <code>\lilyGlyph{arrowheads.close.11}</code>	➤ <code>\lilyGlyph{arrowheads.open.11}</code>
➤ <code>\lilyGlyph{arrowheads.close.1M1}</code>	➤ <code>\lilyGlyph{arrowheads.open.1M1}</code>

TABLE 691: *lily<sup>♩</sup>lyp<sup>bs</sup>* Named Alphanumerics and Punctuation

<b>0</b> <code>\lilyGlyph{zero}</code>	<b>4</b> <code>\lilyGlyph{four}</code>	<b>8</b> <code>\lilyGlyph{eight}</code>
<b>1</b> <code>\lilyGlyph{one}</code>	<b>5</b> <code>\lilyGlyph{five}</code>	<b>9</b> <code>\lilyGlyph{nine}</code>
<b>2</b> <code>\lilyGlyph{two}</code>	<b>6</b> <code>\lilyGlyph{six}</code>	
<b>3</b> <code>\lilyGlyph{three}</code>	<b>7</b> <code>\lilyGlyph{seven}</code>	
<i>f</i> <code>\lilyGlyph{f}</code>	<i>p</i> <code>\lilyGlyph{p}</code>	<i>s</i> <code>\lilyGlyph{s}</code>
<i>m</i> <code>\lilyGlyph{m}</code>	<i>r</i> <code>\lilyGlyph{r}</code>	<i>z</i> <code>\lilyGlyph{z}</code>
<code>,</code> <code>\lilyGlyph{comma}</code>	<code>.</code> <code>\lilyGlyph{period}</code>	
<code>-</code> <code>\lilyGlyph{hyphen}</code>	<code>+</code> <code>\lilyGlyph{plus}</code>	

See Table 671 on page 260 for an alternative way to typeset dynamics letters. *lily<sup>♩</sup>lyp<sup>bs</sup>* additionally provides a `\lilyText` command that can be useful for typesetting groups of the preceding symbols. See the *lily<sup>♩</sup>lyp<sup>bs</sup>* documentation for more information.

TABLE 692: Miscellaneous *lily<sup>♩</sup>lyp<sup>bs</sup>* Named Musical Symbols

<code>\lilyGlyph{brackettips.down}</code>	<code>\lilyGlyph{dots.dotvaticana}</code>
<code>\lilyGlyph{brackettips.up}</code>	<code>\lilyGlyph{ties.lyric.default}</code>
<code>\lilyGlyph{dots.dot}</code>	<code>\lilyGlyph{ties.lyric.short}</code>
<code>\lilyGlyph{dots.dotkievan}</code>	

TABLE 693: *utfsym* Music Emojis








 <code>\lucideicon{guitar}</code>	 <code>\lucideicon{music-3}</code>
 <code>\lucideicon{keyboard-music}</code>	 <code>\lucideicon{music-4}</code>
 <code>\lucideicon{music}</code>	 <code>\lucideicon{piano}</code>
 <code>\lucideicon{music-2}</code>	

TABLE 694: utfsym Music Emojis

























	<code>\usym{1F398}</code>	<i>musical keyboard with jacks</i>		<code>\usym{1F3B9}</code>	<i>musical keyboard</i>
	<code>\usym{1F399}</code>	<i>studio microphone</i>		<code>\usym{1F3BA}</code>	<i>trumpet</i>
	<code>\usym{1F3B7}</code>	<i>saxophone</i>		<code>\usym{1F3BB}</code>	<i>violin</i>
	<code>\usym{1F3B8}</code>	<i>guitar</i>		<code>\usym{1F4EF}</code>	<i>postal horn</i>

TABLE 695: twemojis Music Emojis

	<code>\twemoji{accordion}</code>		<code>\twemoji{musical note}</code>
	<code>\twemoji{banjo}</code>		<code>\twemoji{musical notes}</code>
	<code>\twemoji{drum}</code>		<code>\twemoji{musical score}</code>
	<code>\twemoji{guitar}</code>		<code>\twemoji{postal horn}</code>
	<code>\twemoji{headphones}</code>		<code>\twemoji{saxophone}</code>
	<code>\twemoji{long drum}</code>		<code>\twemoji{trumpet}</code>
	<code>\twemoji{microphone}</code>		<code>\twemoji{violin}</code>
	<code>\twemoji{musical keyboard}</code>		<code>\twemoji{wind chime}</code>

See the twemojis package note on page 460.

## Chapter 8

# Gaming symbols

This chapter presents symbols related to games and gaming: playing cards and playing-card suits, dice, and symbols used to represent pieces and moves in various games. Additional gaming symbols appear in Chapter 12, but those symbols are delivered by packages that provide minimal L<sup>A</sup>T<sub>E</sub>X support.

TABLE 696: L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Playing-Card Suits

♣ `\clubsuit`    ♦ `\diamondsuit`    ♥ `\heartsuit`    ♠ `\spadesuit`

TABLE 697: txfonts/pxfonts Playing-Card Suits

♣ `\varclubsuit`    ♦ `\vardiamondsuit`    ♥ `\varheartsuit`    ♠ `\varspadesuit`

TABLE 698: MnSymbol Playing-Card Suits

♣ `\clubsuit`    ♦ `\diamondsuit`    ♥ `\heartsuit`    ♠ `\spadesuit`

TABLE 699: FdSymbol Playing-Card Suits

♣ `\clubsuit`    ♥ `\heartsuit`    ♦ `\vardiamondsuit`  
 ♦ `\diamondsuit`    ♠ `\spadesuit`    ♥ `\varheartsuit`

TABLE 700: boisik Playing-Card Suits

♣ `\clubsuit`    ♦ `\diamondsuit`    ♥ `\heartsuit`    ♠ `\spadesuit`

TABLE 701: stix Playing-Card Suits

♣	<code>\clubsuit</code>	♥	<code>\heartsuit</code>	♠	<code>\varclubsuit</code>	♥	<code>\varheartsuit</code>
♦	<code>\diamondsuit</code>	♠	<code>\spadesuit</code>	♦	<code>\vardiamondsuit</code>	♠	<code>\varspadesuit</code>

TABLE 702: arev Playing-Card Suits

♠	<code>\varclub</code>	♦	<code>\vardiamond</code>	♥	<code>\varheart</code>	♠	<code>\varspade</code>
---	-----------------------	---	--------------------------	---	------------------------	---	------------------------

TABLE 703: lucide-icons Playing-Card Suits

♣	<code>\lucideicon{club}</code>	♥	<code>\lucideicon{heart}</code>
♦	<code>\lucideicon{diamond}</code>	♠	<code>\lucideicon{spade}</code>

See the lucide-icons package note on page 454.

TABLE 704: twemojis Playing-Card Suits

♣	<code>\twemoji{club suit}</code>	♥	<code>\twemoji{heart suit}</code>
♦	<code>\twemoji{diamond suit}</code>	♠	<code>\twemoji{spade suit}</code>







































































See the twemojis package note on page 460.

TABLE 705: utfsym Playing-Card Suits

♠	<code>\usym{2660}</code>	<i>black spade suit</i>	♠	<code>\usym{2664}</code>	<i>white spade suit</i>
♥	<code>\usym{2661}</code>	<i>white heart suit</i>	♥	<code>\usym{2665}</code>	<i>black heart suit</i>
♦	<code>\usym{2662}</code>	<i>white diamond suit</i>	♦	<code>\usym{2666}</code>	<i>black diamond suit</i>
♣	<code>\usym{2663}</code>	<i>black club suit</i>	♣	<code>\usym{2667}</code>	<i>white club suit</i>













See the utfsym package note on page 461.

TABLE 706: utfsym Playing Cards

	<code>\usym{1FOA0}</code>	<i>playing card back</i>		<code>\usym{1FOCC}</code>	<i>playing card knight of diamonds</i>
	<code>\usym{1FOA1}</code>	<i>playing card ace of spades</i>		<code>\usym{1FOCD}</code>	<i>playing card queen of diamonds</i>
	<code>\usym{1FOA2}</code>	<i>playing card two of spades</i>		<code>\usym{1FOCE}</code>	<i>playing card king of diamonds</i>
	<code>\usym{1FOA3}</code>	<i>playing card three of spades</i>		<code>\usym{1FOCF}</code>	<i>playing card black joker</i>
	<code>\usym{1FOA4}</code>	<i>playing card four of spades</i>		<code>\usym{1FOD1}</code>	<i>playing card ace of clubs</i>
	<code>\usym{1FOA5}</code>	<i>playing card five of spades</i>		<code>\usym{1FOD2}</code>	<i>playing card two of clubs</i>
	<code>\usym{1FOA6}</code>	<i>playing card six of spades</i>		<code>\usym{1FOD3}</code>	<i>playing card three of clubs</i>
	<code>\usym{1FOA7}</code>	<i>playing card seven of spades</i>		<code>\usym{1FOD4}</code>	<i>playing card four of clubs</i>
	<code>\usym{1FOA8}</code>	<i>playing card eight of spades</i>		<code>\usym{1FOD5}</code>	<i>playing card five of clubs</i>
	<code>\usym{1FOA9}</code>	<i>playing card nine of spades</i>		<code>\usym{1FOD6}</code>	<i>playing card six of clubs</i>
	<code>\usym{1FOAA}</code>	<i>playing card ten of spades</i>		<code>\usym{1FOD7}</code>	<i>playing card seven of clubs</i>
	<code>\usym{1FOAB}</code>	<i>playing card jack of spades</i>		<code>\usym{1FOD8}</code>	<i>playing card eight of clubs</i>
	<code>\usym{1FOAC}</code>	<i>playing card knight of spades</i>		<code>\usym{1FOD9}</code>	<i>playing card nine of clubs</i>
	<code>\usym{1FOAD}</code>	<i>playing card queen of spades</i>		<code>\usym{1FODA}</code>	<i>playing card ten of clubs</i>
	<code>\usym{1FOAE}</code>	<i>playing card king of spades</i>		<code>\usym{1FODB}</code>	<i>playing card jack of clubs</i>
	<code>\usym{1FOB1}</code>	<i>playing card ace of hearts</i>		<code>\usym{1FODC}</code>	<i>playing card knight of clubs</i>
	<code>\usym{1FOB2}</code>	<i>playing card two of hearts</i>		<code>\usym{1FODD}</code>	<i>playing card queen of clubs</i>
	<code>\usym{1FOB3}</code>	<i>playing card three of hearts</i>		<code>\usym{1FODE}</code>	<i>playing card king of clubs</i>
	<code>\usym{1FOB4}</code>	<i>playing card four of hearts</i>		<code>\usym{1FODF}</code>	<i>playing card white joker</i>
	<code>\usym{1FOB5}</code>	<i>playing card five of hearts</i>		<code>\usym{1FOE0}</code>	<i>playing card fool</i>
	<code>\usym{1FOB6}</code>	<i>playing card six of hearts</i>		<code>\usym{1FOE1}</code>	<i>playing card trump-1</i>
	<code>\usym{1FOB7}</code>	<i>playing card seven of hearts</i>		<code>\usym{1FOE2}</code>	<i>playing card trump-2</i>
	<code>\usym{1FOB8}</code>	<i>playing card eight of hearts</i>		<code>\usym{1FOE3}</code>	<i>playing card trump-3</i>
	<code>\usym{1FOB9}</code>	<i>playing card nine of hearts</i>		<code>\usym{1FOE4}</code>	<i>playing card trump-4</i>
	<code>\usym{1FOBA}</code>	<i>playing card ten of hearts</i>		<code>\usym{1FOE5}</code>	<i>playing card trump-5</i>
	<code>\usym{1FOBB}</code>	<i>playing card jack of hearts</i>		<code>\usym{1FOE6}</code>	<i>playing card trump-6</i>
	<code>\usym{1FOBC}</code>	<i>playing card knight of hearts</i>		<code>\usym{1FOE7}</code>	<i>playing card trump-7</i>
	<code>\usym{1F0BD}</code>	<i>playing card queen of hearts</i>		<code>\usym{1FOE8}</code>	<i>playing card trump-8</i>
	<code>\usym{1FOBE}</code>	<i>playing card king of hearts</i>		<code>\usym{1FOE9}</code>	<i>playing card trump-9</i>
	<code>\usym{1FOBF}</code>	<i>playing card red joker</i>		<code>\usym{1FOEA}</code>	<i>playing card trump-10</i>
	<code>\usym{1FOC1}</code>	<i>playing card ace of diamonds</i>		<code>\usym{1FOEB}</code>	<i>playing card trump-11</i>
	<code>\usym{1FOC2}</code>	<i>playing card two of diamonds</i>		<code>\usym{1FOEC}</code>	<i>playing card trump-12</i>
	<code>\usym{1FOC3}</code>	<i>playing card three of diamonds</i>		<code>\usym{1FOED}</code>	<i>playing card trump-13</i>
	<code>\usym{1FOC4}</code>	<i>playing card four of diamonds</i>		<code>\usym{1FOEE}</code>	<i>playing card trump-14</i>
	<code>\usym{1FOC5}</code>	<i>playing card five of diamonds</i>		<code>\usym{1FOEF}</code>	<i>playing card trump-15</i>

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	<code>\usym{1F0C6}</code>	<i>playing card six of diamonds</i>		<code>\usym{1F0F0}</code>	<i>playing card trump-16</i>
	<code>\usym{1F0C7}</code>	<i>playing card seven of diamonds</i>		<code>\usym{1F0F1}</code>	<i>playing card trump-17</i>
	<code>\usym{1F0C8}</code>	<i>playing card eight of diamonds</i>		<code>\usym{1F0F2}</code>	<i>playing card trump-18</i>
	<code>\usym{1F0C9}</code>	<i>playing card nine of diamonds</i>		<code>\usym{1F0F3}</code>	<i>playing card trump-19</i>
	<code>\usym{1F0CA}</code>	<i>playing card ten of diamonds</i>		<code>\usym{1F0F4}</code>	<i>playing card trump-20</i>
	<code>\usym{1F0CB}</code>	<i>playing card jack of diamonds</i>		<code>\usym{1F0F5}</code>	<i>playing card trump-21</i>

























See the `utfsym` package note on page 461.

TABLE 707: JeuxCartes Playing Cards

	<code>\AffCarteJeu{AT}</code>		<code>\AffCarteJeu{AK}</code>
	<code>\AffCarteJeu{2T}</code>		<code>\AffCarteJeu{2K}</code>
	<code>\AffCarteJeu{3T}</code>		<code>\AffCarteJeu{3K}</code>
	<code>\AffCarteJeu{4T}</code>		<code>\AffCarteJeu{4K}</code>
	<code>\AffCarteJeu{5T}</code>		<code>\AffCarteJeu{5K}</code>
	<code>\AffCarteJeu{6T}</code>		<code>\AffCarteJeu{6K}</code>
	<code>\AffCarteJeu{7T}</code>		<code>\AffCarteJeu{7K}</code>














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	<code>\AffCarteJeu{8T}</code>		<code>\AffCarteJeu{8K}</code>
	<code>\AffCarteJeu{9T}</code>		<code>\AffCarteJeu{9K}</code>
	<code>\AffCarteJeu{10T}</code>		<code>\AffCarteJeu{10K}</code>
	<code>\AffCarteJeu{VT}</code>		<code>\AffCarteJeu{VK}</code>
	<code>\AffCarteJeu{DT}</code>		<code>\AffCarteJeu{DK}</code>
	<code>\AffCarteJeu{RT}</code>		<code>\AffCarteJeu{RK}</code>
	<code>\AffCarteJeu{AC}</code>		<code>\AffCarteJeu{AP}</code>
	<code>\AffCarteJeu{2C}</code>		<code>\AffCarteJeu{2P}</code>
	<code>\AffCarteJeu{3C}</code>		<code>\AffCarteJeu{3P}</code>
	<code>\AffCarteJeu{4C}</code>		<code>\AffCarteJeu{4P}</code>
	<code>\AffCarteJeu{5C}</code>		<code>\AffCarteJeu{5P}</code>
	<code>\AffCarteJeu{6C}</code>		<code>\AffCarteJeu{6P}</code>
	<code>\AffCarteJeu{7C}</code>		<code>\AffCarteJeu{7P}</code>
	<code>\AffCarteJeu{8C}</code>		<code>\AffCarteJeu{8P}</code>

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	<code>\AffCarteJeu{9C}</code>		<code>\AffCarteJeu{9P}</code>
	<code>\AffCarteJeu{10C}</code>		<code>\AffCarteJeu{10P}</code>
	<code>\AffCarteJeu{VC}</code>		<code>\AffCarteJeu{VP}</code>
	<code>\AffCarteJeu{DC}</code>		<code>\AffCarteJeu{DP}</code>
	<code>\AffCarteJeu{RC}</code>		<code>\AffCarteJeu{RP}</code>
	<code>\AffCarteJeu{JN}</code>		<code>\AffCarteJeu{JR}</code>
	<code>\AffCarteJeu{Dos}</code>		

Suits are abbreviated as they are in French: ♣ = T (trèfle), ♦ = K (carreau), ♥ = C (cœur), and ♠ = P (pique).

JeuxCartes can draw playing cards in a variety of styles. See the JeuxCartes documentation for more information, and also see the JeuxCartes note on page 453.
























TABLE 709: JeuxCartes Tarot Cards

	<code>\AffCarteJeu[TypeJeu=Tarot]{VT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{VK}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{CT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{CK}</code>

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	<code>\AffCarteJeu[TypeJeu=Tarot]{DT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{DK}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{RT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{RK}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{VC}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{VP}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{CC}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{CP}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{DC}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{DP}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{RC}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{RP}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{1AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{12AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{2AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{13AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{3AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{14AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{4AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{15AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{5AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{16AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{6AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{17AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{7AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{18AT}</code>

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	<code>\AffCarteJeu[TypeJeu=Tarot]{8AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{19AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{9AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{20AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{10AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{21AT}</code>
	<code>\AffCarteJeu[TypeJeu=Tarot]{11AT}</code>		<code>\AffCarteJeu[TypeJeu=Tarot]{Exc}</code>

Pip cards and the card back (`\AffCarteJeu[TypeJeu=Tarot]{Dos}`) are not shown in this table due to their similarity to the cards shown in Table 707 on page 278.

See also the `JeuxCartes` package note on page 453.

TABLE 711: JeuxCartes Uno Cards

	<code>\AffCarteJeu[TypeJeu=Uno]{0B}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{7B}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{1B}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{8B}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{2B}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{9B}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{3B}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{P2B}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{4B}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{PTB}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{5B}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{CSB}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{6B}</code>		
	<code>\AffCarteJeu[TypeJeu=Uno]{P4}</code>		<code>\AffCarteJeu[TypeJeu=Uno]{Dos}</code>
	<code>\AffCarteJeu[TypeJeu=Uno]{Coul}</code>		

Only blue is shown here, but the three other Uno card colors are also available. Colors are named using a French suffix: blue = B (bleu), red = R (rouge), yellow = J (jaune), and green = V (vert).

See also the JeuxCartes package note on page 453.

TABLE 712: epsdice Dice













	<code>\epsdice{1}</code>		<code>\epsdice{3}</code>		<code>\epsdice{5}</code>
	<code>\epsdice{2}</code>		<code>\epsdice{4}</code>		<code>\epsdice{6}</code>

TABLE 713: hhcount Dice

	<code>\fcdice{1}</code>		<code>\fcdice{3}</code>		<code>\fcdice{5}</code>
	<code>\fcdice{2}</code>		<code>\fcdice{4}</code>		<code>\fcdice{6}</code>

The `\fcdice` command accepts values larger than 6. For example, “`\fcdice{47}`” produces “”.

TABLE 714: stix Dice

	<code>\dicei</code>		<code>\diceiii</code>		<code>\dicev</code>
	<code>\diceii</code>		<code>\diceiv</code>		<code>\dicevi</code>

TABLE 715: ifsym Dice

	<code>\Cube{1}</code>		<code>\Cube{3}</code>		<code>\Cube{5}</code>
	<code>\Cube{2}</code>		<code>\Cube{4}</code>		<code>\Cube{6}</code>

TABLE 716: utfsym Dice

	<code>\usym{2680}</code>	<i>die face-1</i>		<code>\usym{2683}</code>	<i>die face-4</i>
	<code>\usym{2681}</code>	<i>die face-2</i>		<code>\usym{2684}</code>	<i>die face-5</i>
	<code>\usym{2682}</code>	<i>die face-3</i>		<code>\usym{2685}</code>	<i>die face-6</i>

See the utfsym package note on page 461.

TABLE 717: fontawesome7 Dice

	<code>\faDiceOne</code>		<code>\faDiceFour</code>		<code>\faDice</code>
	<code>\faDiceTwo</code>		<code>\faDiceFive</code>		<code>\faIcon{dice-d20}</code> *
	<code>\faDiceThree</code>		<code>\faDiceSix</code>		<code>\faIcon{dice-d6}</code> *

\* In fontawesome5, `\faIcon{dice-d6}` was called `\faDiceD6`, and `\faIcon{dice-d20}` was called `\faDiceD20`.

TABLE 718: lucide-icons Dice

	<code>\lucideicon{dice-1}</code>		<code>\lucideicon{dice-4}</code>		<code>\lucideicon{dices}</code>
	<code>\lucideicon{dice-2}</code>		<code>\lucideicon{dice-5}</code>		
	<code>\lucideicon{dice-3}</code>		<code>\lucideicon{dice-6}</code>		

















See the lucide-icons package note on page 454.

TABLE 719: customdice Dice

	<code>\bigdotdice</code>		<code>\dice{4}</code>		<code>\dice{8}</code>
	<code>\dice{1}</code>		<code>\dice{5}</code>		<code>\dice{9}</code>
	<code>\dice{2}</code>		<code>\dice{6}</code>		
	<code>\dice{3}</code>		<code>\dice{7}</code>		















































See the customdice package note on page 451.

TABLE 720: utfsym Domino Tiles

	<code>\usym{1F030}</code>	<i>domino tile horizontal back</i>		<code>\usym{1F062}</code>	<i>domino tile vertical back</i>
	<code>\usym{1F031}</code>	<i>domino tile horizontal-00-00</i>		<code>\usym{1F063}</code>	<i>domino tile vertical-00-00</i>
	<code>\usym{1F032}</code>	<i>domino tile horizontal-00-01</i>		<code>\usym{1F064}</code>	<i>domino tile vertical-00-01</i>
	<code>\usym{1F033}</code>	<i>domino tile horizontal-00-02</i>		<code>\usym{1F065}</code>	<i>domino tile vertical-00-02</i>
	<code>\usym{1F034}</code>	<i>domino tile horizontal-00-03</i>		<code>\usym{1F066}</code>	<i>domino tile vertical-00-03</i>
	<code>\usym{1F035}</code>	<i>domino tile horizontal-00-04</i>		<code>\usym{1F067}</code>	<i>domino tile vertical-00-04</i>
	<code>\usym{1F036}</code>	<i>domino tile horizontal-00-05</i>		<code>\usym{1F068}</code>	<i>domino tile vertical-00-05</i>
	<code>\usym{1F037}</code>	<i>domino tile horizontal-00-06</i>		<code>\usym{1F069}</code>	<i>domino tile vertical-00-06</i>
	<code>\usym{1F038}</code>	<i>domino tile horizontal-01-00</i>		<code>\usym{1F06A}</code>	<i>domino tile vertical-01-00</i>
	<code>\usym{1F039}</code>	<i>domino tile horizontal-01-01</i>		<code>\usym{1F06B}</code>	<i>domino tile vertical-01-01</i>
	<code>\usym{1F03A}</code>	<i>domino tile horizontal-01-02</i>		<code>\usym{1F06C}</code>	<i>domino tile vertical-01-02</i>
	<code>\usym{1F03B}</code>	<i>domino tile horizontal-01-03</i>		<code>\usym{1F06D}</code>	<i>domino tile vertical-01-03</i>
	<code>\usym{1F03C}</code>	<i>domino tile horizontal-01-04</i>		<code>\usym{1F06E}</code>	<i>domino tile vertical-01-04</i>
	<code>\usym{1F03D}</code>	<i>domino tile horizontal-01-05</i>		<code>\usym{1F06F}</code>	<i>domino tile vertical-01-05</i>
	<code>\usym{1F03E}</code>	<i>domino tile horizontal-01-06</i>		<code>\usym{1F070}</code>	<i>domino tile vertical-01-06</i>
	<code>\usym{1F03F}</code>	<i>domino tile horizontal-02-00</i>		<code>\usym{1F071}</code>	<i>domino tile vertical-02-00</i>
	<code>\usym{1F040}</code>	<i>domino tile horizontal-02-01</i>		<code>\usym{1F072}</code>	<i>domino tile vertical-02-01</i>
	<code>\usym{1F041}</code>	<i>domino tile horizontal-02-02</i>		<code>\usym{1F073}</code>	<i>domino tile vertical-02-02</i>
	<code>\usym{1F042}</code>	<i>domino tile horizontal-02-03</i>		<code>\usym{1F074}</code>	<i>domino tile vertical-02-03</i>
	<code>\usym{1F043}</code>	<i>domino tile horizontal-02-04</i>		<code>\usym{1F075}</code>	<i>domino tile vertical-02-04</i>
	<code>\usym{1F044}</code>	<i>domino tile horizontal-02-05</i>		<code>\usym{1F076}</code>	<i>domino tile vertical-02-05</i>
	<code>\usym{1F045}</code>	<i>domino tile horizontal-02-06</i>		<code>\usym{1F077}</code>	<i>domino tile vertical-02-06</i>


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	<code>\usym{1F046}</code>	<i>domino tile horizontal-03-00</i>		<code>\usym{1F078}</code>	<i>domino tile vertical-03-00</i>
	<code>\usym{1F047}</code>	<i>domino tile horizontal-03-01</i>		<code>\usym{1F079}</code>	<i>domino tile vertical-03-01</i>
	<code>\usym{1F048}</code>	<i>domino tile horizontal-03-02</i>		<code>\usym{1F07A}</code>	<i>domino tile vertical-03-02</i>
	<code>\usym{1F049}</code>	<i>domino tile horizontal-03-03</i>		<code>\usym{1F07B}</code>	<i>domino tile vertical-03-03</i>
	<code>\usym{1F04A}</code>	<i>domino tile horizontal-03-04</i>		<code>\usym{1F07C}</code>	<i>domino tile vertical-03-04</i>
	<code>\usym{1F04B}</code>	<i>domino tile horizontal-03-05</i>		<code>\usym{1F07D}</code>	<i>domino tile vertical-03-05</i>
	<code>\usym{1F04C}</code>	<i>domino tile horizontal-03-06</i>		<code>\usym{1F07E}</code>	<i>domino tile vertical-03-06</i>
	<code>\usym{1F04D}</code>	<i>domino tile horizontal-04-00</i>		<code>\usym{1F07F}</code>	<i>domino tile vertical-04-00</i>
	<code>\usym{1F04E}</code>	<i>domino tile horizontal-04-01</i>		<code>\usym{1F080}</code>	<i>domino tile vertical-04-01</i>
	<code>\usym{1F04F}</code>	<i>domino tile horizontal-04-02</i>		<code>\usym{1F081}</code>	<i>domino tile vertical-04-02</i>
	<code>\usym{1F050}</code>	<i>domino tile horizontal-04-03</i>		<code>\usym{1F082}</code>	<i>domino tile vertical-04-03</i>
	<code>\usym{1F051}</code>	<i>domino tile horizontal-04-04</i>		<code>\usym{1F083}</code>	<i>domino tile vertical-04-04</i>
	<code>\usym{1F052}</code>	<i>domino tile horizontal-04-05</i>		<code>\usym{1F084}</code>	<i>domino tile vertical-04-05</i>
	<code>\usym{1F053}</code>	<i>domino tile horizontal-04-06</i>		<code>\usym{1F085}</code>	<i>domino tile vertical-04-06</i>
	<code>\usym{1F054}</code>	<i>domino tile horizontal-05-00</i>		<code>\usym{1F086}</code>	<i>domino tile vertical-05-00</i>
	<code>\usym{1F055}</code>	<i>domino tile horizontal-05-01</i>		<code>\usym{1F087}</code>	<i>domino tile vertical-05-01</i>
	<code>\usym{1F056}</code>	<i>domino tile horizontal-05-02</i>		<code>\usym{1F088}</code>	<i>domino tile vertical-05-02</i>
	<code>\usym{1F057}</code>	<i>domino tile horizontal-05-03</i>		<code>\usym{1F089}</code>	<i>domino tile vertical-05-03</i>
	<code>\usym{1F058}</code>	<i>domino tile horizontal-05-04</i>		<code>\usym{1F08A}</code>	<i>domino tile vertical-05-04</i>
	<code>\usym{1F059}</code>	<i>domino tile horizontal-05-05</i>		<code>\usym{1F08B}</code>	<i>domino tile vertical-05-05</i>
	<code>\usym{1F05A}</code>	<i>domino tile horizontal-05-06</i>		<code>\usym{1F08C}</code>	<i>domino tile vertical-05-06</i>
	<code>\usym{1F05B}</code>	<i>domino tile horizontal-06-00</i>		<code>\usym{1F08D}</code>	<i>domino tile vertical-06-00</i>
	<code>\usym{1F05C}</code>	<i>domino tile horizontal-06-01</i>		<code>\usym{1F08E}</code>	<i>domino tile vertical-06-01</i>





























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	<code>\usym{1F05D}</code>	<i>domino tile horizontal-06-02</i>		<code>\usym{1F08F}</code>	<i>domino tile vertical-06-02</i>
	<code>\usym{1F05E}</code>	<i>domino tile horizontal-06-03</i>		<code>\usym{1F090}</code>	<i>domino tile vertical-06-03</i>
	<code>\usym{1F05F}</code>	<i>domino tile horizontal-06-04</i>		<code>\usym{1F091}</code>	<i>domino tile vertical-06-04</i>
	<code>\usym{1F060}</code>	<i>domino tile horizontal-06-05</i>		<code>\usym{1F092}</code>	<i>domino tile vertical-06-05</i>
	<code>\usym{1F061}</code>	<i>domino tile horizontal-06-06</i>		<code>\usym{1F093}</code>	<i>domino tile vertical-06-06</i>

















See the `utfsym` package note on page 461.

TABLE 721: `utfsym` Mahjong Tiles

	<code>\usym{1F000}</code>	<i>mahjong tile east wind</i>		<code>\usym{1F016}</code>	<i>mahjong tile seven of bamboos</i>
	<code>\usym{1F001}</code>	<i>mahjong tile south wind</i>		<code>\usym{1F017}</code>	<i>mahjong tile eight of bamboos</i>
	<code>\usym{1F002}</code>	<i>mahjong tile west wind</i>		<code>\usym{1F018}</code>	<i>mahjong tile nine of bamboos</i>
	<code>\usym{1F003}</code>	<i>mahjong tile north wind</i>		<code>\usym{1F019}</code>	<i>mahjong tile one of circles</i>
	<code>\usym{1F004}</code>	<i>mahjong tile red dragon</i>		<code>\usym{1F01A}</code>	<i>mahjong tile two of circles</i>
	<code>\usym{1F005}</code>	<i>mahjong tile green dragon</i>		<code>\usym{1F01B}</code>	<i>mahjong tile three of circles</i>
	<code>\usym{1F006}</code>	<i>mahjong tile white dragon</i>		<code>\usym{1F01C}</code>	<i>mahjong tile four of circles</i>
	<code>\usym{1F007}</code>	<i>mahjong tile one of characters</i>		<code>\usym{1F01D}</code>	<i>mahjong tile five of circles</i>
	<code>\usym{1F008}</code>	<i>mahjong tile two of characters</i>		<code>\usym{1F01E}</code>	<i>mahjong tile six of circles</i>
	<code>\usym{1F009}</code>	<i>mahjong tile three of characters</i>		<code>\usym{1F01F}</code>	<i>mahjong tile seven of circles</i>
	<code>\usym{1F00A}</code>	<i>mahjong tile four of characters</i>		<code>\usym{1F020}</code>	<i>mahjong tile eight of circles</i>
	<code>\usym{1F00B}</code>	<i>mahjong tile five of characters</i>		<code>\usym{1F021}</code>	<i>mahjong tile nine of circles</i>
	<code>\usym{1F00C}</code>	<i>mahjong tile six of characters</i>		<code>\usym{1F022}</code>	<i>mahjong tile plum</i>
	<code>\usym{1F00D}</code>	<i>mahjong tile seven of characters</i>		<code>\usym{1F023}</code>	<i>mahjong tile orchid</i>










































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	<code>\usym{1F00E}</code>	<i>mahjong tile eight of characters</i>		<code>\usym{1F024}</code>	<i>mahjong tile bamboo</i>
	<code>\usym{1F00F}</code>	<i>mahjong tile nine of characters</i>		<code>\usym{1F025}</code>	<i>mahjong tile chrysanthemum</i>
	<code>\usym{1F010}</code>	<i>mahjong tile one of bamboos</i>		<code>\usym{1F026}</code>	<i>mahjong tile spring</i>
	<code>\usym{1F011}</code>	<i>mahjong tile two of bamboos</i>		<code>\usym{1F027}</code>	<i>mahjong tile summer</i>
	<code>\usym{1F012}</code>	<i>mahjong tile three of bamboos</i>		<code>\usym{1F028}</code>	<i>mahjong tile autumn</i>
	<code>\usym{1F013}</code>	<i>mahjong tile four of bamboos</i>		<code>\usym{1F029}</code>	<i>mahjong tile winter</i>
	<code>\usym{1F014}</code>	<i>mahjong tile five of bamboos</i>		<code>\usym{1F02A}</code>	<i>mahjong tile joker</i>
	<code>\usym{1F015}</code>	<i>mahjong tile six of bamboos</i>		<code>\usym{1F02B}</code>	<i>mahjong tile back</i>












See the utfsym package note on page 461.

TABLE 722: mahjong Mahjong Tiles

	<code>\mahjong{0s}</code>		<code>\mahjong{0p}</code>		<code>\mahjong{0m}</code>		<code>\mahjong{1z}</code>
	<code>\mahjong{1s}</code>		<code>\mahjong{1p}</code>		<code>\mahjong{1m}</code>		<code>\mahjong{2z}</code>
	<code>\mahjong{2s}</code>		<code>\mahjong{2p}</code>		<code>\mahjong{2m}</code>		<code>\mahjong{3z}</code>
	<code>\mahjong{3s}</code>		<code>\mahjong{3p}</code>		<code>\mahjong{3m}</code>		<code>\mahjong{4z}</code>
	<code>\mahjong{4s}</code>		<code>\mahjong{4p}</code>		<code>\mahjong{4m}</code>		<code>\mahjong{5z}</code>
	<code>\mahjong{5s}</code>		<code>\mahjong{5p}</code>		<code>\mahjong{5m}</code>		<code>\mahjong{6z}</code>
	<code>\mahjong{6s}</code>		<code>\mahjong{6p}</code>		<code>\mahjong{6m}</code>		<code>\mahjong{7z}</code>
	<code>\mahjong{7s}</code>		<code>\mahjong{7p}</code>		<code>\mahjong{7m}</code>		<code>\mahjong{8z}</code>
	<code>\mahjong{8s}</code>		<code>\mahjong{8p}</code>		<code>\mahjong{8m}</code>		<code>\mahjong{9z}</code>
	<code>\mahjong{9s}</code>		<code>\mahjong{9p}</code>		<code>\mahjong{9m}</code>		<code>\mahjong{X}</code>
							<code>\mahjong{?}</code>

See the mahjong package note on page 455.







TABLE 723: utfsym Chess Pieces

	<code>\usym{2654}</code>	<i>white chess king</i>		<code>\usym{265A}</code>	<i>black chess king</i>
	<code>\usym{2655}</code>	<i>white chess queen</i>		<code>\usym{265B}</code>	<i>black chess queen</i>
	<code>\usym{2656}</code>	<i>white chess rook</i>		<code>\usym{265C}</code>	<i>black chess rook</i>
	<code>\usym{2657}</code>	<i>white chess bishop</i>		<code>\usym{265D}</code>	<i>black chess bishop</i>
	<code>\usym{2658}</code>	<i>white chess knight</i>		<code>\usym{265E}</code>	<i>black chess knight</i>
	<code>\usym{2659}</code>	<i>white chess pawn</i>		<code>\usym{265F}</code>	<i>black chess pawn</i>

See the utfsym package note on page 461.



TABLE 724: lucide-icons Chess Pieces

	<code>\lucideicon{chess-bishop}</code>		<code>\lucideicon{chess-pawn}</code>
	<code>\lucideicon{chess-king}</code>		<code>\lucideicon{chess-queen}</code>
	<code>\lucideicon{chess-knight}</code>		<code>\lucideicon{chess-rook}</code>

See the lucide-icons package note on page 454.

TABLE 725: chessfss Chess Informator Symbols



















































	<code>\bbetter</code>		<code>\doublepawns</code>		<code>\seppawns</code>
	<code>\bdecisive</code>		<code>\ending</code>		<code>\shortcastling</code>
	<code>\betteris</code>		<code>\equal</code>		<code>\timelimit</code>
	<code>\bishoppair</code>		<code>\file</code>		<code>\unclear</code>
	<code>\bupperhand</code>		<code>\kside</code>		<code>\unitedpawns</code>
	<code>\capturesymbol</code>		<code>\longcastling</code>		<code>\various</code>
	<code>\castlingchar</code>		<code>\markera</code>		<code>\wbetter</code>
	<code>\castlinghyphen</code>		<code>\markerb</code>		<code>\wdecisive</code>
	<code>\centre</code>		<code>\mate</code>		<code>\weakpt</code>
	<code>\checksymbol</code>		<code>\morepawns</code>		<code>\with</code>
	<code>\chesscomment</code>		<code>\moreroom</code>		<code>\withattack</code>
	<code>\chessetc</code>		<code>\novelty</code>		<code>\withidea</code>
	<code>\chesssee</code>		<code>\onlymove</code>		<code>\within it</code>
	<code>\compensation</code>		<code>\opposbishops</code>		<code>\without</code>
	<code>\counterplay</code>		<code>\passedpawn</code>		<code>\wupperhand</code>
	<code>\devadvantage</code>		<code>\qside</code>		<code>\zugzwang</code>
	<code>\diagonal</code>		<code>\samebishops</code>		

TABLE 726: chessfss Chess Pieces and Chessboard Squares

	<code>\BlackBishopOnBlack</code>		<code>\BlackRookOnBlack</code>		<code>\WhiteKingOnBlack</code>
	<code>\BlackBishopOnWhite</code>		<code>\BlackRookOnWhite</code>		<code>\WhiteKingOnWhite</code>
	<code>\BlackEmptySquare</code>		<code>\symbishop</code>		<code>\WhiteKnightOnBlack</code>
	<code>\BlackKingOnBlack</code>		<code>\symking</code>		<code>\WhiteKnightOnWhite</code>
	<code>\BlackKingOnWhite</code>		<code>\symknight</code>		<code>\WhitePawnOnBlack</code>
	<code>\BlackKnightOnBlack</code>		<code>\sympawn</code>		<code>\WhitePawnOnWhite</code>
	<code>\BlackKnightOnWhite</code>		<code>\symqueen</code>		<code>\WhiteQueenOnBlack</code>
	<code>\BlackPawnOnBlack</code>		<code>\symrook</code>		<code>\WhiteQueenOnWhite</code>
	<code>\BlackPawnOnWhite</code>		<code>\WhiteBishopOnBlack</code>		<code>\WhiteRookOnBlack</code>
	<code>\BlackQueenOnBlack</code>		<code>\WhiteBishopOnWhite</code>		<code>\WhiteRookOnWhite</code>
	<code>\BlackQueenOnWhite</code>		<code>\WhiteEmptySquare</code>		

The skak package imports chessfss and provides commands for drawing complete chessboards. See the skak documentation for more information.

TABLE 727: fontawesome7 Chess Pieces and Chessboards













	<code>\faChess</code>		<code>\faChessKing[regular]</code>		<code>\faChessQueen</code>
	<code>\faChessBishop</code>		<code>\faChessKnight</code>		<code>\faChessQueen[regular]</code>
	<code>\faChessBishop[regular]</code>		<code>\faChessKnight[regular]</code>		<code>\faChessRook</code>
	<code>\faChessBoard</code>		<code>\faChessPawn</code>		<code>\faChessRook[regular]</code>
	<code>\faChessKing</code>		<code>\faChessPawn[regular]</code>		

TABLE 728: igo Go Symbols

	<code>\blackstone[\igocircle]</code>		<code>\whitestone[\igocircle]</code>
	<code>\blackstone[\igocross]</code>		<code>\whitestone[\igocross]</code>
	<code>\blackstone[\igonone]</code>		<code>\whitestone[\igonone]</code>
	<code>\blackstone[\igosquare]</code>		<code>\whitestone[\igosquare]</code>
	<code>\blackstone[\igotriangle]</code>		<code>\whitestone[\igotriangle]</code>





See the igo package note on page 453.

TABLE 729: go Go Symbols

	<code>\botborder</code>		<code>\lftbotcorner</code>		<code>\rttopcorner</code>
	<code>\empty</code>		<code>\lfttopcorner</code>		<code>\square</code>
	<code>\hoshi</code>		<code>\rtborder</code>		<code>\topborder</code>
	<code>\lftborder</code>		<code>\rtbotcorner</code>		<code>\triangle</code>

See the `go` package note on page 452.

TABLE 730: utfsym Checkers Pieces

	<code>\usym{26C0}</code>	<i>white draughts man</i>		<code>\usym{26C2}</code>	<i>black draughts man</i>
	<code>\usym{26C1}</code>	<i>white draughts king</i>		<code>\usym{26C3}</code>	<i>black draughts king</i>





















See the `utfsym` package note on page 461.

TABLE 731: utfsym Shogi Pieces

	<code>\usym{2616}</code>	<i>white shogi piece</i>		<code>\usym{26C9}</code>	<i>turned white shogi piece</i>
	<code>\usym{2617}</code>	<i>black shogi piece</i>		<code>\usym{26CA}</code>	<i>turned black shogi piece</i>


































See the `utfsym` package note on page 461.

TABLE 732: fontawesome7 Sports

	<code>\faBaseball</code>		<code>\faFootball</code>		<code>\faPersonSkiingNordic</code>
	<code>\faBaseballBatBall</code>		<code>\faFutbol</code>		<code>\faPersonSnowboarding</code>
	<code>\faBasketball</code>		<code>\faGolfBallTee</code>		<code>\faPersonSwimming</code>
	<code>\faBowlingBall</code>		<code>\faHockeyPuck</code>		<code>\faSquareDribbble</code>
	<code>\faBroomBall</code>		<code>\faPersonBiking</code>		<code>\faTableTennisPaddleBall</code>
	<code>\faDribbble</code>		<code>\faPersonSkating</code>		<code>\faVolleyball</code>
	<code>\faDumbbell</code>		<code>\faPersonSkiing</code>		



























Almost all of these symbols had different names in `fontawesome5`.

TABLE 733: utfsym Games and Sports

	<code>\usym{26BD}</code>	<i>soccer ball</i>		<code>\usym{1F3C4}</code>	<i>surfer</i>
	<code>\usym{26BE}</code>	<i>baseball</i>		<code>\usym{1F3C5}</code>	<i>sports medal</i>
	<code>\usym{26F7}</code>	<i>skier</i>		<code>\usym{1F3C6}</code>	<i>trophy</i>
	<code>\usym{26F8}</code>	<i>ice skate</i>		<code>\usym{1F3C7}</code>	<i>horse racing</i>
	<code>\usym{26F9}</code>	<i>person with ball</i>		<code>\usym{1F3C8}</code>	<i>American football</i>
	<code>\usym{1F3AE}</code>	<i>video game</i>		<code>\usym{1F3C9}</code>	<i>rugby football</i>
	<code>\usym{1F3AF}</code>	<i>direct hit</i>		<code>\usym{1F3CA}</code>	<i>swimmer</i>
	<code>\usym{1F3B0}</code>	<i>slot machine</i>		<code>\usym{1F3CB}</code>	<i>weight lifter</i>
	<code>\usym{1F3B1}</code>	<i>billiards</i>		<code>\usym{1F3CC}</code>	<i>golfer</i>
	<code>\usym{1F3B2}</code>	<i>game die</i>		<code>\usym{1F3CF}</code>	<i>cricket bat and ball</i>
	<code>\usym{1F3B3}</code>	<i>bowling</i>		<code>\usym{1F3D0}</code>	<i>volleyball</i>
	<code>\usym{1F3BE}</code>	<i>tennis racket and ball</i>		<code>\usym{1F3D1}</code>	<i>field hockey stick and ball</i>
	<code>\usym{1F3BF}</code>	<i>ski and ski boot</i>		<code>\usym{1F3D2}</code>	<i>ice hockey stick and puck</i>
	<code>\usym{1F3C0}</code>	<i>basketball and hoop</i>		<code>\usym{1F3D3}</code>	<i>table tennis paddle and ball</i>
	<code>\usym{1F3C1}</code>	<i>chequered flag</i>		<code>\usym{1F3F8}</code>	<i>badminton racket and shuttlecock</i>
	<code>\usym{1F3C2}</code>	<i>snowboarder</i>		<code>\usym{1F3F9}</code>	<i>bow and arrow</i>
	<code>\usym{1F3C3}</code>	<i>runner</i>			














See the utfsym package note on page 461.

TABLE 734: twemojis Games and Sports

	<code>\twemoji{1st place medal}</code>		<code>\twemoji{horse racing}*</code>
	<code>\twemoji{2nd place medal}</code>		<code>\twemoji{ice hockey}</code>
	<code>\twemoji{3rd place medal}</code>		<code>\twemoji{ice skate}</code>
	<code>\twemoji{american football}</code>		<code>\twemoji{joker}</code>
	<code>\twemoji{badminton}</code>		<code>\twemoji{lacrosse}</code>
	<code>\twemoji{baseball}</code>		<code>\twemoji{mahjong red dragon}</code>
	<code>\twemoji{basketball}</code>		<code>\twemoji{martial arts uniform}</code>
	<code>\twemoji{bow and arrow}</code>		<code>\twemoji{parachute}</code>
	<code>\twemoji{bowling}</code>		<code>\twemoji{ping pong}</code>
	<code>\twemoji{boxing glove}</code>		<code>\twemoji{pool 8 ball}</code>
	<code>\twemoji{bullseye}</code>		<code>\twemoji{rugby football}</code>
	<code>\twemoji{chequered flag}</code>		<code>\twemoji{skis}</code>
	<code>\twemoji{cricket game}</code>		<code>\twemoji{slot machine}</code>

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	<code>\twemoji{curling stone}</code>		<code>\twemoji{soccer ball}</code>
	<code>\twemoji{field hockey}</code>		<code>\twemoji{softball}</code>
	<code>\twemoji{flag in hole}</code>		<code>\twemoji{sports medal}</code>
	<code>\twemoji{flower playing cards}</code>		<code>\twemoji{tennis}</code>
	<code>\twemoji{flying disc}</code>		<code>\twemoji{trophy}</code>
	<code>\twemoji{game die}</code>		<code>\twemoji{volleyball}</code>
	<code>\twemoji{goal net}</code>		

See the `twemojis` package note on page 460.



\* Variants of this symbol portraying different colors and styles are not shown. See the example in the `twemojis` note on page 460.

## Chapter 9

# Geographical Symbols

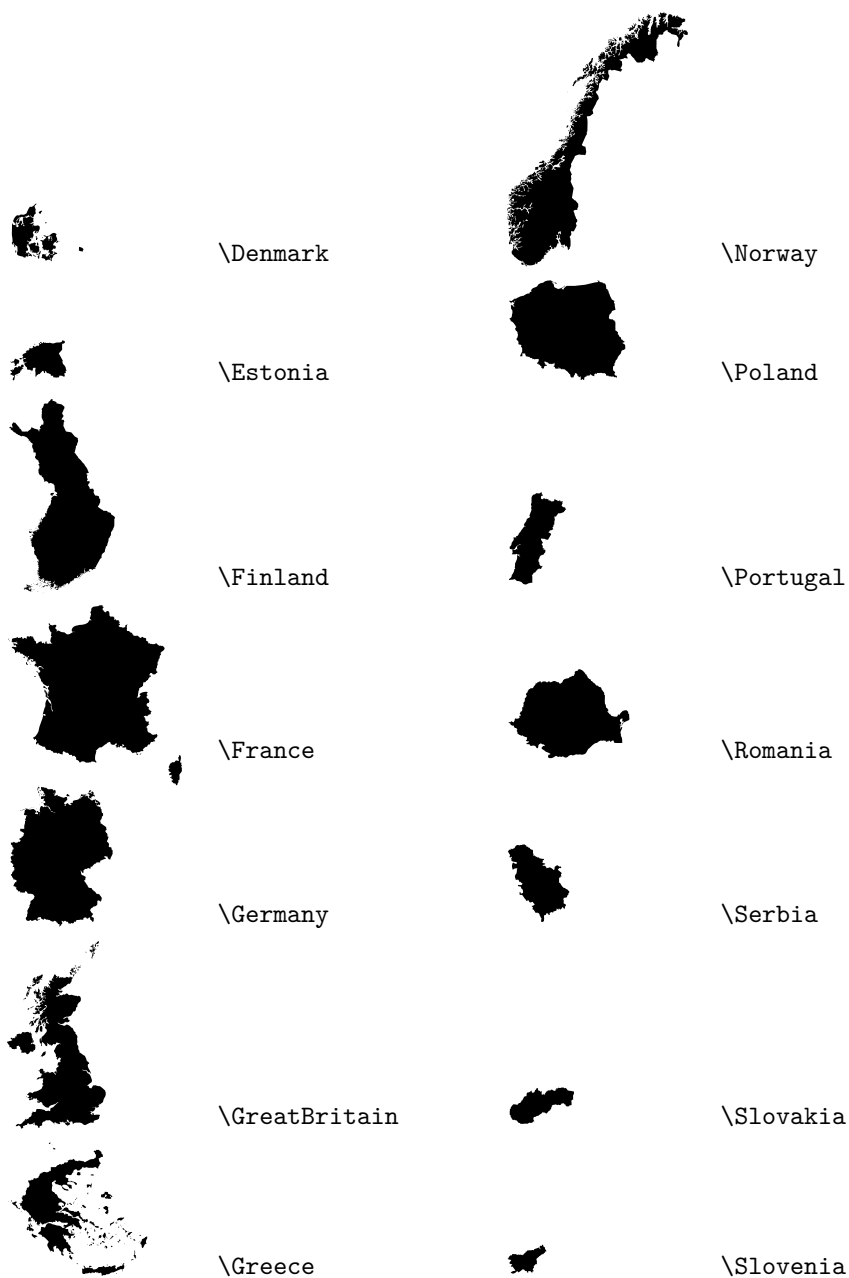
The symbols in this chapter relate in some manner to geography, including maps, globes, and national and regional flags.

TABLE 736: countriestofoeurope Country Maps

	<code>\Albania</code>		<code>\Latvia</code>
	<code>\Andorra</code>		<code>\Liechtenstein</code>
	<code>\Austria</code>		<code>\Lithuania</code>
	<code>\Belarus</code>		<code>\Luxembourg</code>
	<code>\Belgium</code>		<code>\Macedonia</code>
	<code>\Bosnia</code>		<code>\Malta</code>
	<code>\Bulgaria</code>		<code>\Moldova</code>
	<code>\Croatia</code>		<code>\Montenegro</code>
	<code>\Czechia</code>		<code>\Netherlands</code>

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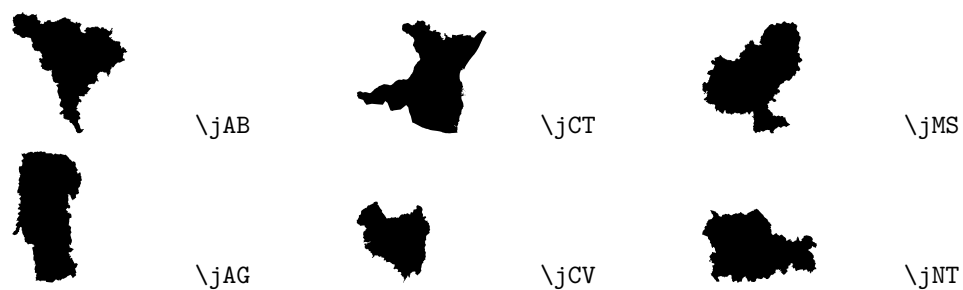
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See the `countriesofeurope` package note on page 451.

TABLE 738: rojud Maps of Romanian Counties



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	<code>\jAR</code>		<code>\jDB</code>		<code>\jOT</code>
	<code>\jBC</code>		<code>\jDJ</code>		<code>\jPH</code>
	<code>\jBH</code>		<code>\jGJ</code>		<code>\jSB</code>
	<code>\jBI</code>		<code>\jGL</code>		<code>\jSJ</code>
	<code>\jBN</code>		<code>\jGR</code>		<code>\jSM</code>
	<code>\jBR</code>		<code>\jHD</code>		<code>\jSV</code>
	<code>\jBT</code>		<code>\jHR</code>		<code>\jTL</code>
	<code>\jBV</code>		<code>\jIF</code>		<code>\jTM</code>
	<code>\jBZ</code>		<code>\jIL</code>		<code>\jTR</code>
	<code>\jCJ</code>		<code>\jIS</code>		<code>\jVL</code>

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See the rojud package note on page 457.

TABLE 740: euflag European Union Flag



`\euflag`

The `\euflag` flag is drawn using the `LATEX` `picture` environment.

TABLE 741: worldflags Flags of Sovereign States

	<code>\worldflag{AD}</code>		<code>\worldflag{EC}</code>		<code>\worldflag{LC}</code>		<code>\worldflag{RU}</code>
	<code>\worldflag{AE}</code>		<code>\worldflag{EE}</code>		<code>\worldflag{LI}</code>		<code>\worldflag{RW}</code>
	<code>\worldflag{AF}</code>		<code>\worldflag{EG}</code>		<code>\worldflag{LK}</code>		<code>\worldflag{SA}</code>
	<code>\worldflag{AG}</code>		<code>\worldflag{ER}</code>		<code>\worldflag{LR}</code>		<code>\worldflag{SB}</code>
	<code>\worldflag{AL}</code>		<code>\worldflag{ES}</code>		<code>\worldflag{LS}</code>		<code>\worldflag{SC}</code>
	<code>\worldflag{AM}</code>		<code>\worldflag{ET}</code>		<code>\worldflag{LT}</code>		<code>\worldflag{SD}</code>
	<code>\worldflag{AO}</code>		<code>\worldflag{FI}</code>		<code>\worldflag{LU}</code>		<code>\worldflag{SE}</code>
	<code>\worldflag{AR}</code>		<code>\worldflag{FJ}</code>		<code>\worldflag{LV}</code>		<code>\worldflag{SG}</code>
	<code>\worldflag{AT}</code>		<code>\worldflag{FM}</code>		<code>\worldflag{LY}</code>		<code>\worldflag{SI}</code>
	<code>\worldflag{AU}</code>		<code>\worldflag{FR}</code>		<code>\worldflag{MA}</code>		<code>\worldflag{SK}</code>
	<code>\worldflag{AZ}</code>		<code>\worldflag{GA}</code>		<code>\worldflag{MC}</code>		<code>\worldflag{SL}</code>
	<code>\worldflag{BA}</code>		<code>\worldflag{GB}</code>		<code>\worldflag{MD}</code>		<code>\worldflag{SM}</code>
	<code>\worldflag{BB}</code>		<code>\worldflag{GD}</code>		<code>\worldflag{ME}</code>		<code>\worldflag{SN}</code>
	<code>\worldflag{BD}</code>		<code>\worldflag{GE}</code>		<code>\worldflag{MG}</code>		<code>\worldflag{SO}</code>











































































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	<code>\worldflag{BE}</code>		<code>\worldflag{GH}</code>		<code>\worldflag{MH}</code>		<code>\worldflag{SR}</code>
	<code>\worldflag{BF}</code>		<code>\worldflag{GM}</code>		<code>\worldflag{MK}</code>		<code>\worldflag{SS}</code>
	<code>\worldflag{BG}</code>		<code>\worldflag{GN}</code>		<code>\worldflag{ML}</code>		<code>\worldflag{ST}</code>
	<code>\worldflag{BH}</code>		<code>\worldflag{GQ}</code>		<code>\worldflag{MM}</code>		<code>\worldflag{SU}</code>
	<code>\worldflag{BI}</code>		<code>\worldflag{GR}</code>		<code>\worldflag{MN}</code>		<code>\worldflag{SV}</code>
	<code>\worldflag{BJ}</code>		<code>\worldflag{GT}</code>		<code>\worldflag{MR}</code>		<code>\worldflag{SY}</code>
	<code>\worldflag{BN}</code>		<code>\worldflag{GW}</code>		<code>\worldflag{MT}</code>		<code>\worldflag{SZ}</code>
	<code>\worldflag{BO}</code>		<code>\worldflag{GY}</code>		<code>\worldflag{MU}</code>		<code>\worldflag{TD}</code>
	<code>\worldflag{BR}</code>		<code>\worldflag{HN}</code>		<code>\worldflag{MV}</code>		<code>\worldflag{TG}</code>
	<code>\worldflag{BS}</code>		<code>\worldflag{HR}</code>		<code>\worldflag{MW}</code>		<code>\worldflag{TH}</code>
	<code>\worldflag{BT}</code>		<code>\worldflag{HT}</code>		<code>\worldflag{MX}</code>		<code>\worldflag{TJ}</code>
	<code>\worldflag{BW}</code>		<code>\worldflag{HU}</code>		<code>\worldflag{MY}</code>		<code>\worldflag{TL}</code>
	<code>\worldflag{BY}</code>		<code>\worldflag{ID}</code>		<code>\worldflag{MZ}</code>		<code>\worldflag{TM}</code>
	<code>\worldflag{BZ}</code>		<code>\worldflag{IE}</code>		<code>\worldflag{NA}</code>		<code>\worldflag{TN}</code>
	<code>\worldflag{CA}</code>		<code>\worldflag{IL}</code>		<code>\worldflag{NE}</code>		<code>\worldflag{TO}</code>
	<code>\worldflag{CD}</code>		<code>\worldflag{IN}</code>		<code>\worldflag{NG}</code>		<code>\worldflag{TR}</code>
	<code>\worldflag{CF}</code>		<code>\worldflag{IQ}</code>		<code>\worldflag{NI}</code>		<code>\worldflag{TT}</code>
	<code>\worldflag{CG}</code>		<code>\worldflag{IR}</code>		<code>\worldflag{NL}</code>		<code>\worldflag{TV}</code>
	<code>\worldflag{CH}</code>		<code>\worldflag{IS}</code>		<code>\worldflag{NO}</code>		<code>\worldflag{TW}</code>
	<code>\worldflag{CI}</code>		<code>\worldflag{IT}</code>		<code>\worldflag{NP}</code>		<code>\worldflag{TZ}</code>
	<code>\worldflag{CK}</code>		<code>\worldflag{JM}</code>		<code>\worldflag{NR}</code>		<code>\worldflag{UA}</code>
	<code>\worldflag{CL}</code>		<code>\worldflag{JO}</code>		<code>\worldflag{NZ}</code>		<code>\worldflag{UG}</code>
	<code>\worldflag{CM}</code>		<code>\worldflag{JP}</code>		<code>\worldflag{OM}</code>		<code>\worldflag{US}</code>
	<code>\worldflag{CN}</code>		<code>\worldflag{KE}</code>		<code>\worldflag{PA}</code>		<code>\worldflag{UY}</code>
	<code>\worldflag{CO}</code>		<code>\worldflag{KG}</code>		<code>\worldflag{PE}</code>		<code>\worldflag{UZ}</code>
	<code>\worldflag{CR}</code>		<code>\worldflag{KH}</code>		<code>\worldflag{PG}</code>		<code>\worldflag{VA}</code>
	<code>\worldflag{CU}</code>		<code>\worldflag{KI}</code>		<code>\worldflag{PH}</code>		<code>\worldflag{VC}</code>
	<code>\worldflag{CV}</code>		<code>\worldflag{KM}</code>		<code>\worldflag{PK}</code>		<code>\worldflag{VE}</code>
	<code>\worldflag{CY}</code>		<code>\worldflag{KN}</code>		<code>\worldflag{PL}</code>		<code>\worldflag{VN}</code>
	<code>\worldflag{CZ}</code>		<code>\worldflag{KO}</code>		<code>\worldflag{PS}</code>		<code>\worldflag{VU}</code>
	<code>\worldflag{DE}</code>		<code>\worldflag{KP}</code>		<code>\worldflag{PT}</code>		<code>\worldflag{WS}</code>
	<code>\worldflag{DJ}</code>		<code>\worldflag{KR}</code>		<code>\worldflag{PW}</code>		<code>\worldflag{YE}</code>
	<code>\worldflag{DK}</code>		<code>\worldflag{KW}</code>		<code>\worldflag{PY}</code>		<code>\worldflag{ZA}</code>
	<code>\worldflag{DM}</code>		<code>\worldflag{KZ}</code>		<code>\worldflag{QA}</code>		<code>\worldflag{ZM}</code>
	<code>\worldflag{DO}</code>		<code>\worldflag{LA}</code>		<code>\worldflag{RO}</code>		<code>\worldflag{ZW}</code>
	<code>\worldflag{DZ}</code>		<code>\worldflag{LB}</code>		<code>\worldflag{RS}</code>		

















































































See the worldflags package note on page 461.

TABLE 743: twemojis Flags of Sovereign States

	<code>\twemoji{flag: Antigua &amp; Barbuda}</code>		<code>\twemoji{flag: Jordan}</code>
	<code>\twemoji{flag: Turks &amp; Caicos Islands}</code>		<code>\twemoji{flag: Kazakhstan}</code>
	<code>\twemoji{flag: Wallis &amp; Futuna}</code>		<code>\twemoji{flag: Kenya}</code>
	<code>\twemoji{flag: St. Vincent &amp; Grenadines}</code>		<code>\twemoji{flag: Kiribati}</code>
	<code>\twemoji{flag: Bosnia &amp; Herzegovina}</code>		<code>\twemoji{flag: Kosovo}</code>
	<code>\twemoji{flag: Svalbard &amp; Jan Mayen}</code>		<code>\twemoji{flag: Kuwait}</code>
	<code>\twemoji{flag: Heard &amp; McDonald Islands}</code>		<code>\twemoji{flag: Kyrgyzstan}</code>
	<code>\twemoji{flag: Ceuta &amp; Melilla}</code>		<code>\twemoji{flag: Laos}</code>
	<code>\twemoji{flag: St. Pierre &amp; Miquelon}</code>		<code>\twemoji{flag: Latvia}</code>
	<code>\twemoji{flag: St. Kitts &amp; Nevis}</code>		<code>\twemoji{flag: Lebanon}</code>
	<code>\twemoji{flag: São Tomé &amp; Príncipe}</code>		<code>\twemoji{flag: Lesotho}</code>
	<code>\twemoji{flag: South Georgia &amp; South Sandwich Islands}</code>		<code>\twemoji{flag: Liberia}</code>
	<code>\twemoji{flag: Trinidad &amp; Tobago}</code>		<code>\twemoji{flag: Libya}</code>
	<code>\twemoji{flag: Åland Islands}</code>		<code>\twemoji{flag: Liechtenstein}</code>
	<code>\twemoji{flag: Afghanistan}</code>		<code>\twemoji{flag: Lithuania}</code>
	<code>\twemoji{flag: Albania}</code>		<code>\twemoji{flag: Luxembourg}</code>
	<code>\twemoji{flag: Algeria}</code>		<code>\twemoji{flag: Macao SAR China}</code>
	<code>\twemoji{flag: American Samoa}</code>		<code>\twemoji{flag: Madagascar}</code>
	<code>\twemoji{flag: Andorra}</code>		<code>\twemoji{flag: Malawi}</code>
	<code>\twemoji{flag: Angola}</code>		<code>\twemoji{flag: Malaysia}</code>
	<code>\twemoji{flag: Anguilla}</code>		<code>\twemoji{flag: Maldives}</code>
	<code>\twemoji{flag: Antarctica}</code>		<code>\twemoji{flag: Mali}</code>
	<code>\twemoji{flag: Argentina}</code>		<code>\twemoji{flag: Malta}</code>
	<code>\twemoji{flag: Armenia}</code>		<code>\twemoji{flag: Marshall Islands}</code>
	<code>\twemoji{flag: Aruba}</code>		<code>\twemoji{flag: Martinique}</code>
	<code>\twemoji{flag: Ascension Island}</code>		<code>\twemoji{flag: Mauritania}</code>
	<code>\twemoji{flag: Australia}</code>		<code>\twemoji{flag: Mauritius}</code>
	<code>\twemoji{flag: Austria}</code>		<code>\twemoji{flag: Mayotte}</code>
	<code>\twemoji{flag: Azerbaijan}</code>		<code>\twemoji{flag: Mexico}</code>
	<code>\twemoji{flag: Bahamas}</code>		<code>\twemoji{flag: Micronesia}</code>
	<code>\twemoji{flag: Bahrain}</code>		<code>\twemoji{flag: Moldova}</code>
	<code>\twemoji{flag: Bangladesh}</code>		<code>\twemoji{flag: Monaco}</code>
	<code>\twemoji{flag: Barbados}</code>		<code>\twemoji{flag: Mongolia}</code>
	<code>\twemoji{flag: Belarus}</code>		<code>\twemoji{flag: Montenegro}</code>
	<code>\twemoji{flag: Belgium}</code>		<code>\twemoji{flag: Montserrat}</code>
	<code>\twemoji{flag: Belize}</code>		<code>\twemoji{flag: Morocco}</code>
	<code>\twemoji{flag: Benin}</code>		<code>\twemoji{flag: Mozambique}</code>
























































































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	<code>\twemoji{flag: Bermuda}</code>		<code>\twemoji{flag: Myanmar (Burma)}</code>
	<code>\twemoji{flag: Bhutan}</code>		<code>\twemoji{flag: Namibia}</code>
	<code>\twemoji{flag: Bolivia}</code>		<code>\twemoji{flag: Nauru}</code>
	<code>\twemoji{flag: Botswana}</code>		<code>\twemoji{flag: Nepal}</code>
	<code>\twemoji{flag: Bouvet Island}</code>		<code>\twemoji{flag: Netherlands}</code>
	<code>\twemoji{flag: Brazil}</code>		<code>\twemoji{flag: New Caledonia}</code>
	<code>\twemoji{flag: British Indian Ocean Territory}</code>		<code>\twemoji{flag: New Zealand}</code>
	<code>\twemoji{flag: British Virgin Islands}</code>		<code>\twemoji{flag: Nicaragua}</code>
	<code>\twemoji{flag: Brunei}</code>		<code>\twemoji{flag: Niger}</code>
	<code>\twemoji{flag: Bulgaria}</code>		<code>\twemoji{flag: Nigeria}</code>
	<code>\twemoji{flag: Burkina Faso}</code>		<code>\twemoji{flag: Niue}</code>
	<code>\twemoji{flag: Burundi}</code>		<code>\twemoji{flag: Norfolk Island}</code>
	<code>\twemoji{flag: Cambodia}</code>		<code>\twemoji{flag: North Korea}</code>
	<code>\twemoji{flag: Cameroon}</code>		<code>\twemoji{flag: North Macedonia}</code>
	<code>\twemoji{flag: Canada}</code>		<code>\twemoji{flag: Northern Mariana Islands}</code>
	<code>\twemoji{flag: Canary Islands}</code>		<code>\twemoji{flag: Norway}</code>
	<code>\twemoji{flag: Cape Verde}</code>		<code>\twemoji{flag: Oman}</code>
	<code>\twemoji{flag: Caribbean Netherlands}</code>		<code>\twemoji{flag: Pakistan}</code>
	<code>\twemoji{flag: Cayman Islands}</code>		<code>\twemoji{flag: Palau}</code>
	<code>\twemoji{flag: Central African Republic}</code>		<code>\twemoji{flag: Palestinian Territories}</code>
	<code>\twemoji{flag: Chad}</code>		<code>\twemoji{flag: Panama}</code>
	<code>\twemoji{flag: Chile}</code>		<code>\twemoji{flag: Papua New Guinea}</code>
	<code>\twemoji{flag: China}</code>		<code>\twemoji{flag: Paraguay}</code>
	<code>\twemoji{flag: Christmas Island}</code>		<code>\twemoji{flag: Peru}</code>
	<code>\twemoji{flag: Clipperton Island}</code>		<code>\twemoji{flag: Philippines}</code>
	<code>\twemoji{flag: Cocos (Keeling) Islands}</code>		<code>\twemoji{flag: Pitcairn Islands}</code>
	<code>\twemoji{flag: Colombia}</code>		<code>\twemoji{flag: Poland}</code>
	<code>\twemoji{flag: Comoros}</code>		<code>\twemoji{flag: Portugal}</code>
	<code>\twemoji{flag: Congo - Brazzaville}</code>		<code>\twemoji{flag: Puerto Rico}</code>
	<code>\twemoji{flag: Congo - Kinshasa}</code>		<code>\twemoji{flag: Qatar}</code>
	<code>\twemoji{flag: Cook Islands}</code>		<code>\twemoji{flag: Romania}</code>
	<code>\twemoji{flag: Costa Rica}</code>		<code>\twemoji{flag: Russia}</code>
	<code>\twemoji{flag: Croatia}</code>		<code>\twemoji{flag: Rwanda}</code>
	<code>\twemoji{flag: Cuba}</code>		<code>\twemoji{flag: Réunion}</code>
	<code>\twemoji{flag: Curaçao}</code>		<code>\twemoji{flag: Samoa}</code>
	<code>\twemoji{flag: Cyprus}</code>		<code>\twemoji{flag: San Marino}</code>
	<code>\twemoji{flag: Czechia}</code>		<code>\twemoji{flag: Saudi Arabia}</code>
	<code>\twemoji{flag: Côte d'Ivoire}</code>		<code>\twemoji{flag: Senegal}</code>
	<code>\twemoji{flag: Denmark}</code>		<code>\twemoji{flag: Serbia}</code>
	<code>\twemoji{flag: Diego Garcia}</code>		<code>\twemoji{flag: Seychelles}</code>

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	<code>\twemoji{flag: Djibouti}</code>		<code>\twemoji{flag: Sierra Leone}</code>
	<code>\twemoji{flag: Dominica}</code>		<code>\twemoji{flag: Singapore}</code>
	<code>\twemoji{flag: Dominican Republic}</code>		<code>\twemoji{flag: Sint Maarten}</code>
	<code>\twemoji{flag: Ecuador}</code>		<code>\twemoji{flag: Slovakia}</code>
	<code>\twemoji{flag: Egypt}</code>		<code>\twemoji{flag: Slovenia}</code>
	<code>\twemoji{flag: El Salvador}</code>		<code>\twemoji{flag: Solomon Islands}</code>
	<code>\twemoji{flag: Equatorial Guinea}</code>		<code>\twemoji{flag: Somalia}</code>
	<code>\twemoji{flag: Eritrea}</code>		<code>\twemoji{flag: South Africa}</code>
	<code>\twemoji{flag: Estonia}</code>		<code>\twemoji{flag: South Korea}</code>
	<code>\twemoji{flag: Eswatini}</code>		<code>\twemoji{flag: South Sudan}</code>
	<code>\twemoji{flag: Ethiopia}</code>		<code>\twemoji{flag: Spain}</code>
	<code>\twemoji{flag: European Union}</code>		<code>\twemoji{flag: Sri Lanka}</code>
	<code>\twemoji{flag: Falkland Islands}</code>		<code>\twemoji{flag: St. Barthélemy}</code>
	<code>\twemoji{flag: Faroe Islands}</code>		<code>\twemoji{flag: St. Helena}</code>
	<code>\twemoji{flag: Fiji}</code>		<code>\twemoji{flag: St. Lucia}</code>
	<code>\twemoji{flag: Finland}</code>		<code>\twemoji{flag: St. Martin}</code>
	<code>\twemoji{flag: France}</code>		<code>\twemoji{flag: Sudan}</code>
	<code>\twemoji{flag: French Guiana}</code>		<code>\twemoji{flag: Suriname}</code>
	<code>\twemoji{flag: French Polynesia}</code>		<code>\twemoji{flag: Sweden}</code>
	<code>\twemoji{flag: French Southern Territories}</code>		<code>\twemoji{flag: Switzerland}</code>
	<code>\twemoji{flag: Gabon}</code>		<code>\twemoji{flag: Syria}</code>
	<code>\twemoji{flag: Gambia}</code>		<code>\twemoji{flag: Taiwan}</code>
	<code>\twemoji{flag: Georgia}</code>		<code>\twemoji{flag: Tajikistan}</code>
	<code>\twemoji{flag: Germany}</code>		<code>\twemoji{flag: Tanzania}</code>
	<code>\twemoji{flag: Ghana}</code>		<code>\twemoji{flag: Thailand}</code>
	<code>\twemoji{flag: Gibraltar}</code>		<code>\twemoji{flag: Timor-Leste}</code>
	<code>\twemoji{flag: Greece}</code>		<code>\twemoji{flag: Togo}</code>
	<code>\twemoji{flag: Greenland}</code>		<code>\twemoji{flag: Tokelau}</code>
	<code>\twemoji{flag: Grenada}</code>		<code>\twemoji{flag: Tonga}</code>
	<code>\twemoji{flag: Guadeloupe}</code>		<code>\twemoji{flag: Tristan da Cunha}</code>
	<code>\twemoji{flag: Guam}</code>		<code>\twemoji{flag: Tunisia}</code>
	<code>\twemoji{flag: Guatemala}</code>		<code>\twemoji{flag: Turkey}</code>
	<code>\twemoji{flag: Guernsey}</code>		<code>\twemoji{flag: Turkmenistan}</code>
	<code>\twemoji{flag: Guinea}</code>		<code>\twemoji{flag: Tuvalu}</code>
	<code>\twemoji{flag: Guinea-Bissau}</code>		<code>\twemoji{flag: U.S. Outlying Islands}</code>
	<code>\twemoji{flag: Guyana}</code>		<code>\twemoji{flag: U.S. Virgin Islands}</code>
	<code>\twemoji{flag: Haiti}</code>		<code>\twemoji{flag: Uganda}</code>
	<code>\twemoji{flag: Honduras}</code>		<code>\twemoji{flag: Ukraine}</code>
	<code>\twemoji{flag: Hong Kong SAR China}</code>		<code>\twemoji{flag: United Arab Emirates}</code>
	<code>\twemoji{flag: Hungary}</code>		<code>\twemoji{flag: United Kingdom}</code>
	<code>\twemoji{flag: Iceland}</code>		<code>\twemoji{flag: United Nations}</code>
	<code>\twemoji{flag: India}</code>		<code>\twemoji{flag: United States}</code>
	<code>\twemoji{flag: Indonesia}</code>		<code>\twemoji{flag: Uruguay}</code>
	<code>\twemoji{flag: Iran}</code>		<code>\twemoji{flag: Uzbekistan}</code>



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	<code>\twemoji{flag: Iraq}</code>		<code>\twemoji{flag: Vanuatu}</code>
	<code>\twemoji{flag: Ireland}</code>		<code>\twemoji{flag: Vatican City}</code>
	<code>\twemoji{flag: Isle of Man}</code>		<code>\twemoji{flag: Venezuela}</code>
	<code>\twemoji{flag: Israel}</code>		<code>\twemoji{flag: Vietnam}</code>
	<code>\twemoji{flag: Italy}</code>		<code>\twemoji{flag: Western Sahara}</code>
	<code>\twemoji{flag: Jamaica}</code>		<code>\twemoji{flag: Yemen}</code>
	<code>\twemoji{flag: Japan}</code>		<code>\twemoji{flag: Zambia}</code>
	<code>\twemoji{flag: Jersey}</code>		<code>\twemoji{flag: Zimbabwe}</code>


See the twemojis package note on page 460.

TABLE 745: worldflags Flags of Countries in Great Britain

	<code>\worldflag{GB-ENG}</code>		<code>\worldflag{GB-SCT}</code>
-----------------------------------------------------------------------------------	---------------------------------	-----------------------------------------------------------------------------------	---------------------------------










See the worldflags package note on page 461.

TABLE 746: twemojis Flags of Countries in Great Britain

	<code>\twemoji{flag: England}</code>		<code>\twemoji{flag: Wales}</code>
	<code>\twemoji{flag: Scotland}</code>		

See the twemojis package note on page 460.

TABLE 747: worldflags Flags of Austrian Federal States

	<code>\worldflag{AT-B}</code>		<code>\worldflag{AT-O}</code>		<code>\worldflag{AT-T}</code>
	<code>\worldflag{AT-K}</code>		<code>\worldflag{AT-S}</code>		<code>\worldflag{AT-V}</code>
	<code>\worldflag{AT-N}</code>		<code>\worldflag{AT-St}</code>		<code>\worldflag{AT-W}</code>

See the worldflags package note on page 461.

TABLE 748: worldflags Flags of Italian Regions

	<code>\worldflag{IT-AA}</code>		<code>\worldflag{IT-LA}</code>		<code>\worldflag{IT-SI}</code>
	<code>\worldflag{IT-AB}</code>		<code>\worldflag{IT-LI}</code>		<code>\worldflag{IT-TA}</code>
	<code>\worldflag{IT-AO}</code>		<code>\worldflag{IT-LO}</code>		<code>\worldflag{IT-TN}</code>
	<code>\worldflag{IT-BA}</code>		<code>\worldflag{IT-MA}</code>		<code>\worldflag{IT-TO}</code>
	<code>\worldflag{IT-CL}</code>		<code>\worldflag{IT-MO}</code>		<code>\worldflag{IT-UM}</code>
	<code>\worldflag{IT-CM}</code>		<code>\worldflag{IT-PI}</code>		<code>\worldflag{IT-VE}</code>
	<code>\worldflag{IT-EM}</code>		<code>\worldflag{IT-PU}</code>		
	<code>\worldflag{IT-FR}</code>		<code>\worldflag{IT-SA}</code>		







See the worldflags package note on page 461.

TABLE 749: worldflags Flags of Other Non-Sovereign Countries and Territories

	<code>\worldflag{Abkhazia}</code>		<code>\worldflag{GF}</code>		<code>\worldflag{RE}</code>
	<code>\worldflag{AQ}</code>		<code>\worldflag{GG}</code>		<code>\worldflag{Saba}</code>
	<code>\worldflag{Artsakh}</code>		<code>\worldflag{GI}</code>		<code>\worldflag{Somaliland}</code>
	<code>\worldflag{AX}</code>		<code>\worldflag{GL}</code>		<code>\worldflag{StEustasius}</code>
	<code>\worldflag{Bonaire}</code>		<code>\worldflag{IM}</code>		<code>\worldflag{Tibet}</code>
	<code>\worldflag{DE-BY}</code>		<code>\worldflag{JE}</code>		<code>\worldflag{Transnistria}</code>
	<code>\worldflag{EH}</code>		<code>\worldflag{NU}</code>		
	<code>\worldflag{F0}</code>		<code>\worldflag{PR}</code>		





See the worldflags package note on page 461.

TABLE 750: fontawesome7 Globes

	<code>\faEarthAfrica*</code>		<code>\faEarthAsia*</code>		<code>\faEarthOceania</code>
	<code>\faEarthAmericas*</code>		<code>\faEarthEurope*</code>		<code>\faGlobe</code>

\* In fontawesome5, these `\faEarth_____` symbols were named `\faGlobe_____`.

TABLE 751: lucide-icons Globes

	<code>\lucideicon{earth}</code>		<code>\lucideicon{globe}</code>
	<code>\lucideicon{earth-lock}</code>		<code>\lucideicon{globe-lock}</code>

See the lucide-icons package note on page 454.



TABLE 752: utfsym Globes and Maps





















	<code>\usym{1F30D}</code>	<i>Earth globe Europe–Africa</i>
	<code>\usym{1F30E}</code>	<i>Earth globe Americas</i>
	<code>\usym{1F30F}</code>	<i>Earth globe Asia–Australia</i>
	<code>\usym{1F310}</code>	<i>globe with meridians</i>
	<code>\usym{1F5FA}</code>	<i>world map</i>
	<code>\usym{1F5FE}</code>	<i>silhouette of Japan</i>

TABLE 753: twemojis Globes and Maps

	<code>\twemoji{globe showing Americas}</code>
	<code>\twemoji{globe showing Asia-Australia}</code>
	<code>\twemoji{globe showing Europe-Africa}</code>
	<code>\twemoji{globe with meridians}</code>
	<code>\twemoji{map of Japan}</code>
	<code>\twemoji{world map}</code>

















See the twemojis package note on page 460.

TABLE 754: fontawesome7 Map Symbols

	<code>\faLocationDot</code>		<code>\faMap[regular]</code>
	<code>\faLocationPin</code>		<code>\faMapLocation*</code>
	<code>\faLocationPinLock</code>		<code>\faMapLocationDot*</code>
	<code>\faMap</code>		<code>\faMapPin</code>

\* fontawesome7 has renamed this symbol from what it was called in fontawesome5.

TABLE 755: lucide-icons Map Symbols

	<code>\lucideicon{map}</code>		<code>\lucideicon{map-pin-off}</code>
	<code>\lucideicon{map-minus}</code>		<code>\lucideicon{map-pin-pen}</code>
	<code>\lucideicon{map-pin}</code>		<code>\lucideicon{map-pin-plus}</code>
	<code>\lucideicon{map-pin-check}</code>		<code>\lucideicon{map-pin-plus-inside}</code>
	<code>\lucideicon{map-pin-check-inside}</code>		<code>\lucideicon{map-pin-x}</code>
	<code>\lucideicon{map-pin-house}</code>		<code>\lucideicon{map-pin-x-inside}</code>
	<code>\lucideicon{map-pin-minus}</code>		<code>\lucideicon{map-pinned}</code>
	<code>\lucideicon{map-pin-minus-inside}</code>		<code>\lucideicon{map-plus}</code>


































See the lucide-icons package note on page 454.

## Chapter 10

# Brand Icons and Logos

The symbols in this chapter portray logos of companies, institutions, products, services, organizations, software, websites, and the like. There exist legal restrictions on how logos can and cannot be used, such as prohibitions on using a logo to endorse a product, prohibitions on claiming the logo as your own, prohibitions on adding elements to a logo, permissions for news articles and product comparisons, permissions for personal, non-commercial use, etc. Seek legal advice if unsure about proper use.

TABLE 756: typicons Brand Icons

	<code>\tiDropbox</code>		<code>\tiSocialLinkedinCircular</code>
	<code>\tiSocialAtCircular</code>		<code>\tiSocialPinterest</code>
	<code>\tiSocialDribbble</code>		<code>\tiSocialPinterestCircular</code>
	<code>\tiSocialDribbbleCircular</code>		<code>\tiSocialSkype</code>
	<code>\tiSocialFacebook</code>		<code>\tiSocialSkypeOutline</code>
	<code>\tiSocialFacebookCircular</code>		<code>\tiSocialTumbler</code>
	<code>\tiSocialFlickr</code>		<code>\tiSocialTumblerCircular</code>
	<code>\tiSocialFlickrCircular</code>		<code>\tiSocialTwitter</code>
	<code>\tiSocialGithub</code>		<code>\tiSocialTwitterCircular</code>
	<code>\tiSocialGithubCircular</code>		<code>\tiSocialVimeo</code>
	<code>\tiSocialGooglePlus</code>		<code>\tiSocialVimeoCircular</code>
	<code>\tiSocialGooglePlusCircular</code>		<code>\tiSocialYoutube</code>
	<code>\tiSocialInstagram</code>		<code>\tiSocialYoutubeCircular</code>
	<code>\tiSocialInstagramCircular</code>		<code>\tiVendorAndroid</code>
	<code>\tiSocialLastFm</code>		<code>\tiVendorApple</code>
	<code>\tiSocialLastFmCircular</code>		<code>\tiVendorMicrosoft</code>
	<code>\tiSocialLinkedin</code>		

See the typicons package note on page 460.

TABLE 757: fontawesome7 Brand Icons

	<code>\faIcon{500px}</code>		<code>\faGlideG</code>		<code>\faRockrms</code>
	<code>\faAccessibleIcon</code>		<code>\faGofore</code>		<code>\faRust</code>
	<code>\faAccusoft</code>		<code>\faGolang</code>		<code>\faSafari</code>
	<code>\faAdn</code>		<code>\faGoodreads</code>		<code>\faSalesforce</code>
	<code>\faAdversal</code>		<code>\faGoodreadsG</code>		<code>\faSass</code>
	<code>\faAffiliatetheme</code>		<code>\faGoogle</code>		<code>\faSchlix</code>
	<code>\faAirbnb</code>		<code>\faGoogleDrive</code>		<code>\faScreenpal</code>
	<code>\faAlgolia</code>		<code>\faGooglePay</code>		<code>\faScribd</code>
	<code>\faAlipay</code>		<code>\faGooglePlay</code>		<code>\faSearchengin</code>
	<code>\faAmazon</code>		<code>\faGooglePlus</code>		<code>\faSellcast</code>
	<code>\faAmazonPay</code>		<code>\faGooglePlusG</code>		<code>\faSellsy</code>
	<code>\faAmilia</code>		<code>\faGoogleScholar</code>		<code>\faServicestack</code>
	<code>\faAndroid</code>		<code>\faGoogleWallet</code>		<code>\faShirtsinbulk</code>
	<code>\faAngellist</code>		<code>\faGratipay</code>		<code>\faShoelace</code>
	<code>\faAngrycreative</code>		<code>\faGrav</code>		<code>\faShopify</code>
	<code>\faAngular</code>		<code>\faGripfire</code>		<code>\faShopware</code>
	<code>\faAppStore</code>		<code>\faGrunt</code>		<code>\faSignalMessenger</code>
	<code>\faAppStoreIos</code>		<code>\faGuilded</code>		<code>\faSimplybuilt</code>
	<code>\faApper</code>		<code>\faGulp</code>		<code>\faSistrix</code>
	<code>\faApple</code>		<code>\faHackerNews</code>		<code>\faSith</code>
	<code>\faApplePay</code>		<code>\faHackerrank</code>		<code>\faSitrox</code>
	<code>\faArtstation</code>		<code>\faHashnode</code>		<code>\faSketch</code>
	<code>\faAsymmetrik</code>		<code>\faHips</code>		<code>\faSkyatlas</code>
	<code>\faAtlassian</code>		<code>\faHireAHelper</code>		<code>\faSkype</code>
	<code>\faAudible</code>		<code>\faHive</code>		<code>\faSlack</code>
	<code>\faAutoprefixer</code>		<code>\faHooli</code>		<code>\faSlideshare</code>
	<code>\faAvianex</code>		<code>\faHornbill</code>		<code>\faSnapchat</code>
	<code>\faAviato</code>		<code>\faHotjar</code>		<code>\faSoundcloud</code>
	<code>\faAws</code>		<code>\faHouzz</code>		<code>\faSourcetree</code>
	<code>\faBandcamp</code>		<code>\faIcon{html5}</code>		<code>\faSpaceAwesome</code>
	<code>\faBattleNet</code>		<code>\faHubspot</code>		<code>\faSpeakap</code>
	<code>\faBehance</code>		<code>\faIdeal</code>		<code>\faSpeakerDeck</code>
	<code>\faBilibili</code>		<code>\faImdb</code>		<code>\faSpotify</code>
	<code>\faBimobject</code>		<code>\faInstagram</code>		<code>\faSquareBehance</code>
	<code>\faBitbucket</code>		<code>\faInstalod</code>		<code>\faSquareBluesky</code>
	<code>\faBitcoin</code>		<code>\faIntercom</code>		<code>\faSquareFacebook</code>
	<code>\faBity</code>		<code>\faInternetExplorer</code>		<code>\faSquareFigma</code>
	<code>\faBlackTie</code>		<code>\faInvision</code>		<code>\faSquareFontAwesome</code>
	<code>\faBlackberry</code>		<code>\faIoxhost</code>		<code>\faSquareFontAwesomeStroke</code>
	<code>\faBlogger</code>		<code>\faItchIo</code>		<code>\faSquareGit</code>
	<code>\faBloggerB</code>		<code>\faItunes</code>		<code>\faSquareGithub</code>
	<code>\faBluesky</code>		<code>\faItunesNote</code>		<code>\faSquareGitlab</code>
	<code>\faBluetooth</code>		<code>\faJava</code>		<code>\faSquareGooglePlus</code>

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	<code>\faBluetoothB</code>		<code>\faJedi</code>		<code>\faSquareHackerNews</code>
	<code>\faBootstrap</code>		<code>\faJediOrder</code>		<code>\faSquareInstagram</code>
	<code>\faBots</code>		<code>\faJenkins</code>		<code>\faSquareJs</code>
	<code>\faBrave</code>		<code>\faJira</code>		<code>\faSquareLastfm</code>
	<code>\faBraveReverse</code>		<code>\faJoget</code>		<code>\faSquareLetterboxd</code>
	<code>\faBuffer</code>		<code>\faJoomla</code>		<code>\faSquareLinkedin</code>
	<code>\faBuromobelexperte</code>		<code>\faJs</code>		<code>\faSquareOdnoklassniki</code>
	<code>\faBuyNLarge</code>		<code>\faJsfiddle</code>		<code>\faSquarePiedPiper</code>
	<code>\faBuysellads</code>		<code>\faJxl</code>		<code>\faSquarePinterest</code>
	<code>\faCanadianMapleLeaf</code>		<code>\faKaggle</code>		<code>\faSquareReddit</code>
	<code>\faCashApp</code>		<code>\faKakaoTalk</code>		<code>\faSquareSnapchat</code>
	<code>\faCcAmazonPay</code>		<code>\faKeybase</code>		<code>\faSquareSteam</code>
	<code>\faCcAmex</code>		<code>\faKeycdn</code>		<code>\faSquareThreads</code>
	<code>\faCcApplePay</code>		<code>\faKickstarter</code>		<code>\faSquareTumblr</code>
	<code>\faCcDinersClub</code>		<code>\faKickstarterK</code>		<code>\faSquareTwitter</code>
	<code>\faCcDiscover</code>		<code>\faKorvue</code>		<code>\faSquareUpwork</code>
	<code>\faCcJcb</code>		<code>\faLaravel</code>		<code>\faSquareVimeo</code>
	<code>\faCcMastercard</code>		<code>\faLastfm</code>		<code>\faSquareVimeo</code>
	<code>\faCcPaypal</code>		<code>\faLeanpub</code>		<code>\faSquareWebAwesome</code>
	<code>\faCcStripe</code>		<code>\faLess</code>		<code>\faSquareWebAwesomeStroke</code>
	<code>\faCcVisa</code>		<code>\faLetterboxd</code>		<code>\faSquareWhatsapp</code>
	<code>\faCentercode</code>		<code>\faLine</code>		<code>\faSquareXTwitter</code>
	<code>\faCentos</code>		<code>\faLinkedin</code>		<code>\faSquareXing</code>
	<code>\faChrome</code>		<code>\faLinkedinIn</code>		<code>\faSquareYoutube</code>
	<code>\faChromecast</code>		<code>\faLinktree</code>		<code>\faSquarespace</code>
	<code>\faCloudflare</code>		<code>\faLinode</code>		<code>\faStackExchange</code>
	<code>\faCloudscale</code>		<code>\faLinux</code>		<code>\faStackOverflow</code>
	<code>\faCloudsmith</code>		<code>\faLumon</code>		<code>\faStackpath</code>
	<code>\faCloudversify</code>		<code>\faLumonDrop</code>		<code>\faStaylinked</code>
	<code>\faCmplid</code>		<code>\faLyft</code>		<code>\faSteam</code>
	<code>\faCodepen</code>		<code>\faMagento</code>		<code>\faSteamSymbol</code>
	<code>\faCodiepie</code>		<code>\faMailchimp</code>		<code>\faStickerMule</code>
	<code>\faConfluence</code>		<code>\faMandalorian</code>		<code>\faStrava</code>
	<code>\faConnectdevelop</code>		<code>\faMarkdown</code>		<code>\faStripe</code>
	<code>\faContao</code>		<code>\faMastodon</code>		<code>\faStripeS</code>
	<code>\faCottonBureau</code>		<code>\faMaxcdn</code>		<code>\faStubber</code>
	<code>\faCpanel</code>		<code>\faMdb</code>		<code>\faStudiovinari</code>
	<code>\faCriticalRole</code>		<code>\faMedapps</code>		<code>\faStumbleupon</code>
	<code>\faCss</code>		<code>\faMedium</code>		<code>\faStumbleuponCircle</code>
	<code>\faCuttlefish</code>		<code>\faMedrt</code>		<code>\faSuperpowers</code>
	<code>\faDAndD</code>		<code>\faMeetup</code>		<code>\faSupple</code>
	<code>\faDAndDBeyond</code>		<code>\faMegaport</code>		<code>\faSuse</code>
	<code>\faDailymotion</code>		<code>\faMendeley</code>		<code>\faSwift</code>
	<code>\faDartLang</code>		<code>\faMeta</code>		<code>\faSymfony</code>
	<code>\faDashcube</code>		<code>\faMicroblog</code>		<code>\faTeamspeak</code>











































































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	<code>\faDebian</code>		<code>\faMicrosoft</code>		<code>\faTelegram</code>
	<code>\faDeezer</code>		<code>\faMintbit</code>		<code>\faTencentWeibo</code>
	<code>\faDelicious</code>		<code>\faMix</code>		<code>\faTex</code>
	<code>\faDeploydog</code>		<code>\faMixcloud</code>		<code>\faTheRedYeti</code>
	<code>\faDeskpro</code>		<code>\faMixer</code>		<code>\faThemeco</code>
	<code>\faDev</code>		<code>\faMizuni</code>		<code>\faThemeisle</code>
	<code>\faDeviantart</code>		<code>\faModx</code>		<code>\faThinkPeaks</code>
	<code>\faDhl</code>		<code>\faMonero</code>		<code>\faThreads</code>
	<code>\faDiaspora</code>		<code>\faNapster</code>		<code>\faTidal</code>
	<code>\faDigg</code>		<code>\faNeos</code>		<code>\faTiktok</code>
	<code>\faDigitalOcean</code>		<code>\faNfcDirectional</code>		<code>\faTradeFederation</code>
	<code>\faDiscord</code>		<code>\faNfcSymbol</code>		<code>\faTrello</code>
	<code>\faDiscourse</code>		<code>\faNimblr</code>		<code>\faTumblr</code>
	<code>\faDisqus</code>		<code>\faNode</code>		<code>\faTwitch</code>
	<code>\faDochub</code>		<code>\faNodeJs</code>		<code>\faTwitter</code>
	<code>\faDocker</code>		<code>\faNotion</code>		<code>\faIcon{typo3}</code>
	<code>\faIcon{draft2digital}</code>		<code>\faNpm</code>		<code>\faUber</code>
	<code>\faDropbox</code>		<code>\faIcon{ns8}</code>		<code>\faUbuntu</code>
	<code>\faDrupal</code>		<code>\faNutritionix</code>		<code>\faUikit</code>
	<code>\faDuolingo</code>		<code>\faOctopusDeploy</code>		<code>\faUmbraco</code>
	<code>\faDyalog</code>		<code>\faOdnoklassniki</code>		<code>\faUncharted</code>
	<code>\faEarlybirds</code>		<code>\faOdysee</code>		<code>\faUniregistry</code>
	<code>\faEbay</code>		<code>\faOldRepublic</code>		<code>\faUnity</code>
	<code>\faEdge</code>		<code>\faOpenai</code>		<code>\faUnsplash</code>
	<code>\faEdgeLegacy</code>		<code>\faOpencart</code>		<code>\faUntappd</code>
	<code>\faElementor</code>		<code>\faOpenid</code>		<code>\faUps</code>
	<code>\faEleventy</code>		<code>\faOpensuse</code>		<code>\faUpwork</code>
	<code>\faEllo</code>		<code>\faOpera</code>		<code>\faUsb</code>
	<code>\faEmber</code>		<code>\faOptinMonster</code>		<code>\faUsps</code>
	<code>\faEmpire</code>		<code>\faOrcid</code>		<code>\faUssunnah</code>
	<code>\faEnvira</code>		<code>\faOsi</code>		<code>\faVaadin</code>
	<code>\faErlang</code>		<code>\faPadlet</code>		<code>\faViacoin</code>
	<code>\faEthereum</code>		<code>\faIcon{page4}</code>		<code>\faViadeo</code>
	<code>\faEtsy</code>		<code>\faPagelines</code>		<code>\faViber</code>
	<code>\faEvernote</code>		<code>\faPalfed</code>		<code>\faVimeo</code>
	<code>\faExpeditedssl</code>		<code>\faPandora</code>		<code>\faVimeoV</code>
	<code>\faFacebook</code>		<code>\faPatreon</code>		<code>\faVine</code>
	<code>\faFacebookF</code>		<code>\faPaypal</code>		<code>\faVk</code>
	<code>\faFacebookMessenger</code>		<code>\faPerbyte</code>		<code>\faVnv</code>
	<code>\faFantasyFlightGames</code>		<code>\faPeriscope</code>		<code>\faVsco</code>
	<code>\faFedex</code>		<code>\faPhabricator</code>		<code>\faVuejs</code>
	<code>\faFedora</code>		<code>\faPhoenixFramework</code>		<code>\faWatchmanMonitoring</code>
	<code>\faFigma</code>		<code>\faPhoenixSquadron</code>		<code>\faWaze</code>
	<code>\faFilesPinwheel</code>		<code>\faPhp</code>		<code>\faWebAwesome</code>
	<code>\faFirefox</code>		<code>\faPiedPiper</code>		<code>\faWebflow</code>

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	<code>\faFirefoxBrowser</code>		<code>\faPiedPiperAlt</code>		<code>\faWeebly</code>
	<code>\faFirstOrder</code>		<code>\faPiedPiperHat</code>		<code>\faWeibo</code>
	<code>\faFirstOrderAlt</code>		<code>\faPiedPiperPp</code>		<code>\faWeixin</code>
	<code>\faFirstdraft</code>		<code>\faPinterest</code>		<code>\faWhatsapp</code>
	<code>\faFlickr</code>		<code>\faPinterestP</code>		<code>\faWhmcs</code>
	<code>\faFlipboard</code>		<code>\faPix</code>		<code>\faWikipediaW</code>
	<code>\faFlutter</code>		<code>\faPixelFed</code>		<code>\faWindows</code>
	<code>\faFly</code>		<code>\faPixiv</code>		<code>\faWirsindhandwerk</code>
	<code>\faFontAwesome</code>		<code>\faPlaystation</code>		<code>\faWix</code>
	<code>\faFontAwesome[regular]</code>		<code>\faProductHunt</code>		<code>\faWizardsOfTheCoast</code>
	<code>\faFonticons</code>		<code>\faPushed</code>		<code>\faWodu</code>
	<code>\faFonticonsFi</code>		<code>\faPython</code>		<code>\faWolfPackBattalion</code>
	<code>\faFortAwesome</code>		<code>\faQq</code>		<code>\faWordpress</code>
	<code>\faFortAwesomeAlt</code>		<code>\faQuinscape</code>		<code>\faWordpressSimple</code>
	<code>\faForumbee</code>		<code>\faQuora</code>		<code>\faWpbeginner</code>
	<code>\faFoursquare</code>		<code>\faRProject</code>		<code>\faWpexplorer</code>
	<code>\faFreeCodeCamp</code>		<code>\faRaspberryPi</code>		<code>\faWpforms</code>
	<code>\faFreebsd</code>		<code>\faRavelry</code>		<code>\faWpressr</code>
	<code>\faFulcrum</code>		<code>\faReact</code>		<code>\faXTwitter</code>
	<code>\faGalacticRepublic</code>		<code>\faReactEurope</code>		<code>\faXbox</code>
	<code>\faGalacticSenate</code>		<code>\faReadme</code>		<code>\faXing</code>
	<code>\faGetPocket</code>		<code>\faRebel</code>		<code>\faYCombinator</code>
	<code>\faGg</code>		<code>\faRedRiver</code>		<code>\faYahoo</code>
	<code>\faGgCircle</code>		<code>\faReddit</code>		<code>\faYammer</code>
	<code>\faGit</code>		<code>\faRedditAlien</code>		<code>\faYandex</code>
	<code>\faGitAlt</code>		<code>\faRedhat</code>		<code>\faYandexInternational</code>
	<code>\faGithub</code>		<code>\faRenren</code>		<code>\faYarn</code>
	<code>\faGithubAlt</code>		<code>\faReplyd</code>		<code>\faYelp</code>
	<code>\faGitkraken</code>		<code>\faResearchgate</code>		<code>\faYoast</code>
	<code>\faGitlab</code>		<code>\faResolving</code>		<code>\faYoutube</code>
	<code>\faGitter</code>		<code>\faRev</code>		<code>\faZhihu</code>
	<code>\faGlide</code>		<code>\faRocketchat</code>		

All symbols named `\faSquare_____` were called `\fa_____Square` in fontawesome5.





















All symbols containing a digit in their name in fontawesome5 now must be written as `\faIcon{_____}`.

TABLE 759: fontmizz Brand Icons

	\mfAlpinelinux		\mfGoogle		\mfNpm
	\mfAngular		\mfGoogleAlt		\mfObjc
	\mfAngularAlt		\mfGoogleCode		\mfOpenshift
	\mfApache		\mfGoogleDevelopers		\mfOracle
	\mfArchlinux		\mfGradle		\mfOracleAlt
	\mfAws		\mfGrails		\mfOsx
	\mfAzure		\mfGrailsAlt		\mfPerl
	\mfBackbone		\mfGrunt		\mfPhp
	\mfBlackberry		\mfGulp		\mfPhpAlt
	\mfBootstrap		\mfGulpAlt		\mfPlayframework
	\mfC		\mfHadoop		\mfPlayframeworkAlt
	\mfCassandra		\mfHaskell		\mfPlone
	\mfCentos		\mfHeroku		\mfPostgres
	\mfClojure		\mfHtml		\mfPostgresAlt
	\mfCodeigniter		\mfHtmlfive		\mfPython
	\mfCodepen		\mfHtmlfiveAlt		\mfRaspberrypi
	\mfCoffeeBean		\mfJava		\mfReactjs
	\mfCplusplus		\mfJavaBold		\mfRedhat
	\mfCsharp		\mfJavaDuke		\mfRedis
	\mfCss		\mfJavascript		\mfRuby
	\mfCssthree		\mfJavascriptAlt		\mfRubyOnRails
	\mfCssthreeAlt		\mfJetty		\mfRubyOnRailsAlt
	\mfDebian		\mfJquery		\mfRust
	\mfDocker		\mfKde		\mfSass
	\mfDreamhost		\mfLaravel		\mfSatellite
	\mfDthree		\mfLinuxMint		\mfScala
	\mfElixir		\mfLooking		\mfScalaAlt
	\mfElm		\mfMagento		\mfSitefinity
	\mfErlang		\mfMariadb		\mfSolaris
	\mfExherbo		\mfMaven		\mfSpring
	\mfFedora		\mfMongodb		\mfSuse
	\mfFireAlt		\mfMssql		\mfSvg
	\mfFreebsd		\mfMysql		\mfSymfony
	\mfFreecodecamp		\mfMysqlAlt		\mfThredprint
	\mfGentoo		\mfNetbsd		\mfTomcat
	\mfGit		\mfNginx		\mfUbuntu
	\mfGnome		\mfNginxAlt		\mfUnity
	\mfGo		\mfNginxAlttwo		\mfWordpress
	\mfGoAlt		\mfNodejs		\mfXeleven

See the fontmizz package note on page 452.

TABLE 761: lucide-icons Brand Icons

	<code>\lucideicon{airplay}</code>		<code>\lucideicon{figma}</code>		<code>\lucideicon{slack}</code>
	<code>\lucideicon{bitcoin}</code>		<code>\lucideicon{framer}</code>		<code>\lucideicon{target}</code>
	<code>\lucideicon{chromium}</code>		<code>\lucideicon{github}</code>		<code>\lucideicon{trello}</code>
	<code>\lucideicon{codepen}</code>		<code>\lucideicon{gitlab}</code>		<code>\lucideicon{twitch}</code>
	<code>\lucideicon{codesandbox}</code>		<code>\lucideicon{instagram}</code>		<code>\lucideicon{twitter}</code>
	<code>\lucideicon{dribbble}</code>		<code>\lucideicon{linkedin}</code>		<code>\lucideicon{youtube}</code>
	<code>\lucideicon{facebook}</code>		<code>\lucideicon{pocket}</code>		

















































See the lucide-icons package note on page 454.

TABLE 762: vectorlogos Logos

	<code>\logoctanlion</code>		<code>\logoscratch[cat]</code>
	<code>\logoemacs[alt]</code>		<code>\logotexmaker[alt]</code>
	<code>\logogeogebra[icon]</code>		<code>\logotexmaker</code>
	<code>\logolatexproject</code>		<code>\logotexstudio</code>
	<code>\logomiktex[icon-alt]</code>		<code>\logotexworks</code>
	<code>\logomiktex[icon]</code>		<code>\logotexworks[alt]</code>

See the vectorlogos package note on page 461.

















































TABLE 763: academicons Online Academic Profile Icons

	<code>\aiAcademia</code>		<code>\aiFigshareSquare</code>		<code>\aiOSF</code>
	<code>\aiAcademiaSquare</code>		<code>\aiGoogleScholar</code>		<code>\aiOSFSquare</code>
	<code>\aiAcclaim</code>		<code>\aiGoogleScholarSquare</code>		<code>\aiOverleaf</code>
	<code>\aiAcclaimSquare</code>		<code>\aiHAL</code>		<code>\aiOverleafSquare</code>
	<code>\aiACM</code>		<code>\aiHALSquare</code>		<code>\aiPhilPapers</code>
	<code>\aiACMDL</code>		<code>\aiHypothesis</code>		<code>\aiPhilPapersSquare</code>
	<code>\aiACMDLSquare</code>		<code>\aiHypothesisSquare</code>		<code>\aiPiazza</code>
	<code>\aiACMSquare</code>		<code>\aiIDEASRePEc</code>		<code>\aiPiazzaSquare</code>
	<code>\aiADS</code>		<code>\aiIDEASRePEcSquare</code>		<code>\aiPreregistered</code>
	<code>\aiADSSquare</code>		<code>\aiIEEE</code>		<code>\aiPreregisteredSquare</code>
	<code>\aiAfricArXiv</code>		<code>\aiIEEESquare</code>		<code>\aiProtocols</code>
	<code>\aiAfricArXivSquare</code>		<code>\aiImpactstory</code>		<code>\aiProtocolsSquare</code>
	<code>\aiArchive</code>		<code>\aiImpactstorySquare</code>		<code>\aiPsyArXiv</code>
	<code>\aiArchiveSquare</code>		<code>\aiiNaturalist</code>		<code>\aiPsyArXivSquare</code>
	<code>\aiarXiv</code>		<code>\aiiNaturalistSquare</code>		<code>\aiPublons</code>
	<code>\aiarXivSquare</code>		<code>\aiINPN</code>		<code>\aiPublonsSquare</code>

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	<code>\aibioRxiv</code>		<code>\aiINPNSquare</code>		<code>\aiPubMed</code>
	<code>\aibioRxivSquare</code>		<code>\aiInspire</code>		<code>\aiPubMedSquare</code>
	<code>\aiCEUR</code>		<code>\aiInspireSquare</code>		<code>\aiPubPeer</code>
	<code>\aiCEURSquare</code>		<code>\aiISIDORE</code>		<code>\aiPubPeerSquare</code>
	<code>\aiCIENCIAVITAE</code>		<code>\aiISIDORESquare</code>		<code>\aiResearcherID</code>
	<code>\aiCIENCIAVITAESquare</code>		<code>\aiIsni</code>		<code>\aiResearcherIDSquare</code>
	<code>\aiClarivate</code>		<code>\aiIsniSquare</code>		<code>\aiResearchGate</code>
	<code>\aiClarivateSquare</code>		<code>\aiJSTOR</code>		<code>\aiResearchGateSquare</code>
	<code>\aiClosedAccess</code>		<code>\aiJSTORSquare</code>		<code>\aiROR</code>
	<code>\aiClosedAccessSquare</code>		<code>\aiLattes</code>		<code>\aiRORSquare</code>
	<code>\aiConversation</code>		<code>\aiLattesSquare</code>		<code>\aiSciHub</code>
	<code>\aiConversationSquare</code>		<code>\aiMathOverflow</code>		<code>\aiSciHubSquare</code>
	<code>\aiCoursera</code>		<code>\aiMathOverflowSquare</code>		<code>\aiSciRate</code>
	<code>\aiCourseraSquare</code>		<code>\aiMendeley</code>		<code>\aiSciRateSquare</code>
	<code>\aiCrossref</code>		<code>\aiMendeleySquare</code>		<code>\aiScopus</code>
	<code>\aiCrossrefSquare</code>		<code>\aiMoodle</code>		<code>\aiScopusSquare</code>
	<code>\aiCV</code>		<code>\aiMoodleSquare</code>		<code>\aiSemanticScholar</code>
	<code>\aiCVSquare</code>		<code>\aiMTMT</code>		<code>\aiSemanticScholarSquare</code>
	<code>\aiDataCite</code>		<code>\aiMTMTSquare</code>		<code>\aiSpringer</code>
	<code>\aiDataCiteSquare</code>		<code>\aiNAKALA</code>		<code>\aiSpringerSquare</code>
	<code>\aiDataVerse</code>		<code>\aiNAKALASquare</code>		<code>\aiSSRN</code>
	<code>\aiDataVerseSquare</code>		<code>\aiOBP</code>		<code>\aiSSRNSquare</code>
	<code>\aidblp</code>		<code>\aiOBPSquare</code>		<code>\aiStackOverflow</code>
	<code>\aidblpSquare</code>		<code>\aiOpenAccess</code>		<code>\aiStackOverflowSquare</code>
	<code>\aiDepsy</code>		<code>\aiOpenAccessSquare</code>		<code>\aiViaf</code>
	<code>\aiDepsySquare</code>		<code>\aiOpenData</code>		<code>\aiViafSquare</code>
	<code>\aiDoi</code>		<code>\aiOpenDataSquare</code>		<code>\aiWiley</code>
	<code>\aiDoiSquare</code>		<code>\aiOpenEdition</code>		<code>\aiWileySquare</code>
	<code>\aiDryad</code>		<code>\aiOpenEditionSquare</code>		<code>\aiZenodo</code>
	<code>\aiDryadSquare</code>		<code>\aiOpenMaterials</code>		<code>\aiZenodoSquare</code>
	<code>\aiElsevier</code>		<code>\aiOpenMaterialsSquare</code>		<code>\aiZotero</code>
	<code>\aiElsevierquare</code>		<code>\aiOrcid</code>		<code>\aiZoteroSquare</code>
	<code>\aiFigshare</code>		<code>\aiOrcidSquare</code>		

See the `academicons` package note on page 449.

TABLE 765: vscodeicons File Icons

\vscodeicon[filetype]{...}		
	access	
	access2	
	actionscrip	
	actionscrip2	
	ada	
	advpl	
	affectscrip	
	affinitydesigner	
	affinityphoto	
	affinitypublisher	
	agda	
	agents	
	ai	
	ai2	
	al	
	al-dal	
	allcontributors	
	alloy	
	angular	
	ansible	
	antlers-html	
	antlr	
	anyscript	
	apache	
	apex	
	api-extractor	
	apib	
	apib2	
	apl	
	applescript	
	appscript	
	appsemble	
	appveyor	
	arduino	
	asciidoc	
	aseprite	
	asp	
	aspx	
	assembly	
	astro	
	astroconfig	
	atom	
	ats	
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		

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\vscodeicon[filetype]{...}		
	attw	
	audio	
	aurelia	
	autohotkey	
	autoit	
	avif	
	avro	
	awk	
	aws	
	azure	
	azurepipelines	
	babel	
	babel2	
	bak	
	ballerina	
	bat	
	bats	
	bazaar	
	bazel	
	bazel-ignore	
	bazel-version	
	befunge	
	bicep	
	biml	
	binary	
	biome	
	bitbucketpipeline	
	bithound	
	blade	
	blender	
	blitzbasic	
	bolt	
	bosque	
	bower	
	bower2	
	browserslist	
	bruno	
	buckbuild	
	buf	
	bun	
	bundlemon	
	bundler	
	bunfig	
	c	
	c-al	
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		

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\vscodeicon[filetype]{...}			
	c2		light-copilot
	c3		light-crystal
	cabal		light-cypress
	caddy		light-cypress-spec
	cake		light-db
	cakephp		light-dhall
	capacitor		light-docpad
	capnp		light-drone
	cargo		light-eas-metadata
	casc		light-eleventy
	cddl		light-eleventy2
	cert		light-esphome
	ceylon		light-expo
	cf		light-firebasehosting
	cf2		light-fla
	cfc		light-font
	cfc2		light-gamemaker2
	cfm		light-gradle
	cfm2		light-hashicorp
	changie		light-hjson
	changelog		light-ini
	chef		light-io
	chef-cookbook		light-js
	circleci		light-jsconfig
	circom		light-jsmap
	class		light-json
	claude		light-json-schema
	clojure		light-json5
	clojurescript		light-jsonld
	cloudflare		light-kite
	cloudfoundry		light-lark
	cmake		light-lean
	cobol		light-leanconfig
	codacy		light-lerna
	codeclimate		light-mailing
	codecov		light-markuplint
	codekit		light-mcp
	codemagic		light-mdx
	codeowners		light-mdx-components
	codeql		light-mlang
	coderabbit		light-mustache
	coffeelint		light-mypy
	coffeescript		light-neo4j
	commitizen		light-netlify
	commitlint		light-next
			pytyped
			pyup
			q
			qbs
			qlikview
			qml
			qmldir
			qsharp
			quasar
			r
			ra-syntax-tree
			racket
			rails
			rake
			raku
			raml
			razor
			razzle
			reactjs
			reactrouter
			reacttemplate
			reactts
			reason
			red
			registry
			rego
			rehype
			remark
			renovate
			rescript
			rest
			retext
			rexx
			riot
			ripple
			rmd
			rnc
			robotframework
			robots
			rolldown
			rollup
			rome
			ron
			rproj
			rspec

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\vscodeicon[filetype]{...}		
	compass	
	composer	
	conan	
	conda	
	config	
	confluence	
	copilot	
	coverage	
	coveralls	
	cpp	
	cpp2	
	cpp3	
	cppheader	
	craco	
	crowdin	
	crystal	
	csharp	
	csharp2	
	cspell	
	csproj	
	css	
	css2	
	css2map	
	csscomb	
	csslint	
	cssmap	
	cucumber	
	cuda	
	cursorrules	
	cvs	
	cypress	
	cypress-spec	
	cython	
	dal	
	darcs	
	dartlang	
	dartlang-generated	
	dartlang-ignore	
	datadog	
	db	
	debian	
	delphi	
	deno	
	denoify	
	dependabot	
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		

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\vscodeicon[filetype]{...}		
	dependencies	
	devcontainer	
	dhall	
	diff	
	django	
	dlang	
	docker	
	docker2	
	dockertest	
	dockertest2	
	docpad	
	docusaurus	
	docz	
	dojo	
	doppler	
	dotenv	
	dotjs	
	doxygen	
	drawio	
	drone	
	drools	
	dtd	
	dune	
	dustjs	
	dvc	
	dylan	
	earthly	
	eas-metadata	
	edge	
	edge2	
	editorconfig	
	eex	
	ejs	
	elastic	
	elasticbeanstalk	
	eleventy	
	eleventy2	
	elixir	
	elm	
	elm2	
	emacs	
	ember	
	ensime	
	eps	
	epub	
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		

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\vscodeicon[filetype]{...}		
	erb	
	erlang	
	erlang2	
	esbuild	
	eslint	
	eslint2	
	esphome	
	excalidraw	
	excel	
	excel2	
	expo	
	falcon	
	fantasticon	
	fastly	
	fauna	
	favicon	
	fbx	
	firebase	
	firebasehosting	
	firebasestorage	
	firestore	
	fitbit	
	fla	
	flareact	
	flash	
	floobits	
	flow	
	flutter	
	flutter-package	
	flyio	
	font	
	formkit	
	fortran	
	fossa	
	fossil	
	freemarker	
	frontcommerce	
	fsharp	
	fsharp2	
	fsproj	
	fthtml	
	funding	
	fusebox	
	galen	
	galen2	
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		

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\vscodeicon[filetype]{...}			
	gamemaker		nest-pipe-ts
	gamemaker2		nest-service-js
	gamemaker81		nest-service-ts
	gatsby		nestjs
	gcloud		netlify
	gcode		next
	gdscrip		nextflow
	gemini		ng-component-css
	genstat		ng-component-dart
	geojson		ng-component-html
	git		ng-component-js
	git2		ng-component-js2
	gitlab		ng-component-less
	gitpod		ng-component-sass
	gleam		ng-component-scss
	gleamconfig		ng-component-ts
	glide		ng-component-ts2
	glimmer		ng-controller-js
	glitter		ng-controller-ts
	gls1		ng-directive-dart
	gltf		ng-directive-js
	glyphs		ng-directive-js2
	gnu		ng-directive-ts
	gnuplot		ng-directive-ts2
	go		ng-guard-dart
	go-aqua		ng-guard-js
	go-black		ng-guard-ts
	go-fuchsia		ng-interceptor-dart
	go-gopher		ng-interceptor-js
	go-lightblue		ng-interceptor-ts
	go-package		ng-module-dart
	go-work		ng-module-js
	go-yellow		ng-module-js2
	goctl		ng-module-ts
	godot		ng-module-ts2
	gpg		ng-pipe-dart
	gradle		ng-pipe-js
	gradle2		ng-pipe-js2
	grain		ng-pipe-ts
	graphql		ng-pipe-ts2
	graphql-config		ng-routing-dart
	graphviz		ng-routing-js
	greenkeeper		ng-routing-js2
	gridsome		ng-routing-ts
	grit		ng-routing-ts2
	typescriptdef		typescriptdef-official
	typo3		uiua
	unibeautify		unison
	unlicense		unocss
	uv		vagrant
	vala		vanilla-extract
	vapi		vapor
	vash		vb
	vba		vbhtml
	vbproj		vcxproj
	velocity		vento
	vercel		verilog
	vhdl		video
	view		vim
	vite		vitest
	vlang		volt
	vscode		vscode-insiders
	vscode-test		vscode2
	vscode3		vsix
	vsixmanifest		vue
	vueconfig		vyper
	wallaby		wally
	wasm		

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\vscodeicon[filetype]{...}			
	groovy		ng-service-dart
	groovy2		ng-service-js
	grunt		ng-service-js2
	gulp		ng-service-ts
	haml		ng-service-ts2
	handlebars		ng-smart-component-dart
	handlebars2		ng-smart-component-js
	harbour		ng-smart-component-js2
	hardhat		ng-smart-component-ts
	haskell		ng-smart-component-ts2
	haskell2		ng-tailwind
	haxe		nginx
	haxecheckstyle		nim
	haxedevelop		nimble
	helix		ninja
	helm		nix
	histoire		njsproj
	hjson		noc
	hlsl		node
	homeassistant		node2
	horusec		nodemon
	host		npm
	html		npmpackagejsonlint
	htmlhint		nsi
	htmlvalidate		nsri
	http		nsri-integrity
	hugo		nuget
	humanstxt		numpy
	hunspell		nunjucks
	husky		nuxt
	hy		nx
	hygen		nyc
	hypr		objectivec
	icl		objectivecpp
	idris		objidconfig
	idrisbin		ocaml
	idrispkg		ocaml-intf
	image		ogone
	imba		onenote
			watchmanconfig
			wdio
			weblate
			webpack
			wenyan
			wercker
			wgs1
			wikitext
			windi
			wit
			wolfram
			word
			word2
			wpml
			wurst
			wxml
			wxss
			wxt
			xcode
			xfl
			xib
			xliff
			xmake
			xml
			xo
			xorg
			xquery
			xsl
			yacc
			yaml
			yaml-official
			yamllint
			yandex
			yang
			yarn
			yeoman
			zig
			zip
			zip2

For compactness, this table lists only the argument to `\vscodeicon[filetype]`. For example, when the table lists “haskell” next to the symbol for a Haskell file, “”, this means one should in fact write, “`\vscodeicon[filetype]{haskell}`”.

Logo variations intended for display on a dark background are not included in this table.























































































































































































See the `vscodeicons` package note on page 461 for information about controlling how `vscodeicons` symbols are rendered.

TABLE 767: `vscodeicons` Folder Icons

\vscodeicon[foldertype]{...} and \vscodeicon[foldertype]{...-opened}					
		android			gradle
		angular			graphql
		api			grunt
		app			gulp
		arangodb			haxelib
		asset			helper
		astro			hook
		audio			husky
		aurelia			idea
		aws			images
		azure			include
		azurepipelines			interfaces
		binary			ios
		bloc			js
		blueprint			json
		bot			json-official
		bower			junie
		buildkite			kubernetes
		cake			less
		cargo			library
		certificate			light-cypress
		changesets			light-electron
		chef			light-expo
		circleci			light-fonts
		claude			light-gradle
		cli			light-meteor
		client			light-mypy
		cloudflare			light-mysql
		cmake			light-node
		common			light-redux
					package
					paket
					php
					platformio
					plugin
					prisma
					private
					public
					pytest
					python
					ravendb
					redis
					redux
					route
					sass
					script
					seedkit
					server
					services
					shared
					snaplet
					spin
					src
					sso
					story
					style
					supabase
					svelte
					tauri
					temp

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\vscodeicon[foldertype]{...} and \vscodeicon[foldertype]{...-opened}		
		component
		composer
		config
		controller
		coverage
		css
		css2
		cubit
		cypress
		dapr
		dart
		datadog
		db
		debian
		dependabot
		devcontainer
		dist
		docker
		docs
		e2e
		elasticbeanstalk
		electron
		expo
		favicon
		flow
		fonts
		frontcommerce
		gcp
		git
		github
		gitlab
		light-sass
		light-zed
		linux
		locale
		log
		macos
		mariadb
		maven
		mediawiki
		memcached
		meteor
		middleware
		minecraft
		minikube
		mjml
		mock
		model
		module
		mojo
		mongodb
		mypy
		mysql
		netlify
		next
		nginx
		nix
		node
		notebooks
		notification
		nuget
		nuxt
		template
		test
		theme
		tools
		travis
		trunk
		turbo
		typescript
		typings
		typings2
		vagrant
		vercel
		video
		view
		vs
		vs2
		vscode
		vscode-test
		vscode-test2
		vscode-test3
		vscode2
		vscode3
		webpack
		windows
		windSURF
		wit
		www
		yarn
		zed

Each of these symbols can be drawn as either a closed or an open folder. For compactness, this table lists only the argument to `\vscodeicon[foldertype]`. For example, when the table lists “python”, this means one should in fact write, “`\vscodeicon[foldertype]{python}`” for a closed folder or “`\vscodeicon[foldertype]{python-opened}`” for an open folder:



python

vs.



python-opened

See the `vscodeicons` package note on page 461 for information about controlling how `vscodeicons` symbols are rendered.

# Chapter 11

## Other symbols

The following are all the symbols that didn't fit neatly or unambiguously into any of the previous chapters. (Do weather symbols belong under "Science and technology"? Should tally markers be considered "mathematics"?). While some of the tables contain clearly related groups of symbols (e.g., symbols related to cooking), others represent motley assortments of whatever the font designer felt like drawing.

TABLE 769: textcomp Genealogical Symbols

★	<code>\textborn</code>	∅	<code>\textdivorced</code>	∞	<code>\textmarried</code>
†	<code>\textdied</code>	☞	<code>\textleaf</code>		

TABLE 770: utfsym Genealogical Symbols

∞	<code>\usym{26AD}</code>	<i>marriage</i>
∞	<code>\usym{26AE}</code>	<i>divorce</i>
∞	<code>\usym{26AF}</code>	<i>unmarried partnership</i>




See the utfsym package note on page 461.

TABLE 771: wasysym General Symbols

☒	<code>\ataribox</code>	∅	<code>\diameter</code>	⚡	<code>\lightning</code>	☼	<code>\sun</code>
🔔	<code>\bell</code>	▼	<code>\DOWNarrow</code>	☎	<code>\phone</code>	▲	<code>\UParrow</code>
☹	<code>\blacksmiley</code>	☹	<code>\frownie</code>	☞	<code>\pointer</code>	⌘	<code>\wasycmd*</code>
☒	<code>\Bowtie</code>	∅	<code>\invdiameter</code>	📻	<code>\recorder</code>	⌘	<code>\wasylozenge</code>
⌚	<code>\brokenvert</code>	✱	<code>\kreuz</code>	▶	<code>\RIGHTarrow</code>		
✓	<code>\checked</code>	◀	<code>\LEFTarrow</code>	↻	<code>\rightturn</code>		
🕒	<code>\clock</code>	↻	<code>\leftturn</code>	☺	<code>\smiley</code>		

\* wasysym defines `\applecmd` as a synonym for `\wasycmd`.

TABLE 772: manfnt Dangerous Bend Symbols

	<code>\dbend</code>		<code>\lhdbend</code>		<code>\reversedvideobend</code>
-----------------------------------------------------------------------------------	---------------------	-----------------------------------------------------------------------------------	-----------------------	-----------------------------------------------------------------------------------	---------------------------------

Note that these symbols descend far beneath the baseline. `manfnt` also defines non-descending versions, which it calls, correspondingly, `\textdbend`, `\textlhdbend`, and `\textreversedvideobend`.

TABLE 773: Miscellaneous manfnt Symbols























































	<code>\manboldkidney</code>		<code>\manpenkidney</code>
	<code>\manconcentriccircles</code>		<code>\manquadrifolium</code>
	<code>\manconcentricdiamond</code>		<code>\manquartercircle</code>
	<code>\mancone</code>		<code>\manrotatedquadrifolium</code>
	<code>\mancube</code>		<code>\manrotatedquartercircle</code>
	<code>\manerrarrow</code>		<code>\manstar</code>
	<code>\manfilledquartercircle</code>		<code>\mantilt pennib</code>
	<code>\manhpennib</code>		<code>\mantriangledown</code>
	<code>\manimpossiblecube</code>		<code>\mantriangleright</code>
	<code>\mankidney</code>		<code>\mantriangleup</code>
	<code>\manlhpenkidney</code>		<code>\manvpennib</code>

TABLE 774: typicons Pointers

	<code>\tiChevronLeft</code>		<code>\tiChevronRight</code>
	<code>\tiChevronLeftOutline</code>		<code>\tiChevronRightOutline</code>

See the `typicons` package note on page 460.

TABLE 775: fontawesome7 Pointers

	<code>\faAngleDown</code>		<code>\faCaretRight</code>		<code>\faSquareCaretDown</code>
	<code>\faAngleLeft</code>		<code>\faCaretUp</code>		<code>\faSquareCaretDown[regular]</code>
	<code>\faAngleRight</code>		<code>\faChevronDown</code>		<code>\faSquareCaretLeft</code>
	<code>\faAnglesDown</code>		<code>\faChevronLeft</code>		<code>\faSquareCaretLeft[regular]</code>
	<code>\faAnglesLeft</code>		<code>\faChevronRight</code>		<code>\faSquareCaretRight</code>
	<code>\faAnglesRight</code>		<code>\faChevronUp</code>		<code>\faSquareCaretRight[regular]</code>
	<code>\faAnglesUp</code>		<code>\faCircleChevronDown</code>		<code>\faSquareCaretUp</code>
	<code>\faAngleUp</code>		<code>\faCircleChevronLeft</code>		<code>\faSquareCaretUp[regular]</code>
	<code>\faCaretDown</code>		<code>\faCircleChevronRight</code>		
	<code>\faCaretLeft</code>		<code>\faCircleChevronUp</code>		

Many of these symbols had different names in `fontawesome5`.

TABLE 776: lucide-icons Pointers

✓	<code>\lucideicon{chevron-down}</code>	«	<code>\lucideicon{chevrns-left}</code>
⌞	<code>\lucideicon{chevron-first}</code>	↔	<code>\lucideicon{chevrns-left-right}</code>
⌟	<code>\lucideicon{chevron-last}</code>	↔	<code>\lucideicon{chevrns-left-right-ellipsis}</code>
◀	<code>\lucideicon{chevron-left}</code>	»	<code>\lucideicon{chevrns-right}</code>
▶	<code>\lucideicon{chevron-right}</code>	↔	<code>\lucideicon{chevrns-right-left}</code>
^	<code>\lucideicon{chevron-up}</code>	⤴	<code>\lucideicon{chevrns-up}</code>
↘	<code>\lucideicon{chevrns-down}</code>	⤵	<code>\lucideicon{chevrns-up-down}</code>
↙	<code>\lucideicon{chevrns-down-up}</code>		

See the lucide-icons package note on page 454.

TABLE 777: marvosym Laundry Symbols

	<code>\AtForty</code>		<code>\ironing</code>		<code>\ShortNinetyFive</code>
	<code>\AtNinetyFive</code>		<code>\Ironing</code>		<code>\ShortSixty</code>
	<code>\AtSixty</code>		<code>\IRONING</code>		<code>\ShortThirty</code>
△	<code>\Bleech</code>	⚡	<code>\NoBleech</code>		<code>\SpecialForty</code>
Ⓐ	<code>\CleaningA</code>	⊗	<code>\NoChemicalCleaning</code>	◻	<code>\Tumbler</code>
Ⓕ	<code>\CleaningF</code>	⚡	<code>\NoIroning</code>		<code>\WashCotton</code>
Ⓖ	<code>\CleaningFF</code>	⊗	<code>\NoTumbler</code>		<code>\WashSynthetics</code>
Ⓖ	<code>\CleaningP</code>	⚡	<code>\NoWash</code>		<code>\WashWool</code>
Ⓖ	<code>\CleaningPP</code>		<code>\ShortFifty</code>		
	<code>\HandWash</code>		<code>\ShortForty</code>		








TABLE 778: Miscellaneous marvosym Symbols

†	<code>\Ankh</code>	⊗	<code>\CircledA</code>	🏭	<code>\Industry</code>	☞	<code>\PointingHand</code>
☘	<code>\Bat</code>	⌚	<code>\ClockLogo</code>	ℹ	<code>\Info</code>	😊	<code>\Smiley</code>
🚲	<code>\Bicycle</code>	☕	<code>\Coffeecup</code>	🚻	<code>\Ladiesroom</code>	♿	<code>\Wheelchair</code>
BO	<code>\BOLogo</code>	✝	<code>\Cross</code>	👤	<code>\ManFace</code>	👩	<code>\WomanFace</code>
	<code>\BOLogoL</code>	⚽	<code>\Football</code>	⚠	<code>\MineSign</code>	✍	<code>\WritingHand</code>
	<code>\BOLogoP</code>	☹	<code>\Frowny</code>	🌐	<code>\Mundus</code>	☯	<code>\YinYang</code>
🌸	<code>\Bouquet</code>	🚻	<code>\Gentsroom</code>	@	<code>\MVat</code>		
☥	<code>\CeltCross</code>	♥	<code>\Heart</code>	☮	<code>\PeaceDove</code>		

TABLE 779: Miscellaneous universa Symbols

	<code>\bauforms</code>		<code>\bauhead</code>
--	------------------------	--	-----------------------

TABLE 780: Miscellaneous fourier Symbols

	<code>\bomb</code>		<code>\noway</code>		<code>\textxsdown*</code>		<code>\warning</code>
	<code>\grimace</code>		<code>\texttthing*</code>		<code>\textxsup*</code>		





































































\* `fourier` defines math-mode synonyms for a few of the preceding symbols:  
`\thething` (“”), `\xwordsup` (“”), and `\xwordsdown` (“”).

TABLE 781: lucide-icons Weather Symbols

	<code>\lucideicon{cloud}</code>		<code>\lucideicon{rainbow}</code>
	<code>\lucideicon{cloud-drizzle}</code>		<code>\lucideicon{snowflake}</code>
	<code>\lucideicon{cloud-fog}</code>		<code>\lucideicon{sun}</code>
	<code>\lucideicon{cloud-hail}</code>		<code>\lucideicon{sun-dim}</code>
	<code>\lucideicon{cloud-lightning}</code>		<code>\lucideicon{sun-medium}</code>
	<code>\lucideicon{cloud-moon}</code>		<code>\lucideicon{sun-snow}</code>
	<code>\lucideicon{cloud-moon-rain}</code>		<code>\lucideicon{sunrise}</code>
	<code>\lucideicon{cloud-off}</code>		<code>\lucideicon{sunset}</code>
	<code>\lucideicon{cloud-rain}</code>		<code>\lucideicon{thermometer}</code>
	<code>\lucideicon{cloud-rain-wind}</code>		<code>\lucideicon{thermometer-snowflake}</code>
	<code>\lucideicon{cloud-snow}</code>		<code>\lucideicon{thermometer-sun}</code>
	<code>\lucideicon{cloud-sun}</code>		<code>\lucideicon{tornado}</code>
	<code>\lucideicon{cloud-sun-rain}</code>		<code>\lucideicon{umbrella}</code>
	<code>\lucideicon{cloudy}</code>		<code>\lucideicon{umbrella-off}</code>
	<code>\lucideicon{droplet}</code>		<code>\lucideicon{wind}</code>
	<code>\lucideicon{droplet-off}</code>		<code>\lucideicon{wind-arrow-down}</code>
	<code>\lucideicon{droplets}</code>		<code>\lucideicon{zap}</code>
	<code>\lucideicon{haze}</code>		<code>\lucideicon{zap-off}</code>
















See the `lucide-icons` package note on page 454.

TABLE 782: utfsym Weather Symbols

	<code>\usym{2600}</code>	<i>black sun with rays</i>		<code>\usym{1F308}</code>	<i>rainbow</i>
	<code>\usym{2601}</code>	<i>cloud</i>		<code>\usym{1F321}</code>	<i>thermometer</i>
	<code>\usym{2602}</code>	<i>umbrella</i>		<code>\usym{1F322}</code>	<i>black droplet</i>
	<code>\usym{2603}</code>	<i>snowman</i>		<code>\usym{1F323}</code>	<i>white sun</i>
	<code>\usym{2607}</code>	<i>lightning</i>		<code>\usym{1F324}</code>	<i>white sun with small cloud</i>
	<code>\usym{2608}</code>	<i>thunderstorm</i>		<code>\usym{1F325}</code>	<i>white sun behind cloud</i>
	<code>\usym{2614}</code>	<i>umbrella with rain drops</i>		<code>\usym{1F326}</code>	<i>white sun behind cloud with rain</i>
	<code>\usym{26C4}</code>	<i>snowman without snow</i>		<code>\usym{1F327}</code>	<i>cloud with rain</i>
	<code>\usym{26C5}</code>	<i>sun behind cloud</i>		<code>\usym{1F328}</code>	<i>cloud with snow</i>
	<code>\usym{26C6}</code>	<i>rain</i>		<code>\usym{1F329}</code>	<i>cloud with lightning</i>
	<code>\usym{26C7}</code>	<i>black snowman</i>		<code>\usym{1F32A}</code>	<i>cloud with tornado</i>
	<code>\usym{26C8}</code>	<i>thunder cloud and rain</i>		<code>\usym{1F32B}</code>	<i>fog</i>
	<code>\usym{1F300}</code>	<i>cyclone</i>		<code>\usym{1F32C}</code>	<i>wind blowing face</i>
	<code>\usym{1F301}</code>	<i>foggy</i>		<code>\usym{1F4A7}</code>	<i>droplet</i>
	<code>\usym{1F302}</code>	<i>closed umbrella</i>			

See the `utfsym` package note on page 461.






















TABLE 783: twemojis Weather Symbols








	<code>\twemoji{cloud}</code>		<code>\twemoji{sun behind large cloud}</code>
	<code>\twemoji{cloud with lightning}</code>		<code>\twemoji{sun behind rain cloud}</code>
	<code>\twemoji{cloud with lightning and rain}</code>		<code>\twemoji{sun behind small cloud}</code>
	<code>\twemoji{cloud with rain}</code>		<code>\twemoji{thermometer}</code>
	<code>\twemoji{cloud with snow}</code>		<code>\twemoji{tornado}</code>
	<code>\twemoji{fog}</code>		<code>\twemoji{umbrella with rain drops}</code>
	<code>\twemoji{sun}</code>		<code>\twemoji{wind face}</code>
	<code>\twemoji{sun behind cloud}</code>		

See the `twemojis` package note on page 460.



TABLE 784: ifsym Weather Symbols

	<code>\Cloud</code>		<code>\Hail</code>		<code>\Sleet</code>		<code>\WeakRain</code>
	<code>\FilledCloud</code>		<code>\HalfSun</code>		<code>\Snow</code>		<code>\WeakRainCloud</code>
	<code>\FilledRainCloud</code>		<code>\Lightning</code>		<code>\SnowCloud</code>		<code>\FilledSnowCloud</code>
	<code>\FilledSunCloud</code>		<code>\NoSun</code>		<code>\Sun</code>		
	<code>\FilledWeakRainCloud</code>		<code>\Rain</code>		<code>\SunCloud</code>		
	<code>\Fog</code>		<code>\RainCloud</code>		<code>\ThinFog</code>		

In addition, `\Thermo{0}...\Thermo{6}` produce thermometers that are between 0/6 and 6/6 full of mercury:       













































Similarly, `\wind{<sun>}{<angle>}{<strength>}` will draw wind symbols with a given amount of sun (0–4), a given angle (in degrees), and a given strength in km/h (0–100). For example, `\wind{0}{0}{0}` produces “”, `\wind{2}{0}{0}` produces “”, and `\wind{4}{0}{100}` produces “”.

TABLE 785: typicons Weather Symbols

	<code>\tiThermometer</code>		<code>\tiWeatherPartlySunny</code>		<code>\tiWeatherSunny</code>
	<code>\tiWeatherCloudy</code>		<code>\tiWeatherShower</code>		<code>\tiWeatherWindy</code>
	<code>\tiWeatherDownpour</code>		<code>\tiWeatherSnow</code>		<code>\tiWeatherWindyCloudy</code>
	<code>\tiWeatherNight</code>		<code>\tiWeatherStormy</code>		










See the typicons package note on page 460.

TABLE 786: fontawesome7 Weather Symbols

	<code>\faBolt</code>		<code>\faCloudSun</code>		<code>\faTemperatureArrowUp</code>
	<code>\faBoltLightning</code>		<code>\faCloudSunRain</code>		<code>\faTemperatureEmpty*</code>
	<code>\faCloud</code>		<code>\faHurricane</code>		<code>\faTemperatureFull*</code>
	<code>\faCloudBolt</code>		<code>\faIcicles</code>		<code>\faTemperatureHalf*</code>
	<code>\faCloudMeatball</code>		<code>\faSmog</code>		<code>\faTemperatureHigh</code>
	<code>\faCloudMoon</code>		<code>\faSnowflake</code>		<code>\faTemperatureLow</code>
	<code>\faCloudMoonRain</code>		<code>\faSnowflake[regular]</code>		<code>\faTemperatureQuarter*</code>
	<code>\faCloudRain</code>		<code>\faSun</code>		<code>\faTemperatureThreeQuarters*</code>
	<code>\faCloudShowersHeavy</code>		<code>\faSun[regular]</code>		<code>\faTornado</code>
	<code>\faCloudShowersWater</code>		<code>\faTemperatureArrowDown</code>		<code>\faWind</code>

\* In fontawesome5, the `\faTemperature_____` symbols were named `\faThermometer_____`.

TABLE 787: figchild Weather Symbols

	<code>\fcCloud</code>		<code>\fcCloudC</code>		<code>\fcSunB</code>
	<code>\fcCloudA</code>		<code>\fcSun</code>		<code>\fcThermometerA</code>
	<code>\fcCloudB</code>		<code>\fcSunA</code>		<code>\fcThermometerB</code>

See the figchild package note on page 452.

TABLE 788: ifsym Alpine Symbols


















	<code>\SummitSign</code>		<code>\Summit</code>		<code>\SurveySign</code>		<code>\HalfFilledHut</code>
	<code>\StoneMan</code>		<code>\Mountain</code>		<code>\Joch</code>		<code>\VarSummit</code>
	<code>\Hut</code>		<code>\IceMountain</code>		<code>\Flag</code>		
	<code>\FilledHut</code>		<code>\VarMountain</code>		<code>\VarFlag</code>		
	<code>\Village</code>		<code>\VarIceMountain</code>		<code>\Tent</code>		

TABLE 789: fontawesome7 Outdoor Symbols




































	<code>\faHillAvalanche</code>		<code>\faMountainCity</code>		<code>\faTentArrowsDown</code>
	<code>\faHillRockslide</code>		<code>\faMountainSun</code>		<code>\faTentArrowTurnLeft</code>
	<code>\faMosquitoNet</code>		<code>\faTent</code>		<code>\faTents</code>
	<code>\faMound</code>		<code>\faTentArrowDownToLine</code>		<code>\faTree</code>
	<code>\faMountain</code>		<code>\faTentArrowLeftRight</code>		

TABLE 790: utfsym Outdoor Scenes

	<code>\usym{2604}</code>	<i>comet</i>		<code>\usym{1F3D4}</code>	<i>snow-capped mountain</i>
	<code>\usym{26F0}</code>	<i>mountain</i>		<code>\usym{1F3D5}</code>	<i>camping</i>
	<code>\usym{26F1}</code>	<i>umbrella on ground</i>		<code>\usym{1F3D6}</code>	<i>beach with umbrella</i>
	<code>\usym{26F2}</code>	<i>fountain</i>		<code>\usym{1F3D7}</code>	<i>building construction</i>
	<code>\usym{26FA}</code>	<i>tent</i>		<code>\usym{1F3DC}</code>	<i>desert</i>
	<code>\usym{1F304}</code>	<i>sunrise over mountains</i>		<code>\usym{1F3DD}</code>	<i>desert island</i>
	<code>\usym{1F305}</code>	<i>sunrise</i>		<code>\usym{1F3DE}</code>	<i>national park</i>
	<code>\usym{1F309}</code>	<i>bridge at night</i>		<code>\usym{1F5FB}</code>	<i>Mount Fuji</i>
	<code>\usym{1F30A}</code>	<i>water wave</i>		<code>\usym{1F5FC}</code>	<i>Tokyo Tower</i>
	<code>\usym{1F30B}</code>	<i>volcano</i>		<code>\usym{1F5FD}</code>	<i>Statue of Liberty</i>
	<code>\usym{1F30C}</code>	<i>milky way</i>			

See the utfsym package note on page 461.

TABLE 791: twemojis Outdoor Scenes

	<code>\twemoji{beach with umbrella}</code>		<code>\twemoji{night with stars}</code>
	<code>\twemoji{bridge at night}</code>		<code>\twemoji{rainbow}</code>
	<code>\twemoji{building construction}</code>		<code>\twemoji{roller coaster}</code>
	<code>\twemoji{camping}</code>		<code>\twemoji{snow-capped mountain}</code>
	<code>\twemoji{circus tent}</code>		<code>\twemoji{snowman}</code>
	<code>\twemoji{desert}</code>		<code>\twemoji{snowman without snow}</code>
	<code>\twemoji{desert island}</code>		<code>\twemoji{sunrise}</code>
	<code>\twemoji{ferris wheel}</code>		<code>\twemoji{sunrise over mountains}</code>
	<code>\twemoji{fireworks}</code>		<code>\twemoji{sunset}</code>
	<code>\twemoji{foggy}</code>		<code>\twemoji{tent}</code>
	<code>\twemoji{moon viewing ceremony}</code>		<code>\twemoji{Tokyo tower}</code>
	<code>\twemoji{mount fuji}</code>		<code>\twemoji{umbrella on ground}</code>
	<code>\twemoji{mountain}</code>		<code>\twemoji{volcano}</code>
	<code>\twemoji{national park}</code>		

See the twemojis package note on page 460.

TABLE 792: fontawesome7 Gauges

	<code>\faGauge</code>		<code>\faGaugeSimple</code>
	<code>\faGaugeHigh</code>		<code>\faGaugeSimpleHigh</code>

TABLE 793: lucide-icons Bells

	<code>\lucideicon{bell}</code>		<code>\lucideicon{bell-off}</code>
	<code>\lucideicon{bell-dot}</code>		<code>\lucideicon{bell-plus}</code>
	<code>\lucideicon{bell-electric}</code>		<code>\lucideicon{bell-ring}</code>
	<code>\lucideicon{bell-minus}</code>		


























See the lucide-icons package note on page 454.

TABLE 794: ifsym Clocks

	<code>\Interval</code>		<code>\StopWatchStart</code>		<code>\VarClock</code>		<code>\Wecker</code>
	<code>\StopWatchEnd</code>		<code>\Taschenuhr</code>		<code>\VarTaschenuhr</code>		









ifsym also exports a `\showclock` macro. `\showclock{⟨hours⟩}{⟨minutes⟩}` outputs a clock displaying the corresponding time. For instance, “`\showclock{5}{40}`” produces “”. `⟨hours⟩` must be an integer from 0 to 11, and `⟨minutes⟩` must be an integer multiple of 5 from 0 to 55.

TABLE 795: utfsym Clocks

	<code>\usym{1F550}</code>	<i>clock face one o'clock</i>		<code>\usym{1F55D}</code>	<i>clock face two-thirty</i>
	<code>\usym{1F551}</code>	<i>clock face two o'clock</i>		<code>\usym{1F55E}</code>	<i>clock face three-thirty</i>
	<code>\usym{1F552}</code>	<i>clock face three o'clock</i>		<code>\usym{1F55F}</code>	<i>clock face four-thirty</i>
	<code>\usym{1F553}</code>	<i>clock face four o'clock</i>		<code>\usym{1F560}</code>	<i>clock face five-thirty</i>
	<code>\usym{1F554}</code>	<i>clock face five o'clock</i>		<code>\usym{1F561}</code>	<i>clock face six-thirty</i>
	<code>\usym{1F555}</code>	<i>clock face six o'clock</i>		<code>\usym{1F562}</code>	<i>clock face seven-thirty</i>
	<code>\usym{1F556}</code>	<i>clock face seven o'clock</i>		<code>\usym{1F563}</code>	<i>clock face eight-thirty</i>
	<code>\usym{1F557}</code>	<i>clock face eight o'clock</i>		<code>\usym{1F564}</code>	<i>clock face nine-thirty</i>
	<code>\usym{1F558}</code>	<i>clock face nine o'clock</i>		<code>\usym{1F565}</code>	<i>clock face ten-thirty</i>
	<code>\usym{1F559}</code>	<i>clock face ten o'clock</i>		<code>\usym{1F566}</code>	<i>clock face eleven-thirty</i>
	<code>\usym{1F55A}</code>	<i>clock face eleven o'clock</i>		<code>\usym{1F567}</code>	<i>clock face twelve-thirty</i>
	<code>\usym{1F55B}</code>	<i>clock face twelve o'clock</i>		<code>\usym{1F570}</code>	<i>mantelpiece clock</i>
	<code>\usym{1F55C}</code>	<i>clock face one-thirty</i>			

See the `utfsym` package note on page 461.

TABLE 796: clock Clocks

<code>\ClockStyle</code>	<code>\ClockFramefalse</code>	<code>\ClockFrametrue</code>
0		
1		
2		
3		

The clock package provides a `\clock` command to typeset an arbitrary time on an analog clock (and `\clocktime` to typeset the document's build time). For example, the clocks in the above table were produced with `\clock{15}{41}`. Clock symbols are composed from a font of clock-face fragments using one of four values for `\ClockStyle` and either `\ClockFrametrue` or `\ClockFramefalse` as illustrated above. See the clock documentation for more information.

TABLE 797: twemojis Clocks

	<code>\twemoji{one o'clock}</code>		<code>\twemoji{eight-thirty}</code>
	<code>\twemoji{one-thirty}</code>		<code>\twemoji{nine o'clock}</code>
	<code>\twemoji{two o'clock}</code>		<code>\twemoji{nine-thirty}</code>
	<code>\twemoji{two-thirty}</code>		<code>\twemoji{ten o'clock}</code>
	<code>\twemoji{three o'clock}</code>		<code>\twemoji{ten-thirty}</code>
	<code>\twemoji{three-thirty}</code>		<code>\twemoji{eleven o'clock}</code>
	<code>\twemoji{four o'clock}</code>		<code>\twemoji{eleven-thirty}</code>
	<code>\twemoji{four-thirty}</code>		<code>\twemoji{twelve o'clock}</code>
	<code>\twemoji{five o'clock}</code>		<code>\twemoji{twelve-thirty}</code>
	<code>\twemoji{five-thirty}</code>		<code>\twemoji{alarm clock}</code>
	<code>\twemoji{six o'clock}</code>		<code>\twemoji{hourglass done}</code>
	<code>\twemoji{six-thirty}</code>		<code>\twemoji{hourglass not done}</code>
	<code>\twemoji{seven o'clock}</code>		<code>\twemoji{mantelpiece clock}</code>
	<code>\twemoji{seven-thirty}</code>		<code>\twemoji{stopwatch}</code>
	<code>\twemoji{eight o'clock}</code>		<code>\twemoji{timer clock}</code>

See the twemojis package note on page 460.

TABLE 798: typicons Time and Date Symbols

	<code>\tiCalendar</code>		<code>\tiStopwatch</code>		<code>\tiWatch</code>
	<code>\tiCalendarOutline</code>		<code>\tiTime</code>		





















































See the typicons package note on page 460.

TABLE 799: fontawesome7 Time and Date Symbols

	<code>\faAlarmClock</code>		<code>\faCalendarWeek</code>
	<code>\faAlarmClock[regular]</code>		<code>\faCalendarXmark*</code>
	<code>\faBusinessTime</code>		<code>\faCalendarXmark[regular]*</code>
	<code>\faCalendar</code>		<code>\faClock</code>
	<code>\faCalendar[regular]</code>		<code>\faClock[regular]</code>
	<code>\faCalendarCheck</code>		<code>\faHourglass</code>
	<code>\faCalendarCheck[regular]</code>		<code>\faHourglass[regular]</code>
	<code>\faCalendarDay</code>		<code>\faHourglassEnd</code>
	<code>\faCalendarDays</code>		<code>\faHourglassHalf</code>
	<code>\faCalendarMinus</code>		<code>\faHourglassStart</code>
	<code>\faCalendarMinus[regular]</code>		<code>\faStopwatch</code>
	<code>\faCalendarPlus</code>		<code>\faTachographDigital*</code>
	<code>\faCalendarPlus[regular]</code>		

\* In fontawesome5, `\faTachographDigital` was called `\faDigitalTachograph`, and `\faCalendarXmark` was called `\faCalendarTimes`.

TABLE 800: lucide-icons Time and Date Symbols

	<code>\lucideicon{history}</code>		<code>\lucideicon{calendars}</code>
	<code>\lucideicon{alarm-clock}</code>		<code>\lucideicon{clock}</code>
	<code>\lucideicon{alarm-clock-check}</code>		<code>\lucideicon{clock-1}</code>
	<code>\lucideicon{alarm-clock-minus}</code>		<code>\lucideicon{clock-2}</code>
	<code>\lucideicon{alarm-clock-off}</code>		<code>\lucideicon{clock-3}</code>
	<code>\lucideicon{alarm-clock-plus}</code>		<code>\lucideicon{clock-4}</code>
	<code>\lucideicon{calendar}</code>		<code>\lucideicon{clock-5}</code>
	<code>\lucideicon{calendar-1}</code>		<code>\lucideicon{clock-6}</code>
	<code>\lucideicon{calendar-arrow-down}</code>		<code>\lucideicon{clock-7}</code>
	<code>\lucideicon{calendar-arrow-up}</code>		<code>\lucideicon{clock-8}</code>
	<code>\lucideicon{calendar-check}</code>		<code>\lucideicon{clock-9}</code>
	<code>\lucideicon{calendar-check-2}</code>		<code>\lucideicon{clock-10}</code>
	<code>\lucideicon{calendar-clock}</code>		<code>\lucideicon{clock-11}</code>
	<code>\lucideicon{calendar-cog}</code>		<code>\lucideicon{clock-12}</code>
	<code>\lucideicon{calendar-days}</code>		<code>\lucideicon{clock-alert}</code>
	<code>\lucideicon{calendar-fold}</code>		<code>\lucideicon{clock-arrow-down}</code>
	<code>\lucideicon{calendar-heart}</code>		<code>\lucideicon{clock-arrow-up}</code>
	<code>\lucideicon{calendar-minus}</code>		<code>\lucideicon{clock-check}</code>
	<code>\lucideicon{calendar-minus-2}</code>		<code>\lucideicon{clock-fading}</code>
	<code>\lucideicon{calendar-off}</code>		<code>\lucideicon{clock-plus}</code>
	<code>\lucideicon{calendar-plus}</code>		<code>\lucideicon{hourglass}</code>
	<code>\lucideicon{calendar-plus-2}</code>		<code>\lucideicon{timer}</code>
	<code>\lucideicon{calendar-range}</code>		<code>\lucideicon{timer-off}</code>
	<code>\lucideicon{calendar-search}</code>		<code>\lucideicon{timer-reset}</code>
	<code>\lucideicon{calendar-sync}</code>		<code>\lucideicon{watch}</code>
	<code>\lucideicon{calendar-x}</code>		
	<code>\lucideicon{calendar-x-2}</code>		















































See the lucide-icons package note on page 454.

TABLE 802: utfsym Animals

	<code>\usym{1F400}</code>	<i>rat</i>		<code>\usym{1F420}</code>	<i>tropical fish</i>
	<code>\usym{1F401}</code>	<i>mouse</i>		<code>\usym{1F421}</code>	<i>blowfish</i>
	<code>\usym{1F402}</code>	<i>ox</i>		<code>\usym{1F422}</code>	<i>turtle</i>
	<code>\usym{1F403}</code>	<i>water buffalo</i>		<code>\usym{1F423}</code>	<i>hatching chick</i>
	<code>\usym{1F404}</code>	<i>cow</i>		<code>\usym{1F424}</code>	<i>baby chick</i>
	<code>\usym{1F405}</code>	<i>tiger</i>		<code>\usym{1F425}</code>	<i>front-facing baby chick</i>
	<code>\usym{1F406}</code>	<i>leopard</i>		<code>\usym{1F426}</code>	<i>bird</i>
	<code>\usym{1F407}</code>	<i>rabbit</i>		<code>\usym{1F427}</code>	<i>penguin</i>
	<code>\usym{1F408}</code>	<i>cat</i>		<code>\usym{1F428}</code>	<i>koala</i>
	<code>\usym{1F409}</code>	<i>dragon</i>		<code>\usym{1F429}</code>	<i>poodle</i>
	<code>\usym{1F40A}</code>	<i>crocodile</i>		<code>\usym{1F42A}</code>	<i>dromedary camel</i>
	<code>\usym{1F40B}</code>	<i>whale</i>		<code>\usym{1F42B}</code>	<i>bactrian camel</i>
	<code>\usym{1F40C}</code>	<i>snail</i>		<code>\usym{1F42C}</code>	<i>dolphin</i>
	<code>\usym{1F40D}</code>	<i>snake</i>		<code>\usym{1F42D}</code>	<i>mouse face</i>
	<code>\usym{1F40E}</code>	<i>horse</i>		<code>\usym{1F42E}</code>	<i>cow face</i>
	<code>\usym{1F40F}</code>	<i>ram</i>		<code>\usym{1F42F}</code>	<i>tiger face</i>
	<code>\usym{1F410}</code>	<i>goat</i>		<code>\usym{1F430}</code>	<i>rabbit face</i>
	<code>\usym{1F411}</code>	<i>sheep</i>		<code>\usym{1F431}</code>	<i>cat face</i>
	<code>\usym{1F412}</code>	<i>monkey</i>		<code>\usym{1F432}</code>	<i>dragon face</i>
	<code>\usym{1F413}</code>	<i>rooster</i>		<code>\usym{1F433}</code>	<i>spouting whale</i>
	<code>\usym{1F414}</code>	<i>chicken</i>		<code>\usym{1F434}</code>	<i>horse face</i>
	<code>\usym{1F415}</code>	<i>dog</i>		<code>\usym{1F435}</code>	<i>monkey face</i>
	<code>\usym{1F416}</code>	<i>pig</i>		<code>\usym{1F436}</code>	<i>dog face</i>
	<code>\usym{1F417}</code>	<i>boar</i>		<code>\usym{1F437}</code>	<i>pig face</i>
	<code>\usym{1F418}</code>	<i>elephant</i>		<code>\usym{1F438}</code>	<i>frog face</i>
	<code>\usym{1F419}</code>	<i>octopus</i>		<code>\usym{1F439}</code>	<i>hamster face</i>
	<code>\usym{1F41A}</code>	<i>spiral shell</i>		<code>\usym{1F43A}</code>	<i>wolf face</i>
	<code>\usym{1F41B}</code>	<i>bug</i>		<code>\usym{1F43B}</code>	<i>bear face</i>
	<code>\usym{1F41C}</code>	<i>ant</i>		<code>\usym{1F43C}</code>	<i>panda face</i>
	<code>\usym{1F41D}</code>	<i>honeybee</i>		<code>\usym{1F43F}</code>	<i>chipmunk</i>
	<code>\usym{1F41E}</code>	<i>lady beetle</i>		<code>\usym{1F577}</code>	<i>spider</i>
	<code>\usym{1F41F}</code>	<i>fish</i>			

See the utfsym package note on page 461.




















TABLE 804: twemojis Animals

	<code>\twemoji{ant}</code>		<code>\twemoji{microbe}</code>
	<code>\twemoji{baby chick}</code>		<code>\twemoji{monkey}</code>
	<code>\twemoji{badger}</code>		<code>\twemoji{monkey face}</code>
	<code>\twemoji{bat}</code>		<code>\twemoji{mosquito}</code>
	<code>\twemoji{bear}</code>		<code>\twemoji{mouse face}</code>
	<code>\twemoji{beaver}</code>		<code>\twemoji{mouse2}</code>
	<code>\twemoji{beetle}</code>		<code>\twemoji{octopus}</code>
	<code>\twemoji{bird}</code>		<code>\twemoji{orangutan}</code>
	<code>\twemoji{bison}</code>		<code>\twemoji{otter}</code>
	<code>\twemoji{black cat}</code>		<code>\twemoji{owl}</code>
	<code>\twemoji{blowfish}</code>		<code>\twemoji{ox}</code>
	<code>\twemoji{boar}</code>		<code>\twemoji{oyster}</code>
	<code>\twemoji{bug}</code>		<code>\twemoji{panda}</code>
	<code>\twemoji{butterfly}</code>		<code>\twemoji{parrot}</code>
	<code>\twemoji{cat face}</code>		<code>\twemoji{paw prints}</code>
	<code>\twemoji{cat2}</code>		<code>\twemoji{peacock}</code>
	<code>\twemoji{chicken}</code>		<code>\twemoji{penguin}</code>
	<code>\twemoji{chipmunk}</code>		<code>\twemoji{pig face}</code>
	<code>\twemoji{cockroach}</code>		<code>\twemoji{pig nose}</code>
	<code>\twemoji{cow face}</code>		<code>\twemoji{pig2}</code>
	<code>\twemoji{cow2}</code>		<code>\twemoji{polar bear}</code>
	<code>\twemoji{crab}</code>		<code>\twemoji{poodle}</code>
	<code>\twemoji{cricket}</code>		<code>\twemoji{rabbit face}</code>
	<code>\twemoji{crocodile}</code>		<code>\twemoji{rabbit2}</code>
	<code>\twemoji{deer}</code>		<code>\twemoji{raccoon}</code>
	<code>\twemoji{dodo}</code>		<code>\twemoji{racehorse}</code>
	<code>\twemoji{dog face}</code>		<code>\twemoji{ram}</code>
	<code>\twemoji{dog2}</code>		<code>\twemoji{rat}</code>
	<code>\twemoji{dolphin}</code>		<code>\twemoji{rhinoceros}</code>
	<code>\twemoji{dove}</code>		<code>\twemoji{rooster}</code>
	<code>\twemoji{dragon}</code>		<code>\twemoji{sauropod}</code>
	<code>\twemoji{dragon face}</code>		<code>\twemoji{scorpion}</code>
	<code>\twemoji{dromedary camel}</code>		<code>\twemoji{seal}</code>
	<code>\twemoji{duck}</code>		<code>\twemoji{see-no-evil monkey}</code>
	<code>\twemoji{eagle}</code>		<code>\twemoji{service dog}</code>
	<code>\twemoji{elephant}</code>		<code>\twemoji{shark}</code>
	<code>\twemoji{fish}</code>		<code>\twemoji{sheep}</code>
	<code>\twemoji{flamingo}</code>		<code>\twemoji{shrimp}</code>
	<code>\twemoji{fly}</code>		<code>\twemoji{skunk}</code>
	<code>\twemoji{fox}</code>		<code>\twemoji{sloth}</code>
	<code>\twemoji{frog}</code>		<code>\twemoji{snail}</code>
	<code>\twemoji{front-facing baby chick}</code>		<code>\twemoji{snake}</code>
	<code>\twemoji{giraffe}</code>		<code>\twemoji{speak-no-evil monkey}</code>

*(continued on next page)*



(continued from previous page)













































	<code>\twemoji{goat}</code>		<code>\twemoji{spider}</code>
	<code>\twemoji{gorilla}</code>		<code>\twemoji{spiral shell}</code>
	<code>\twemoji{guide dog}</code>		<code>\twemoji{spouting whale}</code>
	<code>\twemoji{hamster}</code>		<code>\twemoji{squid}</code>
	<code>\twemoji{hatching chick}</code>		<code>\twemoji{swan}</code>
	<code>\twemoji{hear-no-evil monkey}</code>		<code>\twemoji{T-Rex}</code>
	<code>\twemoji{hedgehog}</code>		<code>\twemoji{tiger face}</code>
	<code>\twemoji{hippopotamus}</code>		<code>\twemoji{tiger2}</code>
	<code>\twemoji{honeybee}</code>		<code>\twemoji{tropical fish}</code>
	<code>\twemoji{horse face}</code>		<code>\twemoji{turkey}</code>
	<code>\twemoji{kangaroo}</code>		<code>\twemoji{turtle}</code>
	<code>\twemoji{koala}</code>		<code>\twemoji{two-hump camel}</code>
	<code>\twemoji{lady beetle}</code>		<code>\twemoji{unicorn}</code>
	<code>\twemoji{leopard}</code>		<code>\twemoji{water buffalo}</code>
	<code>\twemoji{lion}</code>		<code>\twemoji{whale2}</code>
	<code>\twemoji{lizard}</code>		<code>\twemoji{wolf}</code>
	<code>\twemoji{llama}</code>		<code>\twemoji{worm}</code>
	<code>\twemoji{lobster}</code>		<code>\twemoji{zebra}</code>
	<code>\twemoji{mammoth}</code>		

See the twemojis package note on page 460.

TABLE 806: fontawesome7 Animals















































	<code>\faBug</code>		<code>\faDove</code>		<code>\faHorse</code>		<code>\faShrimp</code>
	<code>\faBugs</code>		<code>\faDragon</code>		<code>\faHorseHead</code>		<code>\faSpider</code>
	<code>\faCat</code>		<code>\faFish</code>		<code>\faKiwiBird</code>		<code>\faWorm</code>
	<code>\faCow</code>		<code>\faFishFins</code>		<code>\faLocust</code>		
	<code>\faCrow</code>		<code>\faFrog</code>		<code>\faMosquito</code>		
	<code>\faDog</code>		<code>\faHippo</code>		<code>\faOtter</code>		

TABLE 807: figchild Animals

	<code>\fcAlligator</code>		<code>\fcGiraffeA</code>
	<code>\fcAlligatorA</code>		<code>\fcGiraffeB</code>
	<code>\fcAnt</code>		<code>\fcGiraffes</code>
	<code>\fcAntA</code>		<code>\fcGnat</code>
	<code>\fcAntelope</code>		<code>\fcGoose</code>
	<code>\fcArmadillo</code>		<code>\fcHamster</code>
	<code>\fcBat</code>		<code>\fcHerring</code>
	<code>\fcBear</code>		<code>\fcHippo</code>
	<code>\fcBearA</code>		<code>\fcHorse</code>
	<code>\fcBearB</code>		<code>\fcHorseA</code>
	<code>\fcBearC</code>		<code>\fcHummingbird</code>
	<code>\fcBearD</code>		<code>\fcKittenA</code>
	<code>\fcBears</code>		<code>\fcKittenB</code>
	<code>\fcBee</code>		<code>\fcKittensA</code>
	<code>\fcBeeA</code>		<code>\fcKittensB</code>
	<code>\fcBird</code>		<code>\fcLadybirdA</code>
	<code>\fcBirdA</code>		<code>\fcLadybirdB</code>
	<code>\fcBirdB</code>		<code>\fcLadyBug</code>
	<code>\fcBirdC</code>		<code>\fcLamb</code>
	<code>\fcBirdD</code>		<code>\fcLion</code>
	<code>\fcBirdE</code>		<code>\fcLionA</code>
	<code>\fcBull</code>		<code>\fcLittleBirds</code>















































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	<code>\fcBullA</code>		<code>\fcLocust</code>
	<code>\fcBunnyA</code>		<code>\fcLouvadeus</code>
	<code>\fcBunnyB</code>		<code>\fcMacaw</code>
	<code>\fcBunnyC</code>		<code>\fcMonkey</code>
	<code>\fcBunnyD</code>		<code>\fcMonkeyA</code>
	<code>\fcBunnyE</code>		<code>\fcMoonfish</code>
	<code>\fcButterfly</code>		<code>\fcMoose</code>
	<code>\fcButterflyA</code>		<code>\fcMouse</code>
	<code>\fcButterflyB</code>		<code>\fcMouseA</code>
	<code>\fcButterflyC</code>		<code>\fcMouseB</code>
	<code>\fcCalf</code>		<code>\fcMouseC</code>
	<code>\fcCat</code>		<code>\fcOctopus</code>
	<code>\fcCaterpillar</code>		<code>\fcOctopusA</code>
	<code>\fcCatfish</code>		<code>\fcOrca</code>
	<code>\fcCentipede</code>		<code>\fcOstrich</code>
	<code>\fcChick</code>		<code>\fcOwl</code>
	<code>\fcChicken</code>		<code>\fcOwlA</code>
	<code>\fcChicks</code>		<code>\fcOwlB</code>
	<code>\fcCobrabebe</code>		<code>\fcOx</code>
	<code>\fcCow</code>		<code>\fcPandaBear</code>
	<code>\fcCrabA</code>		<code>\fcParrot</code>
	<code>\fcCrabB</code>		<code>\fcPeacock</code>
	<code>\fcDino</code>		<code>\fcPenguin</code>
































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	<code>\fcDinosaurA</code>		<code>\fcPerch</code>
	<code>\fcDinosaurB</code>		<code>\fcPeruA</code>
	<code>\fcDinosaurC</code>		<code>\fcPeruB</code>
	<code>\fcDinosaurD</code>		<code>\fcPig</code>
	<code>\fcDinosaurE</code>		<code>\fcPigA</code>
	<code>\fcDinosaurF</code>		<code>\fcPigB</code>
	<code>\fcDinosaurG</code>		<code>\fcPigC</code>
	<code>\fcDinosaurH</code>		<code>\fcPigD</code>
	<code>\fcDinosaurI</code>		<code>\fcPigE</code>
	<code>\fcDinosaurJ</code>		<code>\fcPuppy</code>
	<code>\fcDog</code>		<code>\fcRabbit</code>
	<code>\fcDolphin</code>		<code>\fcRabbitA</code>
	<code>\fcDolphinA</code>		<code>\fcRabbitB</code>
	<code>\fcDragonFly</code>		<code>\fcRabbits</code>
	<code>\fcDuck</code>		<code>\fcRaccoon</code>
	<code>\fcDuckA</code>		<code>\fcScorpion</code>
	<code>\fcDuckB</code>		<code>\fcSeahorse</code>
	<code>\fcDuckC</code>		<code>\fcShark</code>
	<code>\fcElephant</code>		<code>\fcSheep</code>
	<code>\fcElephantA</code>		<code>\fcSheepA</code>
	<code>\fcElephantB</code>		<code>\fcSheepB</code>
	<code>\fcFish</code>		<code>\fcSheepC</code>
	<code>\fcFishA</code>		<code>\fcSnail</code>

*(continued on next page)*

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	<code>\fcFishB</code>		<code>\fcSnailB</code>
	<code>\fcFishC</code>		<code>\fcSnailC</code>
	<code>\fcFishD</code>		<code>\fcSpider</code>
	<code>\fcFishE</code>		<code>\fcSpiderA</code>
	<code>\fcFishF</code>		<code>\fcSpiderB</code>
	<code>\fcFishG</code>		<code>\fcSquirrel</code>
	<code>\fcFishH</code>		<code>\fcSquirrelA</code>
	<code>\fcFishI</code>		<code>\fcSturgeon</code>
	<code>\fcFishK</code>		<code>\fcToucan</code>
	<code>\fcFishL</code>		<code>\fcTurtle</code>
	<code>\fcFishM</code>		<code>\fcTurtleA</code>
	<code>\fcFlamingo</code>		<code>\fcTurtleB</code>
	<code>\fcFlamingoA</code>		<code>\fcUrchin</code>
	<code>\fcFrog</code>		<code>\fcWhale</code>
	<code>\fcFrogA</code>		<code>\fcZebra</code>
	<code>\fcGiraffe</code>		













See the `figchild` package note on page 452.

TABLE 809: TikZlings Animals

	<code>\anteater</code>		<code>\chicken</code>		<code>\meerkat</code>		<code>\rhino</code>
	<code>\ape</code>		<code>\coati</code>		<code>\moles</code>		<code>\sheep</code>
	<code>\bat</code>		<code>\dog</code>		<code>\mouse</code>		<code>\sloth</code>
	<code>\bear</code>		<code>\elephant</code>		<code>\owl</code>		<code>\squirrel</code>
	<code>\bee</code>		<code>\hippo</code>		<code>\panda</code>		<code>\turkey</code>
	<code>\bug</code>		<code>\koala</code>		<code>\penguin</code>		<code>\wolf</code>
	<code>\cat</code>		<code>\marmot</code>		<code>\pig</code>		

See the TikZlings package note on page 459.

TABLE 810: lucide-icons Animals

	<code>\lucideicon{bird}</code>		<code>\lucideicon{panda}</code>		<code>\lucideicon{snail}</code>
	<code>\lucideicon{cat}</code>		<code>\lucideicon{rabbit}</code>		<code>\lucideicon{squirrel}</code>
	<code>\lucideicon{dog}</code>		<code>\lucideicon{rat}</code>		<code>\lucideicon{turtle}</code>
	<code>\lucideicon{fish-symbol}</code>		<code>\lucideicon{shrimp}</code>		<code>\lucideicon{worm}</code>

See the `lucide-icons` package note on page 454.

TABLE 811: hhcount Tally Markers

	\fcscore{1}		\fcscore{3}		\fcscore{5}
	\fcscore{2}		\fcscore{4}		

The `\fcscore` command accepts values larger than 5. For example, “`\fcscore{47}`” produces “`||||| ||| ||| ||| ||| ||| ||| |||`”.

TABLE 812: ifsym Tally Markers

	\StrokeOne		\StrokeThree		\StrokeFive
	\StrokeTwo		\StrokeFour		

TABLE 813: lucide-icons Tally Markers

	<code>\lucideicon{tally-1}</code>		<code>\lucideicon{tally-3}</code>		<code>\lucideicon{tally-5}</code>
	<code>\lucideicon{tally-2}</code>		<code>\lucideicon{tally-4}</code>		

See the `lucide-icons` package note on page 454.

TABLE 814: bullcntr Tally Markers

•	<code>\bullcntr{⟨1⟩}</code>	••	<code>\bullcntr{⟨4⟩}</code>	•••	<code>\bullcntr{⟨7⟩}</code>
••	<code>\bullcntr{⟨2⟩}</code>	•••	<code>\bullcntr{⟨5⟩}</code>	••••	<code>\bullcntr{⟨8⟩}</code>
•••	<code>\bullcntr{⟨3⟩}</code>	••••	<code>\bullcntr{⟨6⟩}</code>	•••••	<code>\bullcntr{⟨9⟩}</code>

See the `bullcntr` package note on page 450 for an explanation of the `⟨#⟩` notation used in this table.

TABLE 815: dozenal Tally Markers

	<code>\tally{1}</code>	⊐	<code>\tally{3}</code>	⊑	<code>\tally{5}</code>
└	<code>\tally{2}</code>	⊔	<code>\tally{4}</code>	⊒	<code>\tally{6}</code>

TABLE 816: figchild Letters and Digits

	<code>\fcLetterK</code>		<code>\fcLetterT</code>		<code>\fcNumberThree</code>
	<code>\fcLetterL</code>		<code>\fcLetterU</code>		<code>\fcNumberFour</code>
	<code>\fcLetterM</code>		<code>\fcLetterV</code>		<code>\fcNumberFive</code>
	<code>\fcLetterN</code>		<code>\fcLetterW</code>		<code>\fcNumberSix</code>
	<code>\fcLetterO</code>		<code>\fcLetterX</code>		<code>\fcNumberSeven</code>
	<code>\fcLetterP</code>		<code>\fcLetterY</code>		<code>\fcNumberEight</code>
	<code>\fcLetterQ</code>		<code>\fcLetterZ</code>		<code>\fcNumberNine</code>
	<code>\fcLetterR</code>		<code>\fcNumberOne</code>		<code>\fcNumberTen</code>
	<code>\fcLetterS</code>		<code>\fcNumberTwo</code>		

See the figchild package note on page 452.

It's a mystery why figchild's alphabet begins with "K".

TABLE 817: newcomputermodern Braille Patterns

:: <code>\char"2801</code>	<i>a (1)</i>	:: <code>\char"281A</code>	<i>j (245)</i>	:: <code>\char"280E</code>	<i>s (234)</i>
:: <code>\char"2803</code>	<i>b (12)</i>	:: <code>\char"2805</code>	<i>k (13)</i>	:: <code>\char"281E</code>	<i>t (2345)</i>
:: <code>\char"2809</code>	<i>c (14)</i>	:: <code>\char"2807</code>	<i>l (123)</i>	:: <code>\char"2825</code>	<i>u (136)</i>
:: <code>\char"2819</code>	<i>d (145)</i>	:: <code>\char"280D</code>	<i>m (134)</i>	:: <code>\char"2827</code>	<i>v (1236)</i>
:: <code>\char"2811</code>	<i>e (15)</i>	:: <code>\char"281D</code>	<i>n (1345)</i>	:: <code>\char"283A</code>	<i>w (2456)</i>
:: <code>\char"280B</code>	<i>f (124)</i>	:: <code>\char"2815</code>	<i>o (135)</i>	:: <code>\char"282D</code>	<i>x (1346)</i>
:: <code>\char"281B</code>	<i>g (1245)</i>	:: <code>\char"280F</code>	<i>p (1234)</i>	:: <code>\char"283D</code>	<i>y (13456)</i>
:: <code>\char"2813</code>	<i>h (125)</i>	:: <code>\char"281F</code>	<i>q (12345)</i>	:: <code>\char"2835</code>	<i>z (1356)</i>
:: <code>\char"280A</code>	<i>i (24)</i>	:: <code>\char"2817</code>	<i>r (1235)</i>		

Although this table presents only 6-dot braille letters, newcomputermodern supports Unicode's complete complement of 6-dot and 8-dot braille patterns. The roman font, shown here, fills empty positions with small dots for easier readability by sighted people. The corresponding sans-serif font (accessed via `\sffamily`) leaves empty positions empty, as the characters would appear when embossed.

Note that newcomputermodern changes the document font to New Computer Modern. See the newcomputermodern package note on page 455 for more information.



TABLE 818: skull Symbols


 `\skull`

TABLE 819: Non-Mathematical mathabx Symbols










 `\rip`

TABLE 820: utfsym Death-Related Symbols

	<code>\usym{2620}</code>	<i>skull and crossbones</i>
	<code>\usym{26B0}</code>	<i>coffin</i>
	<code>\usym{26B1}</code>	<i>funeral urn</i>
	<code>\usym{26FC}</code>	<i>headstone graveyard</i>

See the utfsym package note on page 461.

TABLE 821: twemojis Death-Related Symbols

	<code>\twemoji{coffin}</code>
	<code>\twemoji{funeral urn}</code>
	<code>\twemoji{headstone}</code>
	<code>\twemoji{skull and crossbones}</code>

See the twemojis package note on page 460.

TABLE 822: fontawesome7 Hearts

















	<code>\faHeart</code>		<code>\faHeartCircleMinus</code>
	<code>\faHeart[regular]</code>		<code>\faHeartCirclePlus</code>
	<code>\faHeartCircleBolt</code>		<code>\faHeartCircleXmark</code>
	<code>\faHeartCircleCheck</code>		<code>\faHeartCrack</code>
	<code>\faHeartCircleExclamation</code>		

TABLE 823: lucide-icons Hearts

	<code>\lucideicon{heart}</code>		<code>\lucideicon{heart-off}</code>
	<code>\lucideicon{heart-crack}</code>		<code>\lucideicon{heart-plus}</code>
	<code>\lucideicon{heart-handshake}</code>		<code>\lucideicon{heart-pulse}</code>
	<code>\lucideicon{heart-minus}</code>		

See the lucide-icons package note on page 454.

TABLE 824: tikzsymbols Hearts

♥ `\dHeart` ♡ `\HeartBroken`

See the tikzsymbols package note on page 460.

TABLE 825: twemojis Hearts

♥ <code>\twemoji{beating heart}</code>	🧡 <code>\twemoji{heart with ribbon}</code>
♠ <code>\twemoji{black heart}</code>	💔 <code>\twemoji{mending heart}</code>
💙 <code>\twemoji{blue heart}</code>	🧡 <code>\twemoji{orange heart}</code>
💔 <code>\twemoji{broken heart}</code>	💜 <code>\twemoji{purple heart}</code>
🤎 <code>\twemoji{brown heart}</code>	♥ <code>\twemoji{red heart}</code>
🍀 <code>\twemoji{green heart}</code>	💞 <code>\twemoji{revolving hearts}</code>
💖 <code>\twemoji{growing heart}</code>	💫 <code>\twemoji{sparkling heart}</code>
👉 <code>\twemoji{heart decoration}</code>	💞 <code>\twemoji{two hearts}</code>
💖 <code>\twemoji{heart exclamation}</code>	🤍 <code>\twemoji{white heart}</code>
🔥 <code>\twemoji{heart on fire}</code>	🧡 <code>\twemoji{yellow heart}</code>
🏹 <code>\twemoji{heart with arrow}</code>	

See the twemojis package note on page 460.

TABLE 826: utfsym Love Symbols

♥ <code>\usym{1F394}</code>	<i>heart with tip on the left</i>	♥ <code>\usym{1F496}</code>	<i>sparkling heart</i>
💋 <code>\usym{1F48B}</code>	<i>kiss mark</i>	💖 <code>\usym{1F497}</code>	<i>growing heart</i>
💌 <code>\usym{1F48C}</code>	<i>love letter</i>	🏹 <code>\usym{1F498}</code>	<i>heart with arrow</i>
💍 <code>\usym{1F48D}</code>	<i>ring</i>	💙 <code>\usym{1F499}</code>	<i>blue heart</i>
💎 <code>\usym{1F48E}</code>	<i>gem stone</i>	💚 <code>\usym{1F49A}</code>	<i>green heart</i>
💞 <code>\usym{1F48F}</code>	<i>kiss</i>	💛 <code>\usym{1F49B}</code>	<i>yellow heart</i>
🌹 <code>\usym{1F490}</code>	<i>bouquet</i>	💜 <code>\usym{1F49C}</code>	<i>purple heart</i>
💏 <code>\usym{1F491}</code>	<i>couple with heart</i>	🧡 <code>\usym{1F49D}</code>	<i>heart with ribbon</i>
💒 <code>\usym{1F492}</code>	<i>wedding</i>	💞 <code>\usym{1F49E}</code>	<i>revolving hearts</i>
💓 <code>\usym{1F493}</code>	<i>beating heart</i>	💫 <code>\usym{1F49F}</code>	<i>heart decoration</i>
💔 <code>\usym{1F494}</code>	<i>broken heart</i>	🕊 <code>\usym{1F54A}</code>	<i>dove of peace</i>
💞 <code>\usym{1F495}</code>	<i>two hearts</i>	♠ <code>\usym{1F5A4}</code>	<i>black heart</i>

See the utfsym package note on page 461.

TABLE 827: Miscellaneous ifsym Symbols


















































❖ <code>\FilledSectioningDiamond</code>	✉ <code>\Letter</code>	☢ <code>\Radiation</code>
🔥 <code>\Fire</code>	📄 <code>\PaperLandscape</code>	❖ <code>\SectioningDiamond</code>
✖ <code>\Irritant</code>	📄 <code>\PaperPortrait</code>	☎ <code>\Telephone</code>

TABLE 828: asapsym Signs

Ⓢ	\asapCigaretteSign	Ⓢ	\asapNotEmergencySign
Ⓣ	\asapDogSign	Ⓢ	\asapNotHelpSign
Ⓣ	\asapDollarSign	Ⓢ	\asapNotHospitalSign
Ⓢ	\asapEmergencySign	Ⓢ	\asapNotInformationSign
Ⓣ	\asapHelpSign	Ⓢ	\asapNotMobilePhoneSign
Ⓢ	\asapHospitalSign	Ⓢ	\asapNotParkingSign
Ⓢ	\asapInformationSign	Ⓢ	\asapNotSign
Ⓢ	\asapMobilePhoneSign	Ⓢ	\asapNotWalkSign
Ⓢ	\asapNotCigaretteSign	Ⓢ	\asapParkingSign
Ⓢ	\asapNotDogSign	Ⓢ	\asapWalkSign
Ⓢ	\asapNotDollarSign		


























See the asapsym package note on page 450.

TABLE 829: utfsym Signs

	<code>\usym{2621}</code>	<i>caution sign</i>		<code>\usym{2706}</code>	<i>telephone location sign</i>
	<code>\usym{2622}</code>	<i>radioactive sign</i>		<code>\usym{1F4F3}</code>	<i>vibration mode</i>
	<code>\usym{2623}</code>	<i>biohazard sign</i>		<code>\usym{1F4F4}</code>	<i>mobile phone off</i>
	<code>\usym{2624}</code>	<i>caduceus</i>		<code>\usym{1F4F5}</code>	<i>no mobile phones</i>
	<code>\usym{26A0}</code>	<i>warning sign</i>		<code>\usym{1F51E}</code>	<i>no one under eighteen</i>
	<code>\usym{26A1}</code>	<i>high voltage sign</i>		<code>\usym{1F572}</code>	<i>no piracy</i>
	<code>\usym{26CC}</code>	<i>crossing lanes</i>		<code>\usym{1F6AB}</code>	<i>no entry sign</i>
	<code>\usym{26CD}</code>	<i>disabled car</i>		<code>\usym{1F6AC}</code>	<i>smoking</i>
	<code>\usym{26D0}</code>	<i>car sliding</i>		<code>\usym{1F6AD}</code>	<i>no smoking</i>
	<code>\usym{26D2}</code>	<i>circled crossing lanes</i>		<code>\usym{1F6AE}</code>	<i>put litter in its place</i>
	<code>\usym{26D3}</code>	<i>chains</i>		<code>\usym{1F6AF}</code>	<i>do not litter</i>
	<code>\usym{26D4}</code>	<i>no entry</i>		<code>\usym{1F6B0}</code>	<i>potable water</i>
	<code>\usym{26D5}</code>	<i>alternate one-way left way traffic</i>		<code>\usym{1F6B1}</code>	<i>non-potable water</i>
	<code>\usym{26D6}</code>	<i>black two-way left way traffic</i>		<code>\usym{1F6B3}</code>	<i>no bicycles</i>
	<code>\usym{26D7}</code>	<i>white two-way left way traffic</i>		<code>\usym{1F6BE}</code>	<i>water closet</i>
	<code>\usym{26D8}</code>	<i>black left lane merge</i>		<code>\usym{1F6C2}</code>	<i>passport control</i>
	<code>\usym{26D9}</code>	<i>white left lane merge</i>		<code>\usym{1F6C3}</code>	<i>customs</i>
	<code>\usym{26DA}</code>	<i>drive slow sign</i>		<code>\usym{1F6C4}</code>	<i>baggage claim</i>
	<code>\usym{26DB}</code>	<i>heavy white down-pointing triangle</i>		<code>\usym{1F6C5}</code>	<i>left luggage</i>
	<code>\usym{26DC}</code>	<i>left closed entry</i>		<code>\usym{1F6C6}</code>	<i>triangle with rounded corners</i>
	<code>\usym{26DD}</code>	<i>squared saltire</i>		<code>\usym{1F6C7}</code>	<i>prohibited sign</i>
	<code>\usym{26DE}</code>	<i>falling diagonal in white circle in black square</i>		<code>\usym{1F6C8}</code>	<i>circled information source</i>
	<code>\usym{26E0}</code>	<i>restricted left entry-1</i>		<code>\usym{1F6D0}</code>	<i>place of worship</i>
	<code>\usym{26E1}</code>	<i>restricted left entry-2</i>		<code>\usym{1F6D1}</code>	<i>octagonal sign</i>
	<code>\usym{26FE}</code>	<i>cup on black square</i>			










See the `utfsym` package note on page 461.

TABLE 830: twemojis Signs

	<code>\twemoji{ATM sign}</code>		<code>\twemoji{no pedestrians}</code>
	<code>\twemoji{children crossing}</code>		<code>\twemoji{no smoking}</code>
	<code>\twemoji{circled M}</code>		<code>\twemoji{non-potable water}</code>
	<code>\twemoji{currency exchange}</code>		<code>\twemoji{P button}</code>
	<code>\twemoji{elevator}</code>		<code>\twemoji{potable water}</code>
	<code>\twemoji{information}</code>		<code>\twemoji{prohibited}</code>
	<code>\twemoji{litter in bin sign}</code>		<code>\twemoji{restroom}</code>
	<code>\twemoji{men's room}</code>		<code>\twemoji{stop sign}</code>
	<code>\twemoji{no bicycles}</code>		<code>\twemoji{warning}</code>
	<code>\twemoji{no entry}</code>		<code>\twemoji{water closet}</code>
	<code>\twemoji{no littering}</code>		<code>\twemoji{wheelchair symbol}</code>
	<code>\twemoji{no mobile phones}</code>		<code>\twemoji{women's room}</code>
	<code>\twemoji{no one under eighteen}</code>		

See the twemojis package note on page 460.

TABLE 831: lucide-icons Signs

	<code>\lucideicon{accessibility}</code>		<code>\lucideicon{closed-caption}</code>
	<code>\lucideicon{ban}</code>		<code>\lucideicon{info}</code>
	<code>\lucideicon{biohazard}</code>		<code>\lucideicon{radiation}</code>
	<code>\lucideicon{circle-parking}</code>		<code>\lucideicon{triangle-alert}</code>
	<code>\lucideicon{circle-parking-off}</code>		

See the lucide-icons package note on page 454.

TABLE 832: metre Metrical Symbols

$\times$	<code>\a</code>	$\approx$	<code>\bBm</code>	$\parallel$	<code>\cc</code>	$\text{♩}$	<code>\Mbb</code>	$\vdots$	<code>\Pppp</code>	$\otimes$	<code>\t</code>
$\smile$	<code>\B</code>	$\approx$	<code>\bbm</code>	$\equiv$	<code>\Ccc</code>	$\text{♩}$	<code>\mbbx</code>	$\vdots$	<code>\pppp</code>	$\lrcorner$	<code>\tsbm</code>
$\smile$	<code>\b</code>	$\approx$	<code>\Bbm</code>	$\_$	<code>\m</code>	$\circ\circ$	<code>\oo</code>	$\vdots$	<code>\Ppppp</code>	$\lrcorner$	<code>\tsmb</code>
$\smile$	<code>\Bb</code>	$\text{♩}$	<code>\bbmb</code>	$\angle$	<code>\M</code>	$\cdot$	<code>\p</code>	$\vdots$	<code>\ppppp</code>	$\lrcorner$	<code>\tsmm</code>
$\smile$	<code>\BB</code>	$\text{♩}$	<code>\bbmx</code>	$\times$	<code>\ma</code>	$\_$	<code>\pm</code>	$\lrcorner$	<code>\ps</code>	$\vdots$	<code>\vppm</code>
$\smile$	<code>\bb</code>	$\approx$	<code>\bm</code>	$\smile$	<code>\Mb</code>	$:$	<code>\pp</code>	$:$	<code>\pxp</code>	$\vdots$	<code>\vpppm</code>
$\smile$	<code>\bB</code>	$\approx$	<code>\Bm</code>	$\smile$	<code>\mb</code>	$:$	<code>\Pp</code>	$:$	<code>\Pxp</code>	$\ddots$	<code>\x</code>
$\times$	<code>\bba</code>	$ $	<code>\c</code>	$\text{♩}$	<code>\mBb</code>	$\_$	<code>\ppm</code>	$\sim$	<code>\R</code>		
$\smile$	<code>\bbb</code>	$ $	<code>\C</code>	$\text{♩}$	<code>\mbB</code>	$\vdots$	<code>\ppp</code>	$\sim$	<code>\r</code>		
$\approx$	<code>\BBm</code>	$\parallel$	<code>\Cc</code>	$\text{♩}$	<code>\mbb</code>	$\vdots$	<code>\Ppp</code>	$\otimes$	<code>\T</code>		

The preceding symbols are valid only within the argument to the `\metre` command.

TABLE 833: fontawesome7 Money Icons




















































	<code>\faMoneyBill</code>		<code>\faIcon{money-bill-1-wave}</code>
	<code>\faMoneyBills</code>		<code>\faMoneyBillWave</code>
	<code>\faMoneyBillTransfer</code>		<code>\faMoneyBillWheat</code>
	<code>\faMoneyBillTrendUp</code>		<code>\faMoneyCheck</code>
	<code>\faIcon{money-bill-1}</code>		<code>\faMoneyCheckDollar</code>

TABLE 834: lucide-icons Money Icons

	<code>\lucideicon{badge-cent}</code>		<code>\lucideicon{credit-card}</code>
	<code>\lucideicon{badge-dollar-sign}</code>		<code>\lucideicon{piggy-bank}</code>
	<code>\lucideicon{badge-euro}</code>		<code>\lucideicon{receipt}</code>
	<code>\lucideicon{badge-indian-rupee}</code>		<code>\lucideicon{receipt-cent}</code>
	<code>\lucideicon{badge-japanese-yen}</code>		<code>\lucideicon{receipt-euro}</code>
	<code>\lucideicon{badge-pound-sterling}</code>		<code>\lucideicon{receipt-indian-rupee}</code>
	<code>\lucideicon{badge-russian-ruble}</code>		<code>\lucideicon{receipt-japanese-yen}</code>
	<code>\lucideicon{badge-swiss-franc}</code>		<code>\lucideicon{receipt-pound-sterling}</code>
	<code>\lucideicon{badge-turkish-lira}</code>		<code>\lucideicon{receipt-russian-ruble}</code>
	<code>\lucideicon{banknote}</code>		<code>\lucideicon{receipt-swiss-franc}</code>
	<code>\lucideicon{banknote-arrow-down}</code>		<code>\lucideicon{receipt-text}</code>
	<code>\lucideicon{banknote-arrow-up}</code>		<code>\lucideicon{receipt-turkish-lira}</code>
	<code>\lucideicon{banknote-x}</code>		<code>\lucideicon{wallet}</code>
	<code>\lucideicon{circle-dollar-sign}</code>		<code>\lucideicon{wallet-cards}</code>
	<code>\lucideicon{circle-pound-sterling}</code>		<code>\lucideicon{wallet-minimal}</code>


See the lucide-icons package note on page 454.

TABLE 835: utfsym Money Icons

	<code>\usym{1F3E6}</code>	<i>bank</i>		<code>\usym{1F4B4}</code>	<i>banknote with yen sign</i>
	<code>\usym{1F3E7}</code>	<i>automated teller machine</i>		<code>\usym{1F4B5}</code>	<i>banknote with dollar sign</i>
	<code>\usym{1F4B0}</code>	<i>money bag</i>		<code>\usym{1F4B6}</code>	<i>banknote with euro sign</i>
	<code>\usym{1F4B1}</code>	<i>currency exchange</i>		<code>\usym{1F4B7}</code>	<i>banknote with pound sign</i>
	<code>\usym{1F4B2}</code>	<i>heavy dollar sign</i>		<code>\usym{1F4B8}</code>	<i>money with wings</i>
	<code>\usym{1F4B3}</code>	<i>credit card</i>			

See the utfsym package note on page 461.

TABLE 836: twemojis Money Icons

	<code>\twemoji{credit card}</code>		<code>\twemoji{money with wings}</code>
	<code>\twemoji{dollar banknote}</code>		<code>\twemoji{pound banknote}</code>
	<code>\twemoji{euro banknote}</code>		<code>\twemoji{yen banknote}</code>
	<code>\twemoji{money bag}</code>		

See the twemojis package note on page 460.

TABLE 837: metre Small and Large Metrical Symbols

÷	<code>\anacclasis</code>	÷	<code>\Anacclasis</code>
<	<code>\antidiple</code>	<	<code>\Antidiple</code>
⋈	<code>\antidiple*</code>	⋈	<code>\Antidiple*</code>
⊃	<code>\antisigma</code>	⊃	<code>\Antisigma</code>
✱	<code>\asteriscus</code>	✱	<code>\Asteriscus</code>
^	<code>\catalexis</code>	^	<code>\Catalexis</code>
>	<code>\diple</code>	>	<code>\Diple</code>
⋈	<code>\diple*</code>	⋈	<code>\Diple*</code>
—	<code>\obelus</code>	—	<code>\Obelus</code>
÷	<code>\obelus*</code>	÷	<code>\Obelus*</code>
~	<code>\respondens</code>	~	<code>\Respondens</code>
⊗	<code>\terminus</code>	⊗	<code>\Terminus</code>
⊕	<code>\terminus*</code>	⊕	<code>\Terminus*</code>

TABLE 838: teubner Metrical Symbols

∞	<code>\aeolicbii</code>	∩	<code>\barbrevis</code>	+	<code>\ipercatal</code>
∞∞	<code>\aeolicbiii</code>	∪	<code>\bbrevis</code>	—	<code>\longa</code>
∞∞∞	<code>\aeolicbiv</code>	∩	<code>\brevis</code>	∩	<code>\ubarbbrevis</code>
×	<code>\anceps</code>	^	<code>\catal</code>	∩	<code>\ubarbrevis</code>
⌘	<code>\ancepsdbrevis</code>	∩	<code>\corona</code>	∩	<code>\ubarsbrevis</code>
⌘	<code>\banceps</code>	∩	<code>\coronainv</code>	∩	<code>\ubrevislonga</code>
∩	<code>\barbbrevis</code>	H	<code>\hiatus</code>		

See the teubner package note on page 459.

TABLE 839: hamnosys Hand Shapes

☞	<code>\hamceeall</code>	☞	<code>\hamfingertwothree</code>	□	<code>\hamflathand</code>
☞	<code>\hamceeonetwo</code>	☞	<code>\hamfingertwothreefourfive</code>	☞	<code>\hampinchall</code>
☞	<code>\hamceeopen</code>	☞	<code>\hamfingertwothreespread</code>	☞	<code>\hampinchonetwo</code>
☞	<code>\hamfingertwo</code>	○	<code>\hamfist</code>	☞	<code>\hampinchonetwoopen</code>

See the hamnosys package note on page 453.

TABLE 840: hamnosys Hand-Shape Modifiers

	<code>\hamdoublebent</code>		<code>\hamfingerhookmod</code>		<code>\hamthumbopenmod</code>
	<code>\hamdoublehooked</code>		<code>\hamfingerstraightmod</code>		<code>\hamthumboutmod</code>
	<code>\hamfingerbendmod</code>		<code>\hamthumbacrossmod</code>		

See the hamnosys package note on page 453.

TABLE 841: hamnosys Extended Finger Directions

	<code>\hamextfingerd</code>		<code>\hamextfingeril</code>		<code>\hamextfingerr</code>
	<code>\hamextfingerdi</code>		<code>\hamextfingerir</code>		<code>\hamextfingeru</code>
	<code>\hamextfingerdl</code>		<code>\hamextfingerl</code>		<code>\hamextfingerui</code>
	<code>\hamextfingerdo</code>		<code>\hamextfingero</code>		<code>\hamextfingerul</code>
	<code>\hamextfingerdr</code>		<code>\hamextfingerol</code>		<code>\hamextfingeruo</code>
	<code>\hamextfingeri</code>		<code>\hamextfingeror</code>		<code>\hamextfingerur</code>

See the hamnosys package note on page 453.

TABLE 842: hamnosys Palm Orientations

	<code>\hampalmd</code>		<code>\hampalmdr</code>		<code>\hampalmr</code>		<code>\hampalmul</code>
	<code>\hampalmdl</code>		<code>\hampalml</code>		<code>\hampalmu</code>		<code>\hampalmur</code>

See the hamnosys package note on page 453.

TABLE 843: hamnosys Body Locations

	<code>\hambelowstomach</code>		<code>\hamfingertip</code>		<code>\hampinkyside</code>
	<code>\hamcheek</code>		<code>\hamforehead</code>		<code>\hamringfinger</code>
	<code>\hamchest</code>		<code>\hamhandback</code>		<code>\hamshoulders</code>
	<code>\hamchin</code>		<code>\hamhead</code>		<code>\hamshouldertop</code>
	<code>\hamear</code>		<code>\hamheadtop</code>		<code>\hamstomach</code>
	<code>\hamearlobe</code>		<code>\hamindexfinger</code>		<code>\hamteeth</code>
	<code>\hamelbow</code>		<code>\hamlips</code>		<code>\hamthumb</code>
	<code>\hamelbowinside</code>		<code>\hamlowerarm</code>		<code>\hamthumbball</code>
	<code>\hameyebrows</code>		<code>\hammiddlefinger</code>		<code>\hamthumbside</code>
	<code>\hameyes</code>		<code>\hamneck</code>		<code>\hamtongue</code>
	<code>\hamfingerbase</code>		<code>\hamneutralspace</code>		<code>\hamunderchin</code>
	<code>\hamfingermidjoint</code>		<code>\hamnose</code>		<code>\hamupperarm</code>
	<code>\hamfingernail</code>		<code>\hamnostrils</code>		<code>\hamwristback</code>
	<code>\hamfingerpad</code>		<code>\hampalm</code>		<code>\hamwristpulse</code>
	<code>\hamfingerside</code>		<code>\hampinky</code>		

See the hamnosys package note on page 453.


























TABLE 844: utfsym Body Parts

	<code>\usym{1F440}</code>	<i>eyes</i>		<code>\usym{1F444}</code>	<i>mouth</i>
	<code>\usym{1F441}</code>	<i>eye</i>		<code>\usym{1F445}</code>	<i>tongue</i>
	<code>\usym{1F442}</code>	<i>ear</i>		<code>\usym{1F4AA}</code>	<i>flexed biceps</i>
	<code>\usym{1F443}</code>	<i>nose</i>		<code>\usym{1F5E2}</code>	<i>lips</i>

See the utfsym package note on page 461.











TABLE 845: twemojis Body Parts

	<code>\twemoji{anatomical heart}</code>		<code>\twemoji{leg}*</code>
	<code>\twemoji{bald}</code>		<code>\twemoji{lungs}</code>
	<code>\twemoji{biting lip}</code>		<code>\twemoji{mechanical arm}</code>
	<code>\twemoji{bone}</code>		<code>\twemoji{mechanical leg}</code>
	<code>\twemoji{brain}</code>		<code>\twemoji{mouth}</code>
	<code>\twemoji{curly hair}</code>		<code>\twemoji{nose}*</code>
	<code>\twemoji{ear}*</code>		<code>\twemoji{red hair}</code>
	<code>\twemoji{ear with hearing aid}*</code>		<code>\twemoji{skull}</code>
	<code>\twemoji{eye}</code>		<code>\twemoji{tongue}</code>
	<code>\twemoji{eyes}</code>		<code>\twemoji{tooth}</code>
	<code>\twemoji{flexed biceps}*</code>		<code>\twemoji{white hair}</code>
	<code>\twemoji{foot}*</code>		

See the twemojis package note on page 460.





\* Variants of this symbol portraying different colors and styles are not shown. See the example in the twemojis note on page 460.

TABLE 846: lucide-icons Body Parts

	<code>\lucideicon{biceps-flexed}</code>		<code>\lucideicon{ear-off}</code>
	<code>\lucideicon{brain}</code>		<code>\lucideicon{eye}</code>
	<code>\lucideicon{brain-circuit}</code>		<code>\lucideicon{eye-closed}</code>
	<code>\lucideicon{brain-cog}</code>		<code>\lucideicon{eye-off}</code>
	<code>\lucideicon{ear}</code>		<code>\lucideicon{skull}</code>
















































See the lucide-icons package note on page 454.

TABLE 847: hamnosys Location Modifiers

	<code>\hamcorefref</code>		<code>\hamcoreftag</code>		<code>\hamlrat</code>		<code>\hamlrbeside</code>
-------------------------------------------------------------------------------------	---------------------------	-------------------------------------------------------------------------------------	---------------------------	-------------------------------------------------------------------------------------	-----------------------	---------------------------------------------------------------------------------------	---------------------------

See the hamnosys package note on page 453.

TABLE 848: hamnosys Movements

	<code>\hamarc</code>		<code>\hamclockdl</code>		<code>\hammoveil</code>
	<code>\hamarcl</code>		<code>\hamclockdr</code>		<code>\hammoveir</code>
	<code>\hamarc</code>		<code>\hamclockfull</code>		<code>\hammove</code>
	<code>\hamarcu</code>		<code>\hamclockl</code>		<code>\hammoveo</code>
	<code>\hamarmextended</code>		<code>\hamclockr</code>		<code>\hammoveol</code>
	<code>\hambehind</code>		<code>\hamclocku</code>		<code>\hammoveor</code>
	<code>\hambrushing</code>		<code>\hamclockul</code>		<code>\hammover</code>
	<code>\hamcircled</code>		<code>\hamclockur</code>		<code>\hammoveu</code>
	<code>\hamcircledi</code>		<code>\hamclose</code>		<code>\hammoveui</code>
	<code>\hamcircledl</code>		<code>\hamcross</code>		<code>\hammoveul</code>
	<code>\hamcircledo</code>		<code>\hamdecreasing</code>		<code>\hammoveuo</code>
	<code>\hamcircledr</code>		<code>\hamellipseh</code>		<code>\hammoveur</code>
	<code>\hamcirclei</code>		<code>\hamellipseul</code>		<code>\hamnodding</code>
	<code>\hamcircleil</code>		<code>\hamellipseur</code>		<code>\hamnomotion</code>
	<code>\hamcircleir</code>		<code>\hamellipsev</code>		<code>\hamreplace</code>
	<code>\hamcirclel</code>		<code>\hamfast</code>		<code>\hamrest</code>
	<code>\hamcircleo</code>		<code>\hamfingerplay</code>		<code>\hamslow</code>
	<code>\hamcircleol</code>		<code>\hamhalt</code>		<code>\hamstirccw</code>
	<code>\hamcircleor</code>		<code>\hamincreasing</code>		<code>\hamstircw</code>
	<code>\hamcircler</code>		<code>\haminterlock</code>		<code>\hamswinging</code>
	<code>\hamcircleu</code>		<code>\hammoved</code>		<code>\hamtense</code>
	<code>\hamcircleui</code>		<code>\hammovedi</code>		<code>\hamtouch</code>
	<code>\hamcircleul</code>		<code>\hammovedl</code>		<code>\hamtwisting</code>
	<code>\hamcircleuo</code>		<code>\hammovedo</code>		<code>\hamwavy</code>
	<code>\hamcircleur</code>		<code>\hammovedr</code>		<code>\hamzigzag</code>
	<code>\hamclockd</code>		<code>\hammovei</code>		







See the hamnosys package note on page 453.

TABLE 850: hamnosys Movement Modifiers

`\hamlargemod`    `\hamsmallmod`

See the hamnosys package note on page 453.

TABLE 851: hamnosys Obsolete Spacing Symbols

	<code>\hammovecross</code>		<code>\hamwristtoback</code>		<code>\hamwristtopulse</code>
	<code>\hammoveX</code>		<code>\hamwristtopinky</code>		<code>\hamwristtothumb</code>

See the hamnosys package note on page 453.

TABLE 852: Miscellaneous hamnosys Symbols

$\sim$	<code>\hamalternatingmotion</code>	$\nearrow$	<code>\hamplus</code>
$\backslash$	<code>\hambetween</code>	$\rightarrowtail$	<code>\hamrepeatcontinue</code>
$\dots$	<code>\hametc</code>	$\rightarrowtail\rightarrowtail$	<code>\hamrepeatcontinueseveral</code>
$\langle$	<code>\hamfusionbegin</code>	$+$	<code>\hamrepeatfromstart</code>
$\rangle$	<code>\hamfusionend</code>	$++$	<code>\hamrepeatfromstartseveral</code>
$\sqcup$	<code>\hammime</code>	$\leftarrowtail$	<code>\hamrepeatreverse</code>
$\boxtimes$	<code>\hamnondominant</code>	$($	<code>\hamseqbegin</code>
$\P$	<code>\hamnonipsi</code>	$)$	<code>\hamseqend</code>
$\sim$	<code>\hamorirelative</code>	$\sim$	<code>\hamsymmlr</code>
$[$	<code>\hamparbegin</code>	$:$	<code>\hamsymmpar</code>
$]$	<code>\hamparend</code>		

See the hamnosys package note on page 453.

TABLE 853: dictsym Dictionary Symbols

$\nabla$	<code>\dsaeronautical</code>	$\P$	<code>\dscommercial</code>	$\P$	<code>\dsmedical</code>
$\pitchfork$	<code>\dsagricultural</code>	$\boxtimes$	<code>\dsheraldical</code>	$\times$	<code>\dsmilitary</code>
$\triangle$	<code>\dsarchitectural</code>	$\P$	<code>\dsjuridical</code>	$\P$	<code>\dsrailways</code>
$\P$	<code>\dsbiological</code>	$\P$	<code>\dsliterary</code>	$\P$	<code>\dstechnical</code>
$\P$	<code>\dschemical</code>	$\P$	<code>\dsmathematical</code>		

TABLE 854: pmboxdraw Box-Drawing Symbols

$\blacksquare$	<code>\textblock</code>	$\text{F}$	<code>\textSFli</code>	$\text{ff}$	<code>\textSFxli</code>	$\text{f  }$	<code>\textSFxxiii</code>
$\text{darkgray}$	<code>\textdkshade</code>	$\text{ff}$	<code>\textSFlii</code>	$\text{ff}$	<code>\textSFxlii</code>	$\text{ff}$	<code>\textSFxxiv</code>
$\text{black}$	<code>\textdnblock</code>	$\text{ff}$	<code>\textSFliii</code>	$=$	<code>\textSFxliii</code>	$\text{ff}$	<code>\textSFxxv</code>
$\text{black}$	<code>\textlfblock</code>	$\text{ff}$	<code>\textSFliv</code>	$\text{ff}$	<code>\textSFxliv</code>	$\text{ff}$	<code>\textSFxxvi</code>
$\text{lightgray}$	<code>\textlttshade</code>	$\text{f}$	<code>\textSFv</code>	$\text{ff}$	<code>\textSFxlix</code>	$\text{ff}$	<code>\textSFxxvii</code>
$\text{black}$	<code>\texttrtblock</code>	$\text{T}$	<code>\textSFvi</code>	$\text{ff}$	<code>\textSFxlv</code>	$\text{ff}$	<code>\textSFxxviii</code>
$\text{f}$	<code>\textSFi</code>	$\text{ff}$	<code>\textSFvii</code>	$\text{ff}$	<code>\textSFxlvi</code>	$\text{ff}$	<code>\textSFxxxix</code>
$\text{f}$	<code>\textSFii</code>	$\text{f}$	<code>\textSFviii</code>	$\text{ff}$	<code>\textSFxlvii</code>	$\text{ff}$	<code>\textSFxxxvi</code>
$\text{f}$	<code>\textSFiii</code>	$-$	<code>\textSFx</code>	$\text{ff}$	<code>\textSFxlviiii</code>	$\text{ff}$	<code>\textSFxxxvii</code>
$\text{f}$	<code>\textSFiv</code>	$ $	<code>\textSFxi</code>	$\text{ff}$	<code>\textSFxx</code>	$\text{ff}$	<code>\textSFxxxviii</code>
$\text{f}$	<code>\textSFix</code>	$\text{f}$	<code>\textSFxix</code>	$\text{ff}$	<code>\textSFxxi</code>	$\text{ff}$	<code>\textshade</code>
$\text{f}$	<code>\textSF1</code>	$\text{ff}$	<code>\textSFxl</code>	$\text{f}$	<code>\textSFxxii</code>	$\text{ff}$	<code>\textupblock</code>

See the pmboxdraw package note on page 456.

TABLE 855: staves Magical Staves

	<code>\staveI</code>		<code>\staveXXIV</code>		<code>\staveXLVII</code>
	<code>\staveII</code>		<code>\staveXXV</code>		<code>\staveXLVIII</code>
	<code>\staveIII</code>		<code>\staveXXVI</code>		<code>\staveXLIX</code>
	<code>\staveIV</code>		<code>\staveXXVII</code>		<code>\staveL</code>
	<code>\staveV</code>		<code>\staveXXVIII</code>		<code>\staveLI</code>
	<code>\staveVI</code>		<code>\staveXXIX</code>		<code>\staveLII</code>
	<code>\staveVII</code>		<code>\staveXXX</code>		<code>\staveLIII</code>
	<code>\staveVIII</code>		<code>\staveXXXI</code>		<code>\staveLIV</code>
	<code>\staveIX</code>		<code>\staveXXXII</code>		<code>\staveLV</code>
	<code>\staveX</code>		<code>\staveXXXIII</code>		<code>\staveLVI</code>
	<code>\staveXI</code>		<code>\staveXXXIV</code>		<code>\staveLVII</code>
	<code>\staveXII</code>		<code>\staveXXXV</code>		<code>\staveLVIII</code>
	<code>\staveXIII</code>		<code>\staveXXXVI</code>		<code>\staveLIX</code>
	<code>\staveXIV</code>		<code>\staveXXXVII</code>		<code>\staveLX</code>
	<code>\staveXV</code>		<code>\staveXXXVIII</code>		<code>\staveLXI</code>
	<code>\staveXVI</code>		<code>\staveXXXIX</code>		<code>\staveLXII</code>
	<code>\staveXVII</code>		<code>\staveXL</code>		<code>\staveLXIII</code>
	<code>\staveXVIII</code>		<code>\staveXLI</code>		<code>\staveLXIV</code>
	<code>\staveXIX</code>		<code>\staveXLII</code>		<code>\staveLXV</code>
	<code>\staveXX</code>		<code>\staveXLIII</code>		<code>\staveLXVI</code>
	<code>\staveXXI</code>		<code>\staveXLIV</code>		<code>\staveLXVII</code>
	<code>\staveXXII</code>		<code>\staveXLV</code>		<code>\staveLXVIII</code>
	<code>\staveXXIII</code>		<code>\staveXLVI</code>		

See the `staves` package note on page 458.

TABLE 857: pigpen Cipher Symbols

┐	{\pigpenfont A}	┌	{\pigpenfont J}	∨	{\pigpenfont S}
└	{\pigpenfont B}	┘	{\pigpenfont K}	>	{\pigpenfont T}
┐	{\pigpenfont C}	└	{\pigpenfont L}	<	{\pigpenfont U}
┘	{\pigpenfont D}	┐	{\pigpenfont M}	^	{\pigpenfont V}
└	{\pigpenfont E}	┘	{\pigpenfont N}	∨	{\pigpenfont W}
┐	{\pigpenfont F}	└	{\pigpenfont O}	>	{\pigpenfont X}
┘	{\pigpenfont G}	┐	{\pigpenfont P}	<	{\pigpenfont Y}
└	{\pigpenfont H}	┘	{\pigpenfont Q}	^	{\pigpenfont Z}
┐	{\pigpenfont I}	└	{\pigpenfont R}		

TABLE 858: GnA2e Phases of the Moon



























☺	\MoonPha{1}	☾	\MoonPha{2}	☺	\MoonPha{3}	☾	\MoonPha{4}
---	-------------	---	-------------	---	-------------	---	-------------

TABLE 859: twemojis Phases of the Moon

🌙	\twemoji{crescent moon}	🌑	\twemoji{new moon}
🌖	\twemoji{first quarter moon}	🌑	\twemoji{new moon face}
🌗	\twemoji{first quarter moon face}	🌘	\twemoji{waning crescent moon}
🌕	\twemoji{full moon}	🌗	\twemoji{waning gibbous moon}
🌕	\twemoji{full moon face}	🌖	\twemoji{waxing crescent moon}
🌔	\twemoji{last quarter moon}	🌗	\twemoji{waxing gibbous moon}
🌔	\twemoji{last quarter moon face}		

See the twemojis package note on page 460.

TABLE 860: figchild Space Symbols

	<code>\fcET</code>		<code>\fcPlanetE</code>		<code>\fcSaturnB</code>
	<code>\fcFlyingSaucer</code>		<code>\fcPlanetF</code>		<code>\fcShootingStar</code>
	<code>\fcMoon</code>		<code>\fcPlanetG</code>		<code>\fcSpacecraftA</code>
	<code>\fcMoonA</code>		<code>\fcPlanets</code>		<code>\fcSpacecraftB</code>
	<code>\fcMoonB</code>		<code>\fcRocket</code>		<code>\fcStar</code>
	<code>\fcPlanetA</code>		<code>\fcRocketA</code>		<code>\fcStarA</code>
	<code>\fcPlanetB</code>		<code>\fcRocketB</code>		<code>\fcStarB</code>
	<code>\fcPlanetC</code>		<code>\fcRocketC</code>		<code>\fcStars</code>
	<code>\fcPlanetD</code>		<code>\fcSaturnA</code>		

See the figchild package note on page 452.

TABLE 861: GfA2e Recycling Symbols


 `\Greenpoint`

TABLE 862: marvosym Recycling Symbols
















 `\PackingWaste`  `\Recycling`

TABLE 863: utfsym Recycling Symbols

	<code>\usym{2672}</code>	<i>universal recycling</i>		<code>\usym{2679}</code>	<i>recycling symbol for type-7 plastics</i>
	<code>\usym{2673}</code>	<i>recycling symbol for type-1 plastics</i>		<code>\usym{267A}</code>	<i>recycling symbol for generic materials</i>
	<code>\usym{2674}</code>	<i>recycling symbol for type-2 plastics</i>		<code>\usym{267B}</code>	<i>black universal recycling</i>
	<code>\usym{2675}</code>	<i>recycling symbol for type-3 plastics</i>		<code>\usym{267C}</code>	<i>recycled paper</i>
	<code>\usym{2676}</code>	<i>recycling symbol for type-4 plastics</i>		<code>\usym{267D}</code>	<i>partially-recycled paper</i>
	<code>\usym{2677}</code>	<i>recycling symbol for type-5 plastics</i>		<code>\usym{267E}</code>	<i>permanent paper</i>
	<code>\usym{2678}</code>	<i>recycling symbol for type-6 plastics</i>			

See the `utfsym` package note on page 461.

TABLE 864: fontawesome7 Recycling Symbols



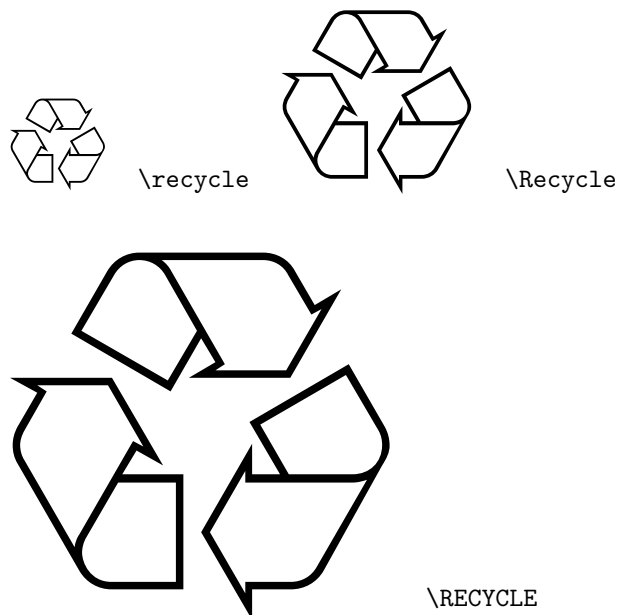
 `\faRecycle`

TABLE 865: lucide-icons Recycling Symbols

 `\lucideicon{recycle}`






See the `lucide-icons` package note on page 454.

TABLE 866: recycle Recycling Symbols



See the `recycle` package note on page 457.















TABLE 867: tikzsymbols Trees

	<code>\Autumntree</code>		<code>\Summertree</code>		<code>\WorstTree</code>
	<code>\Springtree</code>		<code>\Wintertree</code>		

See the `tikzsymbols` package note on page 460.

`tikzsymbols` additionally defines a `\BasicTree` command that supports customization of trunk and leaf colors.

























TABLE 868: lucide-icons Plants and Flowers

	<code>\lucideicon{cannabis}</code>		<code>\lucideicon{rose}</code>
	<code>\lucideicon{cannabis-off}</code>		<code>\lucideicon{shrub}</code>
	<code>\lucideicon{clover}</code>		<code>\lucideicon{sprout}</code>
	<code>\lucideicon{flower}</code>		<code>\lucideicon{tree-deciduous}</code>
	<code>\lucideicon{flower-2}</code>		<code>\lucideicon{tree-palm}</code>
	<code>\lucideicon{leaf}</code>		<code>\lucideicon{tree-pine}</code>
	<code>\lucideicon{leafy-green}</code>		<code>\lucideicon{trees}</code>

See the `lucide-icons` package note on page 454.






























TABLE 869: utfsym Plants and Flowers

	<code>\usym{2618}</code>	<i>shamrock</i>		<code>\usym{1F33C}</code>	<i>blossom</i>
	<code>\usym{2698}</code>	<i>flower</i>		<code>\usym{1F33D}</code>	<i>ear of maize</i>
	<code>\usym{1F331}</code>	<i>seedling</i>		<code>\usym{1F33E}</code>	<i>ear of rice</i>
	<code>\usym{1F332}</code>	<i>evergreen tree</i>		<code>\usym{1F33F}</code>	<i>herb</i>
	<code>\usym{1F333}</code>	<i>deciduous tree</i>		<code>\usym{1F340}</code>	<i>four leaf clover</i>
	<code>\usym{1F334}</code>	<i>palm tree</i>		<code>\usym{1F341}</code>	<i>maple leaf</i>
	<code>\usym{1F335}</code>	<i>cactus</i>		<code>\usym{1F342}</code>	<i>fallen leaf</i>
	<code>\usym{1F337}</code>	<i>tulip</i>		<code>\usym{1F343}</code>	<i>leaf fluttering in wind</i>
	<code>\usym{1F338}</code>	<i>cherry blossom</i>		<code>\usym{1F395}</code>	<i>bouquet of flowers</i>
	<code>\usym{1F339}</code>	<i>rose</i>		<code>\usym{1F3F5}</code>	<i>rosette</i>
	<code>\usym{1F33A}</code>	<i>hibiscus</i>		<code>\usym{1F3F6}</code>	<i>black rosette</i>
	<code>\usym{1F33B}</code>	<i>sunflower</i>		<code>\usym{1F4AE}</code>	<i>white flower</i>






















See the utfsym package note on page 461.

TABLE 870: twemojis Plants and Flowers

	<code>\twemoji{blossom}</code>		<code>\twemoji{maple leaf}</code>
	<code>\twemoji{bouquet}</code>		<code>\twemoji{palm tree}</code>
	<code>\twemoji{cactus}</code>		<code>\twemoji{potted plant}</code>
	<code>\twemoji{cherry blossom}</code>		<code>\twemoji{rose}</code>
	<code>\twemoji{Christmas tree}</code>		<code>\twemoji{seedling}</code>
	<code>\twemoji{deciduous tree}</code>		<code>\twemoji{shamrock}</code>
	<code>\twemoji{ear of corn}</code>		<code>\twemoji{sheaf of rice}</code>
	<code>\twemoji{evergreen tree}</code>		<code>\twemoji{sunflower}</code>
	<code>\twemoji{fallen leaf}</code>		<code>\twemoji{tanabata tree}</code>
	<code>\twemoji{four leaf clover}</code>		<code>\twemoji{tulip}</code>
	<code>\twemoji{herb}</code>		<code>\twemoji{white flower}</code>
	<code>\twemoji{hibiscus}</code>		<code>\twemoji{wilted flower}</code>
	<code>\twemoji{leaf fluttering in wind}</code>		<code>\twemoji{wood}</code>
	<code>\twemoji{lotus}</code>		












































See the twemojis package note on page 460.

TABLE 871: utfsym Clothing

	<code>\usym{1F3A9}</code>	<i>top hat</i>		<code>\usym{1F45A}</code>	<i>woman's clothes</i>
	<code>\usym{1F3BD}</code>	<i>running shirt with sash</i>		<code>\usym{1F45B}</code>	<i>purse</i>
	<code>\usym{1F451}</code>	<i>crown</i>		<code>\usym{1F45C}</code>	<i>handbag</i>
	<code>\usym{1F452}</code>	<i>woman's hat</i>		<code>\usym{1F45D}</code>	<i>pouch</i>
	<code>\usym{1F453}</code>	<i>eyeglasses</i>		<code>\usym{1F45E}</code>	<i>man's shoe</i>
	<code>\usym{1F454}</code>	<i>necktie</i>		<code>\usym{1F45F}</code>	<i>athletic shoe</i>
	<code>\usym{1F455}</code>	<i>T-shirt</i>		<code>\usym{1F460}</code>	<i>high-heeled shoe</i>
	<code>\usym{1F456}</code>	<i>jeans</i>		<code>\usym{1F461}</code>	<i>woman's sandal</i>
	<code>\usym{1F457}</code>	<i>dress</i>		<code>\usym{1F462}</code>	<i>woman's boots</i>
	<code>\usym{1F458}</code>	<i>kimono</i>		<code>\usym{1F576}</code>	<i>dark sunglasses</i>
	<code>\usym{1F459}</code>	<i>bikini</i>			

See the utfsym package note on page 461.

TABLE 872: twemojis Clothing

	<code>\twemoji{1f576}</code>		<code>\twemoji{military helmet}</code>
	<code>\twemoji{backpack}</code>		<code>\twemoji{necktie}</code>
	<code>\twemoji{ballet shoes}</code>		<code>\twemoji{one-piece swimsuit}</code>
	<code>\twemoji{bikini}</code>		<code>\twemoji{purse}</code>
	<code>\twemoji{billed cap}</code>		<code>\twemoji{rescue worker's helmet}</code>
	<code>\twemoji{briefs}</code>		<code>\twemoji{ring}</code>
	<code>\twemoji{clutch bag}</code>		<code>\twemoji{running shirt}</code>
	<code>\twemoji{coat}</code>		<code>\twemoji{running shoe}</code>
	<code>\twemoji{crown}</code>		<code>\twemoji{safety vest}</code>
	<code>\twemoji{dress}</code>		<code>\twemoji{sari}</code>
	<code>\twemoji{eyeglasses}</code>		<code>\twemoji{scarf}</code>
	<code>\twemoji{flat shoe}</code>		<code>\twemoji{shorts}</code>
	<code>\twemoji{gloves}</code>		<code>\twemoji{socks}</code>
	<code>\twemoji{goggles}</code>		<code>\twemoji{t-shirt}</code>
	<code>\twemoji{graduation cap}</code>		<code>\twemoji{thong sandal}</code>
	<code>\twemoji{handbag}</code>		<code>\twemoji{top hat}</code>
	<code>\twemoji{high-heeled shoe}</code>		<code>\twemoji{watch}</code>
	<code>\twemoji{hiking boot}</code>		<code>\twemoji{white cane}</code>
	<code>\twemoji{jeans}</code>		<code>\twemoji{woman's boot}</code>
	<code>\twemoji{kimono}</code>		<code>\twemoji{woman's clothes}</code>
	<code>\twemoji{lab coat}</code>		<code>\twemoji{woman's hat}</code>
	<code>\twemoji{man's shoe}</code>		<code>\twemoji{woman's sandal}</code>

See the twemojis package note on page 460.

TABLE 874: Miscellaneous GnA2e Symbols




























	<code>\Info</code>		<code>\Request</code>
	<code>\Postbox</code>		<code>\Telephone</code>

TABLE 875: soyombo Soyombo Symbols

	<code>\Soyombo</code>		<code>\sA*</code>		<code>\sO*</code>
-----------------------------------------------------------------------------------	-----------------------	-----------------------------------------------------------------------------------	-------------------	-----------------------------------------------------------------------------------	-------------------























\* These symbols require that the Soyombo font be active (“`{\soyombo ... }`”).

TABLE 876: knitting Knitting Symbols

$\wedge$	<code>\textknit{!}</code>	$\rightarrow$	<code>\textknit{[}</code>		<code>\textknit{Q}</code>
$\mathcal{G}$	<code>\textknit{"}</code>	$\leftarrow$	<code>\textknit{]}</code>		<code>\textknit{q}</code>
$\backslash$	<code>\textknit{(}</code>	$\Uparrow$	<code>\textknit{A}</code>	$\nearrow$	<code>\textknit{R}</code>
$/$	<code>\textknit{)}</code>	$\uparrow$	<code>\textknit{a}</code>	$\nwarrow$	<code>\textknit{r}</code>
$*$	<code>\textknit{*}</code>		<code>\textknit{B}</code>	$\leftarrow$	<code>\textknit{S}</code>
$ $	<code>\textknit{-}</code>		<code>\textknit{b}</code>	$\rightarrow$	<code>\textknit{s}</code>
	<code>\textknit{2}</code>	$\nabla$	<code>\textknit{E}</code>		<code>\textknit{T}</code>
	<code>\textknit{3}</code>		<code>\textknit{F}</code>		<code>\textknit{t}</code>
$\succ$	<code>\textknit{4}</code>	$\frown$	<code>\textknit{f}</code>		<code>\textknit{U}</code>
$\swarrow$	<code>\textknit{5}</code>	$\uparrow$	<code>\textknit{H}</code>	$\searrow$	<code>\textknit{u}</code>
$\forall$	<code>\textknit{6}</code>	$\downarrow$	<code>\textknit{h}</code>		<code>\textknit{V}</code>
$\nabla$	<code>\textknit{7}</code>		<code>\textknit{I}</code>	$\vee$	<code>\textknit{v}</code>
$\gamma$	<code>\textknit{8}</code>		<code>\textknit{i}</code>		<code>\textknit{W}</code>
$\wp$	<code>\textknit{9}</code>		<code>\textknit{J}</code>		<code>\textknit{w}</code>
	<code>\textknit{:}</code>		<code>\textknit{j}</code>		<code>\textknit{X}</code>
	<code>\textknit{;}</code>	$\nabla$	<code>\textknit{L}</code>		<code>\textknit{x}</code>
$\searrow$	<code>\textknit{&lt;}</code>	$\nearrow$	<code>\textknit{l}</code>	$\forall$	<code>\textknit{Y}</code>
	<code>\textknit{=}</code>		<code>\textknit{M}</code>	$\succ$	<code>\textknit{y}</code>
$\nearrow$	<code>\textknit{&gt;}</code>	$m$	<code>\textknit{m}</code>		<code>\textknit{Z}</code>
$\bullet$	<code>\textknit{@}</code>		<code>\textknit{O}</code>		<code>\textknit{z}</code>























See the knitting package note on page 453.

TABLE 877: utfsym Buildings

	<code>\usym{1F303}</code>	<i>night with stars</i>		<code>\usym{1F3E3}</code>	<i>Japanese post office</i>
	<code>\usym{1F306}</code>	<i>cityscape at dusk</i>		<code>\usym{1F3E4}</code>	<i>European post office</i>
	<code>\usym{1F307}</code>	<i>sunset over buildings</i>		<code>\usym{1F3E5}</code>	<i>hospital</i>
	<code>\usym{1F3D8}</code>	<i>house buildings</i>		<code>\usym{1F3E8}</code>	<i>hotel</i>
	<code>\usym{1F3D9}</code>	<i>cityscape</i>		<code>\usym{1F3E9}</code>	<i>love hotel</i>
	<code>\usym{1F3DA}</code>	<i>derelict house building</i>		<code>\usym{1F3EA}</code>	<i>convenience store</i>
	<code>\usym{1F3DB}</code>	<i>classical building</i>		<code>\usym{1F3EB}</code>	<i>school</i>
	<code>\usym{1F3DF}</code>	<i>stadium</i>		<code>\usym{1F3EC}</code>	<i>department store</i>
	<code>\usym{1F3E0}</code>	<i>house building</i>		<code>\usym{1F3ED}</code>	<i>factory</i>
	<code>\usym{1F3E1}</code>	<i>house with garden</i>		<code>\usym{1F3EF}</code>	<i>Japanese castle</i>
	<code>\usym{1F3E2}</code>	<i>office building</i>		<code>\usym{1F3F0}</code>	<i>European castle</i>













See the utfsym package note on page 461.

TABLE 878: twemojis Buildings

	<code>\twemoji{bank}</code>		<code>\twemoji{house}</code>
	<code>\twemoji{castle}</code>		<code>\twemoji{house with garden}</code>
	<code>\twemoji{cityscape}</code>		<code>\twemoji{houses}</code>
	<code>\twemoji{cityscape at dusk}</code>		<code>\twemoji{hut}</code>
	<code>\twemoji{classical building}</code>		<code>\twemoji{Japanese castle}</code>
	<code>\twemoji{convenience store}</code>		<code>\twemoji{Japanese post office}</code>
	<code>\twemoji{department store}</code>		<code>\twemoji{love hotel}</code>
	<code>\twemoji{derelict house}</code>		<code>\twemoji{office building}</code>
	<code>\twemoji{factory}</code>		<code>\twemoji{post office}</code>
	<code>\twemoji{hospital}</code>		<code>\twemoji{school}</code>
	<code>\twemoji{hotel}</code>		<code>\twemoji{stadium}</code>

See the twemojis package note on page 460.

TABLE 879: fontawesome7 Buildings

	<code>\faArrowRightToCity</code>		<code>\faHouseFire</code>
	<code>\faBuilding</code>		<code>\faHouseFlag</code>
	<code>\faBuilding[regular]</code>		<code>\faHouseFloodWater</code>
	<code>\faBuildingCircleArrowRight</code>		<code>\faHouseFloodWaterCircleArrowRight</code>
	<code>\faBuildingCircleCheck</code>		<code>\faHouseLaptop</code>
	<code>\faBuildingCircleExclamation</code>		<code>\faHouseLock</code>

(continued on next page)

*(continued from previous page)*
































































	<code>\faBuildingCircleXmark</code>		<code>\faHouseMedical</code>
	<code>\faBuildingColumns</code>		<code>\faHouseMedicalCircleCheck</code>
	<code>\faBuildingFlag</code>		<code>\faHouseMedicalCircleExclamation</code>
	<code>\faBuildingLock</code>		<code>\faHouseMedicalCircleXmark</code>
	<code>\faBuildingNgo</code>		<code>\faHouseMedicalFlag</code>
	<code>\faBuildingShield</code>		<code>\faHouseSignal</code>
	<code>\faBuildingUn</code>		<code>\faHouseTsunami</code>
	<code>\faBuildingUser</code>		<code>\faHouseUser</code>
	<code>\faBuildingWheat</code>		<code>\faIgloo</code>
	<code>\faCity</code>		<code>\faLandmark</code>
	<code>\faHospital</code>		<code>\faLandmarkDome</code>
	<code>\faHospital[regular]</code>		<code>\faLandmarkFlag</code>
	<code>\faHotel</code>		<code>\faSchool</code>
	<code>\faHouse</code>		<code>\faSchoolCircleCheck</code>
	<code>\faHouseChimney</code>		<code>\faSchoolCircleExclamation</code>
	<code>\faHouseChimneyCrack</code>		<code>\faSchoolCircleXmark</code>
	<code>\faHouseChimneyMedical</code>		<code>\faSchoolFlag</code>
	<code>\faHouseChimneyUser</code>		<code>\faSchoolLock</code>
	<code>\faHouseChimneyWindow</code>		<code>\faShop</code>
	<code>\faHouseCircleCheck</code>		<code>\faShopLock</code>
	<code>\faHouseCircleExclamation</code>		<code>\faStore</code>
	<code>\faHouseCircleXmark</code>		<code>\faWarehouse</code>
	<code>\faHouseCrack</code>		

TABLE 881: lucide-icons Buildings

	<code>\lucideicon{building}</code>		<code>\lucideicon{house-plug}</code>
	<code>\lucideicon{building-2}</code>		<code>\lucideicon{house-plus}</code>
	<code>\lucideicon{castle}</code>		<code>\lucideicon{house-wifi}</code>
	<code>\lucideicon{church}</code>		<code>\lucideicon{landmark}</code>
	<code>\lucideicon{factory}</code>		<code>\lucideicon{school}</code>
	<code>\lucideicon{hospital}</code>		<code>\lucideicon{store}</code>
	<code>\lucideicon{hotel}</code>		<code>\lucideicon{theater}</code>
	<code>\lucideicon{house}</code>		<code>\lucideicon{university}</code>
	<code>\lucideicon{house-heart}</code>		<code>\lucideicon{warehouse}</code>

See the lucide-icons package note on page 454.

TABLE 882: worldflags International Maritime Signal Flags

	<code>\worldflag{A}</code>		<code>\worldflag{J}</code>		<code>\worldflag{S}</code>		<code>\worldflag{1}</code>
	<code>\worldflag{B}</code>		<code>\worldflag{K}</code>		<code>\worldflag{T}</code>		<code>\worldflag{2}</code>
	<code>\worldflag{C}</code>		<code>\worldflag{L}</code>		<code>\worldflag{U}</code>		<code>\worldflag{3}</code>
	<code>\worldflag{D}</code>		<code>\worldflag{M}</code>		<code>\worldflag{V}</code>		<code>\worldflag{4}</code>
	<code>\worldflag{E}</code>		<code>\worldflag{N}</code>		<code>\worldflag{W}</code>		<code>\worldflag{5}</code>
	<code>\worldflag{F}</code>		<code>\worldflag{O}</code>		<code>\worldflag{X}</code>		<code>\worldflag{6}</code>
	<code>\worldflag{G}</code>		<code>\worldflag{P}</code>		<code>\worldflag{Y}</code>		<code>\worldflag{7}</code>
	<code>\worldflag{H}</code>		<code>\worldflag{Q}</code>		<code>\worldflag{Z}</code>		<code>\worldflag{8}</code>
	<code>\worldflag{I}</code>		<code>\worldflag{R}</code>		<code>\worldflag{0}</code>		<code>\worldflag{9}</code>



















See the worldflags package note on page 461.

TABLE 883: maritime International Maritime Signal Flags

	<code>\flagA</code>		<code>\flagI</code>		<code>\flagQ</code>		<code>\flagY</code>		<code>\flagSix</code>
	<code>\flagB</code>		<code>\flagJ</code>		<code>\flagR</code>		<code>\flagZ</code>		<code>\flagSeven</code>
	<code>\flagC</code>		<code>\flagK</code>		<code>\flagS</code>		<code>\flagZero</code>		<code>\flagEight</code>
	<code>\flagD</code>		<code>\flagL</code>		<code>\flagT</code>		<code>\flagOne</code>		<code>\flagNine</code>
	<code>\flagE</code>		<code>\flagM</code>		<code>\flagU</code>		<code>\flagTwo</code>		
	<code>\flagF</code>		<code>\flagN</code>		<code>\flagV</code>		<code>\flagThree</code>		
	<code>\flagG</code>		<code>\flagO</code>		<code>\flagW</code>		<code>\flagFour</code>		
	<code>\flagH</code>		<code>\flagP</code>		<code>\flagX</code>		<code>\flagFive</code>		











See the maritime package note on page 455.

TABLE 884: Other worldflags Flags

	<code>\worldflag{Buddhism}</code>		<code>\worldflag{GB-RN}</code>		<code>\worldflag{RedCross}</code>
	<code>\worldflag{Christian}</code>		<code>\worldflag{JollyRoger}</code>		<code>\worldflag{RedCrystal}</code>
	<code>\worldflag{Esperanto}</code>		<code>\worldflag{NATO}</code>		<code>\worldflag{UNESCO}</code>
	<code>\worldflag{EU}</code>		<code>\worldflag{Olympics}</code>		<code>\worldflag{UNO}</code>
	<code>\worldflag{GB-RAF}</code>		<code>\worldflag{Rainbow}</code>		<code>\worldflag{WB}</code>
	<code>\worldflag{GB-RED}</code>		<code>\worldflag{RedCrescent}</code>		<code>\worldflag{WHO}</code>








See the worldflags package note on page 461.

TABLE 885: utfsym Flags

	<code>\usym{2690}</code>	<i>white flag</i>		<code>\usym{1F3F1}</code>	<i>white pennant</i>
	<code>\usym{2691}</code>	<i>black flag</i>		<code>\usym{1F3F2}</code>	<i>black pennant</i>
	<code>\usym{26F3}</code>	<i>flag in hole</i>		<code>\usym{1F3F3}</code>	<i>waving white flag</i>
	<code>\usym{26FF}</code>	<i>white flag with horizontal middle black stripe</i>		<code>\usym{1F3F4}</code>	<i>waving black flag</i>
	<code>\usym{1F38C}</code>	<i>crossed flags</i>		<code>\usym{1F6A9}</code>	<i>triangular flag on post</i>

See the utfsym package note on page 461.

TABLE 886: twemojis Non-National Flags

	<code>\twemoji{black flag}</code>		<code>\twemoji{transgender flag}</code>
	<code>\twemoji{crossed flags}</code>		<code>\twemoji{triangular flag}</code>
	<code>\twemoji{pirate flag}</code>		<code>\twemoji{white flag}</code>
	<code>\twemoji{rainbow flag}</code>		

See the twemojis package note on page 460.

TABLE 887: fontawesome7 Flags









	<code>\faFlag</code>		<code>\faFlagCheckered</code>
	<code>\faFlag[regular]</code>		<code>\faFlagUsa</code>

TABLE 888: lucide-icons Flags

	<code>\lucideicon{flag}</code>		<code>\lucideicon{flag-triangle-left}</code>
	<code>\lucideicon{flag-off}</code>		<code>\lucideicon{flag-triangle-right}</code>

See the lucide-icons package note on page 454.

TABLE 889: Miscellaneous arev Symbols















	<code>\anchor</code>		<code>\invsmileface</code>		<code>\skull</code>		<code>\warning</code>
	<code>\biohazard</code>		<code>\radiation</code>		<code>\smileface</code>		<code>\yinyang</code>
	<code>\heavyqtright</code>		<code>\recycle</code>		<code>\steaming</code>		
	<code>\heavyqtright</code>		<code>\sadface</code>		<code>\swords</code>		
































TABLE 890: twemojis Food

	<code>\twemoji{avocado}</code>		<code>\twemoji{hot beverage}</code>
	<code>\twemoji{bacon}</code>		<code>\twemoji{hot dog}</code>
	<code>\twemoji{bagel}</code>		<code>\twemoji{hot pepper}</code>
	<code>\twemoji{baguette bread}</code>		<code>\twemoji{ice}</code>
	<code>\twemoji{banana}</code>		<code>\twemoji{ice cream}</code>
	<code>\twemoji{beer mug}</code>		<code>\twemoji{kiwi fruit}</code>
	<code>\twemoji{bell pepper}</code>		<code>\twemoji{leafy green}</code>
	<code>\twemoji{bento box}</code>		<code>\twemoji{lemon}</code>
	<code>\twemoji{beverage box}</code>		<code>\twemoji{lollipop}</code>
	<code>\twemoji{blueberries}</code>		<code>\twemoji{mango}</code>
	<code>\twemoji{bottle with popping cork}</code>		<code>\twemoji{mate}</code>
	<code>\twemoji{bowl with spoon}</code>		<code>\twemoji{meat on bone}</code>
	<code>\twemoji{bread}</code>		<code>\twemoji{melon}</code>
	<code>\twemoji{broccoli}</code>		<code>\twemoji{moon cake}</code>
	<code>\twemoji{bubble tea}</code>		<code>\twemoji{mushroom}</code>
	<code>\twemoji{burrito}</code>		<code>\twemoji{oden}</code>
	<code>\twemoji{butter}</code>		<code>\twemoji{olive}</code>
	<code>\twemoji{candy}</code>		<code>\twemoji{onion}</code>
	<code>\twemoji{canned food}</code>		<code>\twemoji{pancakes}</code>
	<code>\twemoji{carrot}</code>		<code>\twemoji{peach}</code>
	<code>\twemoji{cheese wedge}</code>		<code>\twemoji{peanuts}</code>
	<code>\twemoji{cherries}</code>		<code>\twemoji{pear}</code>
	<code>\twemoji{chocolate bar}</code>		<code>\twemoji{pie}</code>
	<code>\twemoji{chopsticks}</code>		<code>\twemoji{pineapple}</code>
	<code>\twemoji{clinking beer mugs}</code>		<code>\twemoji{pizza}</code>
	<code>\twemoji{clinking glasses}</code>		<code>\twemoji{popcorn}</code>
	<code>\twemoji{cocktail glass}</code>		<code>\twemoji{pot of food}</code>
	<code>\twemoji{coconut}</code>		<code>\twemoji{potato}</code>
	<code>\twemoji{cooked rice}</code>		<code>\twemoji{poultry leg}</code>
	<code>\twemoji{cookie}</code>		<code>\twemoji{pretzel}</code>
	<code>\twemoji{cooking}</code>		<code>\twemoji{red apple}</code>
	<code>\twemoji{croissant}</code>		<code>\twemoji{rice ball}</code>
	<code>\twemoji{cucumber}</code>		<code>\twemoji{rice cracker}</code>
	<code>\twemoji{cup with straw}</code>		<code>\twemoji{roasted sweet potato}</code>
	<code>\twemoji{cupcake}</code>		<code>\twemoji{sake}</code>
	<code>\twemoji{curry rice}</code>		<code>\twemoji{salt}</code>
	<code>\twemoji{custard}</code>		<code>\twemoji{sandwich}</code>
	<code>\twemoji{cut of meat}</code>		<code>\twemoji{shallow pan of food}</code>
	<code>\twemoji{dango}</code>		<code>\twemoji{shaved ice}</code>
	<code>\twemoji{doughnut}</code>		<code>\twemoji{shortcake}</code>
	<code>\twemoji{dumpling}</code>		<code>\twemoji{soft ice cream}</code>
	<code>\twemoji{egg}</code>		<code>\twemoji{spaghetti}</code>
	<code>\twemoji{eggplant}</code>		<code>\twemoji{steaming bowl}</code>

*(continued on next page)*



*(continued from previous page)*

	<code>\twemoji{falafel}</code>		<code>\twemoji{strawberry}</code>
	<code>\twemoji{fish cake with swirl}</code>		<code>\twemoji{stuffed flatbread}</code>
	<code>\twemoji{flatbread}</code>		<code>\twemoji{sushi}</code>
	<code>\twemoji{fondue}</code>		<code>\twemoji{taco}</code>
	<code>\twemoji{fork and knife}</code>		<code>\twemoji{takeout box}</code>
	<code>\twemoji{fork and knife with plate}</code>		<code>\twemoji{tamale}</code>
	<code>\twemoji{fortune cookie}</code>		<code>\twemoji{tangerine}</code>
	<code>\twemoji{french fries}</code>		<code>\twemoji{teacup without handle}</code>
	<code>\twemoji{fried shrimp}</code>		<code>\twemoji{teapot}</code>
	<code>\twemoji{garlic}</code>		<code>\twemoji{tomato}</code>
	<code>\twemoji{glass of milk}</code>		<code>\twemoji{tropical drink}</code>
	<code>\twemoji{grapes}</code>		<code>\twemoji{tumbler glass}</code>
	<code>\twemoji{green apple}</code>		<code>\twemoji{waffle}</code>
	<code>\twemoji{green salad}</code>		<code>\twemoji{watermelon}</code>
	<code>\twemoji{hamburger}</code>		<code>\twemoji{wine glass}</code>
	<code>\twemoji{honey pot}</code>		









































See the twemojis package note on page 460.

TABLE 892: figchild Food and Cooking Symbols

	<code>\fcApple</code>		<code>\fcEggplant</code>		<code>\fcPanB</code>
	<code>\fcBarbecue</code>		<code>\fcFrenchFries</code>		<code>\fcPineapple</code>
	<code>\fcBellPepper</code>		<code>\fchamburger</code>		<code>\fcPopsicle</code>
	<code>\fcBread</code>		<code>\fcIceCreamA</code>		<code>\fcPotato</code>
	<code>\fcBrownie</code>		<code>\fcIceCreamB</code>		<code>\fcPumpkin</code>
	<code>\fcBullet</code>		<code>\fcIceCreamC</code>		<code>\fcRefrigerator</code>
	<code>\fcBurrito</code>		<code>\fcIceCreamD</code>		<code>\fcRoastChicken</code>
	<code>\fcCabbage</code>		<code>\fcIceCreamE</code>		<code>\fcRollingPin</code>
	<code>\fcCarrot</code>		<code>\fcIceCreamF</code>		<code>\fcScallion</code>















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	<code>\fcCarrotA</code>		<code>\fcIceCreamG</code>		<code>\fcScaredEgg</code>
	<code>\fcCashier</code>		<code>\fcIceCreamH</code>		<code>\fcSharpKnife</code>
	<code>\fcCheese</code>		<code>\fcKetchup</code>		<code>\fcShrimp</code>
	<code>\fcCherry</code>		<code>\fcKettle</code>		<code>\fcSpatulas</code>
	<code>\fcChickenThigh</code>		<code>\fcKnife</code>		<code>\fcSteak</code>
	<code>\fcChive</code>		<code>\fcKnifeA</code>		<code>\fcStrawberry</code>
	<code>\fcCucumber</code>		<code>\fcLadle</code>		<code>\fcStrawberryA</code>
	<code>\fcCupcake</code>		<code>\fcMug</code>		<code>\fcSugar</code>
	<code>\fcCupcakeA</code>		<code>\fcMushroom</code>		<code>\fcTeapot</code>
	<code>\fcCupcakeB</code>		<code>\fcMushroomA</code>		<code>\fcTomato</code>
	<code>\fcCuttingBoard</code>		<code>\fcMushroomB</code>		<code>\fcTurnip</code>
	<code>\fcEgg</code>		<code>\fcNuggets</code>		<code>\fcWatermelon</code>
	<code>\fcEggA</code>		<code>\fcOnion</code>		
	<code>\fcEggB</code>		<code>\fcPanA</code>		




See the figchild package note on page 452.

TABLE 894: lucide-icons Food and Cooking Symbols























	<code>\lucideicon{apple}</code>		<code>\lucideicon{glass-water}</code>
	<code>\lucideicon{banana}</code>		<code>\lucideicon{grape}</code>
	<code>\lucideicon{bean}</code>		<code>\lucideicon{ham}</code>
	<code>\lucideicon{bean-off}</code>		<code>\lucideicon{hamburger}</code>
	<code>\lucideicon{beef}</code>		<code>\lucideicon{hand-platter}</code>
	<code>\lucideicon{beer}</code>		<code>\lucideicon{hop}</code>
	<code>\lucideicon{beer-off}</code>		<code>\lucideicon{hop-off}</code>

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






















	<code>\lucideicon{bottle-wine}</code>		<code>\lucideicon{ice-cream-bowl}</code>
	<code>\lucideicon{cake}</code>		<code>\lucideicon{ice-cream-cone}</code>
	<code>\lucideicon{cake-slice}</code>		<code>\lucideicon{lollipop}</code>
	<code>\lucideicon{candy}</code>		<code>\lucideicon{martini}</code>
	<code>\lucideicon{candy-cane}</code>		<code>\lucideicon{microwave}</code>
	<code>\lucideicon{candy-off}</code>		<code>\lucideicon{milk}</code>
	<code>\lucideicon{carrot}</code>		<code>\lucideicon{milk-off}</code>
	<code>\lucideicon{chef-hat}</code>		<code>\lucideicon{nut}</code>
	<code>\lucideicon{cherry}</code>		<code>\lucideicon{nut-off}</code>
	<code>\lucideicon{citrus}</code>		<code>\lucideicon{pizza}</code>
	<code>\lucideicon{coffee}</code>		<code>\lucideicon{popcorn}</code>
	<code>\lucideicon{cookie}</code>		<code>\lucideicon{popsicle}</code>
	<code>\lucideicon{cooking-pot}</code>		<code>\lucideicon{refrigerator}</code>
	<code>\lucideicon{croissant}</code>		<code>\lucideicon{salad}</code>
	<code>\lucideicon{cup-soda}</code>		<code>\lucideicon{sandwich}</code>
	<code>\lucideicon{dessert}</code>		<code>\lucideicon{soup}</code>
	<code>\lucideicon{donut}</code>		<code>\lucideicon{utensils}</code>
	<code>\lucideicon{drumstick}</code>		<code>\lucideicon{utensils-crossed}</code>
	<code>\lucideicon{egg}</code>		<code>\lucideicon{vegan}</code>
	<code>\lucideicon{egg-fried}</code>		<code>\lucideicon{wheat}</code>
	<code>\lucideicon{egg-off}</code>		<code>\lucideicon{wheat-off}</code>
	<code>\lucideicon{fish}</code>		<code>\lucideicon{wine}</code>
	<code>\lucideicon{fish-off}</code>		<code>\lucideicon{wine-off}</code>

See the `lucide-icons` package note on page 454.TABLE 896: `utfsym` Food and Cooking Symbols

	<code>\usym{2615}</code>	<i>hot beverage</i>		<code>\usym{1F361}</code>	<i>dango</i>
	<code>\usym{1F32D}</code>	<i>hot dog</i>		<code>\usym{1F362}</code>	<i>oden</i>
	<code>\usym{1F32E}</code>	<i>taco</i>		<code>\usym{1F363}</code>	<i>sushi</i>
	<code>\usym{1F32F}</code>	<i>burrito</i>		<code>\usym{1F364}</code>	<i>fried shrimp</i>
	<code>\usym{1F336}</code>	<i>hot pepper</i>		<code>\usym{1F365}</code>	<i>fish cake with swirl design</i>
	<code>\usym{1F344}</code>	<i>mushroom</i>		<code>\usym{1F366}</code>	<i>soft ice cream</i>
	<code>\usym{1F345}</code>	<i>tomato</i>		<code>\usym{1F367}</code>	<i>shaved ice</i>
	<code>\usym{1F346}</code>	<i>aubergine</i>		<code>\usym{1F368}</code>	<i>ice cream</i>
	<code>\usym{1F347}</code>	<i>grapes</i>		<code>\usym{1F369}</code>	<i>doughnut</i>
	<code>\usym{1F348}</code>	<i>melon</i>		<code>\usym{1F36A}</code>	<i>cookie</i>
	<code>\usym{1F349}</code>	<i>watermelon</i>		<code>\usym{1F36B}</code>	<i>chocolate bar</i>

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	<code>\usym{1F34A}</code>	<i>tangerine</i>		<code>\usym{1F36C}</code>	<i>candy</i>
	<code>\usym{1F34B}</code>	<i>lemon</i>		<code>\usym{1F36D}</code>	<i>lollipop</i>
	<code>\usym{1F34C}</code>	<i>banana</i>		<code>\usym{1F36E}</code>	<i>custard</i>
	<code>\usym{1F34D}</code>	<i>pineapple</i>		<code>\usym{1F36F}</code>	<i>honey pot</i>
	<code>\usym{1F34E}</code>	<i>red apple</i>		<code>\usym{1F370}</code>	<i>shortcake</i>
	<code>\usym{1F34F}</code>	<i>green apple</i>		<code>\usym{1F371}</code>	<i>bento box</i>
	<code>\usym{1F350}</code>	<i>pear</i>		<code>\usym{1F372}</code>	<i>pot of food</i>
	<code>\usym{1F351}</code>	<i>peach</i>		<code>\usym{1F373}</code>	<i>cooking</i>
	<code>\usym{1F352}</code>	<i>cherries</i>		<code>\usym{1F374}</code>	<i>fork and knife</i>
	<code>\usym{1F353}</code>	<i>strawberry</i>		<code>\usym{1F375}</code>	<i>teacup without handle</i>
	<code>\usym{1F354}</code>	<i>hamburger</i>		<code>\usym{1F376}</code>	<i>sake bottle and cup</i>
	<code>\usym{1F355}</code>	<i>slice of pizza</i>		<code>\usym{1F377}</code>	<i>wine glass</i>
	<code>\usym{1F356}</code>	<i>meat on bone</i>		<code>\usym{1F378}</code>	<i>cocktail glass</i>
	<code>\usym{1F357}</code>	<i>poultry leg</i>		<code>\usym{1F379}</code>	<i>tropical drink</i>
	<code>\usym{1F35A}</code>	<i>cooked rice</i>		<code>\usym{1F37A}</code>	<i>beer mug</i>
	<code>\usym{1F35B}</code>	<i>curry and rice</i>		<code>\usym{1F37B}</code>	<i>clinking beer mugs</i>
	<code>\usym{1F35C}</code>	<i>steaming bowl</i>		<code>\usym{1F37C}</code>	<i>baby bottle</i>
	<code>\usym{1F35D}</code>	<i>spaghetti</i>		<code>\usym{1F37D}</code>	<i>fork and knife with plate</i>
	<code>\usym{1F35E}</code>	<i>bread</i>		<code>\usym{1F37E}</code>	<i>bottle with popping cork</i>
	<code>\usym{1F35F}</code>	<i>french fries</i>		<code>\usym{1F37F}</code>	<i>popcorn</i>
	<code>\usym{1F360}</code>	<i>roasted sweet potato</i>		<code>\usym{1F382}</code>	<i>birthday cake</i>

See the `utfsym` package note on page 461.TABLE 898: `cookingsymbols` Cooking Symbols






















	<code>\Bottomheat</code>		<code>\Fork</code>		<code>\Knife</code>		<code>\Topbottomheat</code>
	<code>\Dish</code>		<code>\Gasstove</code>		<code>\Oven</code>		<code>\Topheat</code>
	<code>\Fanoven</code>		<code>\Gloves</code>		<code>\Spoon</code>		


















TABLE 899: tikz-cookingsymbols Food and Cooking Symbols

	<code>\AirFryer</code>		<code>\Grill</code>
	<code>\BottomHeat</code>		<code>\Microwave</code>
	<code>\ConvectionOven</code>		<code>\Pizza</code>
	<code>\ConvectionOvenAlt</code>		<code>\TopBottomHeat</code>
	<code>\ConvectionOvenGrill</code>		<code>\TopHeat</code>

tikz-cookingsymbols defines German-language aliases for most of the above: `\UnterHitze` for `\BottomHeat`, `\UmluftAlt` for `\ConvectionOvenAlt`, `\UmluftGrill` for `\ConvectionOvenGrill`, `\Umluft` for `\ConvectionOven`, `\Microwelle` for `\Microwave`, `\OberUnterHitze` for `\TopBottomHeat`, and `\OberHitze` for `\TopHeat`.

See the tikz-cookingsymbols package note on page 459 for additional information about the package.















TABLE 900: tikzsymbols Cooking Symbols

	<code>\bakingplate</code>		<code>\eggbeater</code>		<code>\pan</code>		<code>\squeezer</code>
	<code>\blender</code>		<code>\fryingpan</code>		<code>\peeler</code>		<code>\trident</code>
	<code>\bottle</code>		<code>\garlicpress</code>		<code>\pot</code>		
	<code>\bowl</code>		<code>\grater</code>		<code>\rollingpin</code>		
	<code>\cooker</code>		<code>\oven</code>		<code>\sieve</code>		

tikzsymbols defines German-language aliases for each of the above: `\Backblech` for `\bakingplate`, `\Bratpfanne` for `\fryingpan`, `\Dreizack` for `\trident`, `\Flasche` for `\bottle`, `\Herd` for `\cooker`, `\Kochtopf` for `\pot`, `\Knoblauchpresse` for `\garlicpress`, `\Nudelholz` for `\rollingpin`, `\Ofen` for `\oven`, `\Pfanne` for `\pan`, `\Purierstab` for `\blender`, `\Reibe` for `\grater`, `\Saftpresse` for `\squeezer`, `\Schaler` for `\peeler`, `\Schneebesens` for `\eggbeater`, `\Schussel` for `\bowl`, and `\Sieb` for `\sieve`.

See also the tikzsymbols package note on page 460.


























TABLE 901: newcomputermodern Food Allergies

	<code>\textsf{\char"E033}</code>	<i>crustaceans</i>		<code>\textsf{\char"E03A}</code>	<i>mustard</i>
	<code>\textsf{\char"E034}</code>	<i>eggs</i>		<code>\textsf{\char"E03B}</code>	<i>peanuts</i>
	<code>\textsf{\char"E035}</code>	<i>gluten</i>		<code>\textsf{\char"E03C}</code>	<i>sesame</i>
	<code>\textsf{\char"E036}</code>	<i>fish</i>		<code>\textsf{\char"E03D}</code>	<i>soy</i>
	<code>\textsf{\char"E037}</code>	<i>lupin</i>		<code>\textsf{\char"E03E}</code>	<i>nuts</i>
	<code>\textsf{\char"E038}</code>	<i>milk</i>		<code>\textsf{\char"E03F}</code>	<i>celery</i>
	<code>\textsf{\char"E039}</code>	<i>mollusks</i>		<code>\textsf{\char"E040}</code>	<i>sulfur dioxide</i>

For each food-allergy symbol that `newcomputermodern` defines, this table presents the symbol itself, the code to typeset the symbol, and a textual description of the allergy. Because `newcomputermodern` changes the document font to New Computer Modern and because the symbols in this table are defined only in the font's sans-serif variant, `\textsf` is used to typeset each symbol.

See also the `newcomputermodern` package note on page 455.




















TABLE 902: tikzsymbols Faces

	<code>\Annoey</code>		<code>\Maskey</code>		<code>\Sadey</code>		<code>\Winkey</code>
	<code>\Cat</code>		<code>\Neutrey</code>		<code>\Sey</code>		<code>\wInnocey</code>
	<code>\cChangeey{1}*</code>		<code>\NiceReapey</code>		<code>\Sleepy</code>		<code>\Xey</code>
	<code>\Changeey{1}*</code>		<code>\Ninja</code>		<code>\Smiley</code>		<code>\SchrodingersCat{0}*</code>
	<code>\Cooley</code>		<code>\Nurseey</code>		<code>\Tongey</code>		
	<code>\Innocey</code>		<code>\oldWinkey</code>		<code>\Vomey</code>		
	<code>\Laughey</code>		<code>\rWalley</code>		<code>\Walley</code>		

See the `tikzsymbols` package note on page 460.

\* These symbols take a mandatory argument. See the `tikzsymbols` documentation for more information.

TABLE 903: tikzsymbols 3D Faces

	<code>\dAnnoey</code>		<code>\dLaughey</code>		<code>\dSadey</code>		<code>\dVomey</code>
	<code>\dcChangeey{1}*</code>		<code>\dNeutrey</code>		<code>\dSey</code>		<code>\dWalley</code>
	<code>\dChangeey{1}*</code>		<code>\dNinja</code>		<code>\dSleepy</code>		<code>\dWinkey</code>
	<code>\dCooley</code>		<code>\dNurseey</code>		<code>\dSmiley</code>		<code>\dXey</code>
	<code>\dInnocey</code>		<code>\drWalley</code>		<code>\dTongey</code>		

See the `tikzsymbols` package note on page 460.


























\* These symbols take a mandatory argument. See the `tikzsymbols` documentation for more information.

TABLE 904: utfsym Faces

	<code>\usym{2639}</code>	<i>white frowning face</i>		<code>\usym{1F627}</code>	<i>anguished face</i>
	<code>\usym{263A}</code>	<i>white smiling face</i>		<code>\usym{1F628}</code>	<i>fearful face</i>
	<code>\usym{263B}</code>	<i>black smiling face</i>		<code>\usym{1F629}</code>	<i>weary face</i>
	<code>\usym{1F600}</code>	<i>grinning face</i>		<code>\usym{1F62A}</code>	<i>sleepy face</i>
	<code>\usym{1F601}</code>	<i>grinning face with smiling eyes</i>		<code>\usym{1F62B}</code>	<i>tired face</i>
	<code>\usym{1F602}</code>	<i>face with tears of joy</i>		<code>\usym{1F62C}</code>	<i>grimacing face</i>
	<code>\usym{1F603}</code>	<i>smiling face with open mouth</i>		<code>\usym{1F62D}</code>	<i>loudly crying face</i>
	<code>\usym{1F604}</code>	<i>smiling face with open mouth and smiling eyes</i>		<code>\usym{1F62E}</code>	<i>face with open mouth</i>
	<code>\usym{1F605}</code>	<i>smiling face with open mouth and cold sweat</i>		<code>\usym{1F62F}</code>	<i>hushed face</i>
	<code>\usym{1F606}</code>	<i>smiling face with open mouth and tightly-closed eyes</i>		<code>\usym{1F630}</code>	<i>face with open mouth and cold sweat</i>
	<code>\usym{1F607}</code>	<i>smiling face with halo</i>		<code>\usym{1F631}</code>	<i>face screaming in fear</i>
	<code>\usym{1F608}</code>	<i>smiling face with horns</i>		<code>\usym{1F632}</code>	<i>astonished face</i>
	<code>\usym{1F609}</code>	<i>winking face</i>		<code>\usym{1F633}</code>	<i>flushed face</i>
	<code>\usym{1F60A}</code>	<i>smiling face with smiling eyes</i>		<code>\usym{1F634}</code>	<i>sleeping face</i>
	<code>\usym{1F60B}</code>	<i>face savouring delicious food</i>		<code>\usym{1F635}</code>	<i>dizzy face</i>
	<code>\usym{1F60C}</code>	<i>relieved face</i>		<code>\usym{1F636}</code>	<i>face without mouth</i>
	<code>\usym{1F60D}</code>	<i>smiling face with heart-shaped eyes</i>		<code>\usym{1F637}</code>	<i>face with medical mask</i>
	<code>\usym{1F60E}</code>	<i>smiling face with sunglasses</i>		<code>\usym{1F638}</code>	<i>grinning cat face with smiling eyes</i>
	<code>\usym{1F60F}</code>	<i>smirking face</i>		<code>\usym{1F639}</code>	<i>cat face with tears of joy</i>
	<code>\usym{1F610}</code>	<i>neutral face</i>		<code>\usym{1F63A}</code>	<i>smiling cat face with open mouth</i>
	<code>\usym{1F611}</code>	<i>expressionless face</i>		<code>\usym{1F63B}</code>	<i>smiling cat face with heart-shaped eyes</i>
	<code>\usym{1F612}</code>	<i>unamused face</i>		<code>\usym{1F63C}</code>	<i>cat face with wry smile</i>
	<code>\usym{1F613}</code>	<i>face with cold sweat</i>		<code>\usym{1F63D}</code>	<i>kissing cat face with closed eyes</i>
	<code>\usym{1F614}</code>	<i>pensive face</i>		<code>\usym{1F63E}</code>	<i>pouting cat face</i>
	<code>\usym{1F615}</code>	<i>confused face</i>		<code>\usym{1F63F}</code>	<i>crying cat face</i>
	<code>\usym{1F616}</code>	<i>confounded face</i>		<code>\usym{1F640}</code>	<i>weary cat face</i>
	<code>\usym{1F617}</code>	<i>kissing face</i>		<code>\usym{1F641}</code>	<i>slightly frowning face</i>
	<code>\usym{1F618}</code>	<i>face throwing a kiss</i>		<code>\usym{1F642}</code>	<i>slightly smiling face</i>
	<code>\usym{1F619}</code>	<i>kissing face with smiling eyes</i>		<code>\usym{1F643}</code>	<i>upside-down face</i>



























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*(continued from previous page)*

	<code>\usym{1F61A}</code>	<i>kissing face with closed eyes</i>		<code>\usym{1F644}</code>	<i>face with rolling eyes</i>
	<code>\usym{1F61B}</code>	<i>face with stuck-out tongue</i>		<code>\usym{1F645}</code>	<i>face with no good gesture</i>
	<code>\usym{1F61C}</code>	<i>face with stuck-out tongue and winking eye</i>		<code>\usym{1F646}</code>	<i>face with OK gesture</i>
	<code>\usym{1F61D}</code>	<i>face with stuck-out tongue and tightly-closed eyes</i>		<code>\usym{1F647}</code>	<i>person bowing deeply</i>
	<code>\usym{1F61E}</code>	<i>disappointed face</i>		<code>\usym{1F648}</code>	<i>see-no-evil monkey</i>
	<code>\usym{1F61F}</code>	<i>worried face</i>		<code>\usym{1F649}</code>	<i>hear-no-evil monkey</i>
	<code>\usym{1F620}</code>	<i>angry face</i>		<code>\usym{1F64A}</code>	<i>speak-no-evil monkey</i>
	<code>\usym{1F621}</code>	<i>pouting face</i>		<code>\usym{1F64B}</code>	<i>happy person raising one hand</i>
	<code>\usym{1F622}</code>	<i>crying face</i>		<code>\usym{1F64C}</code>	<i>person raising both hands in celebration</i>
	<code>\usym{1F623}</code>	<i>persevering face</i>		<code>\usym{1F64D}</code>	<i>person frowning</i>
	<code>\usym{1F624}</code>	<i>face with look of triumph</i>		<code>\usym{1F64E}</code>	<i>person with pouting face</i>
	<code>\usym{1F625}</code>	<i>disappointed but relieved face</i>		<code>\usym{1F64F}</code>	<i>person with folded hands</i>
	<code>\usym{1F626}</code>	<i>frowning face with open mouth</i>			

See the `utfsym` package note on page 461.













































































TABLE 906: twemojis Faces

	<code>\twemoji{angry face}</code>		<code>\twemoji{hot face}</code>
	<code>\twemoji{angry face with horns}</code>		<code>\twemoji{hugging face}</code>
	<code>\twemoji{anguished face}</code>		<code>\twemoji{hushed face}</code>
	<code>\twemoji{anxious face with sweat}</code>		<code>\twemoji{kissing face}</code>
	<code>\twemoji{astonished face}</code>		<code>\twemoji{kissing face with closed eyes}</code>
	<code>\twemoji{beaming face with smiling eyes}</code>		<code>\twemoji{kissing face with smiling eyes}</code>
	<code>\twemoji{clown face}</code>		<code>\twemoji{knocked-out face}</code>
	<code>\twemoji{cold face}</code>		<code>\twemoji{loudly crying face}</code>
	<code>\twemoji{confounded face}</code>		<code>\twemoji{lying face}</code>
	<code>\twemoji{confused face}</code>		<code>\twemoji{melting face}</code>
	<code>\twemoji{cowboy hat face}</code>		<code>\twemoji{money-mouth face}</code>
	<code>\twemoji{crying face}</code>		<code>\twemoji{nauseated face}</code>
	<code>\twemoji{disappointed face}</code>		<code>\twemoji{nerd face}</code>

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	<code>\twemoji{disguised face}</code>		<code>\twemoji{neutral face}</code>
	<code>\twemoji{dotted line face}</code>		<code>\twemoji{partying face}</code>
	<code>\twemoji{downcast face with sweat}</code>		<code>\twemoji{pensive face}</code>
	<code>\twemoji{drooling face}</code>		<code>\twemoji{persevering face}</code>
	<code>\twemoji{exploding head}</code>		<code>\twemoji{pleading face}</code>
	<code>\twemoji{expressionless face}</code>		<code>\twemoji{pouting face}</code>
	<code>\twemoji{face blowing a kiss}</code>		<code>\twemoji{relieved face}</code>
	<code>\twemoji{face exhaling}</code>		<code>\twemoji{rolling on the floor laughing}</code>
	<code>\twemoji{face holding back tears}</code>		<code>\twemoji{sad but relieved face}</code>
	<code>\twemoji{face in clouds}</code>		<code>\twemoji{saluting face}</code>
	<code>\twemoji{face savoring food}</code>		<code>\twemoji{shushing face}</code>
	<code>\twemoji{face screaming in fear}</code>		<code>\twemoji{sleeping face}</code>
	<code>\twemoji{face vomiting}</code>		<code>\twemoji{sleepy face}</code>
	<code>\twemoji{face with crossed-out eyes}</code>		<code>\twemoji{slightly frowning face}</code>
	<code>\twemoji{face with diagonal mouth}</code>		<code>\twemoji{slightly smiling face}</code>
	<code>\twemoji{face with hand over mouth}</code>		<code>\twemoji{smiling face}</code>
	<code>\twemoji{face with head-bandage}</code>		<code>\twemoji{smiling face with halo}</code>
	<code>\twemoji{face with medical mask}</code>		<code>\twemoji{smiling face with heart-eyes}</code>
	<code>\twemoji{face with monocle}</code>		<code>\twemoji{smiling face with hearts}</code>
	<code>\twemoji{face with open eyes and hand over mouth}</code>		<code>\twemoji{smiling face with horns}</code>
	<code>\twemoji{face with open mouth}</code>		<code>\twemoji{smiling face with open hands}</code>
	<code>\twemoji{face with peeking eye}</code>		<code>\twemoji{smiling face with smiling eyes}</code>
	<code>\twemoji{face with raised eyebrow}</code>		<code>\twemoji{smiling face with sunglasses}</code>
	<code>\twemoji{face with rolling eyes}</code>		<code>\twemoji{smiling face with tear}</code>
	<code>\twemoji{face with spiral eyes}</code>		<code>\twemoji{smirking face}</code>
	<code>\twemoji{face with steam from nose}</code>		<code>\twemoji{sneezing face}</code>
	<code>\twemoji{face with symbols on mouth}</code>		<code>\twemoji{squinting face with tongue}</code>
	<code>\twemoji{face with tears of joy}</code>		<code>\twemoji{star-struck}</code>
	<code>\twemoji{face with thermometer}</code>		<code>\twemoji{sun with face}</code>
	<code>\twemoji{face with tongue}</code>		<code>\twemoji{thinking face}</code>
	<code>\twemoji{face without mouth}</code>		<code>\twemoji{tired face}</code>
	<code>\twemoji{fearful face}</code>		<code>\twemoji{unamused face}</code>
	<code>\twemoji{flushed face}</code>		<code>\twemoji{upside-down face}</code>
	<code>\twemoji{frowning face}</code>		<code>\twemoji{weary face}</code>
	<code>\twemoji{frowning face with open mouth}</code>		<code>\twemoji{winking face}</code>
	<code>\twemoji{grimacing face}</code>		<code>\twemoji{winking face with tongue}</code>
	<code>\twemoji{grinning face}</code>		<code>\twemoji{woozy face}</code>
	<code>\twemoji{grinning face with big eyes}</code>		<code>\twemoji{worried face}</code>

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😄	<code>\twemoji{grinning face with smiling eyes}</code>	😮	<code>\twemoji{yawning face}</code>
😓	<code>\twemoji{grinning face with sweat}</code>	😜	<code>\twemoji{zany face}</code>
😏	<code>\twemoji{grinning squinting face}</code>	😬	<code>\twemoji{zipper-mouth face}</code>













See the twemojis package note on page 460.

TABLE 908: fontawesome7 Faces

😡	<code>\faFaceAngry</code>	😄	<code>\faFaceGrinWink</code>
😡	<code>\faFaceAngry[regular]</code>	😄	<code>\faFaceGrinWink[regular]</code>
😵	<code>\faFaceDizzy</code>	😘	<code>\faFaceKiss</code>
😵	<code>\faFaceDizzy[regular]</code>	😘	<code>\faFaceKiss[regular]</code>
😬	<code>\faFaceFlushed</code>	😘	<code>\faFaceKissBeam</code>
😬	<code>\faFaceFlushed[regular]</code>	😘	<code>\faFaceKissBeam[regular]</code>
😞	<code>\faFaceFrown</code>	😘	<code>\faFaceKissWinkHeart</code>
😞	<code>\faFaceFrown[regular]</code>	😘	<code>\faFaceKissWinkHeart[regular]</code>
😞	<code>\faFaceFrownOpen</code>	😂	<code>\faFaceLaugh</code>
😞	<code>\faFaceFrownOpen[regular]</code>	😂	<code>\faFaceLaugh[regular]</code>
😬	<code>\faFaceGrimace</code>	😂	<code>\faFaceLaughBeam</code>
😬	<code>\faFaceGrimace[regular]</code>	😂	<code>\faFaceLaughBeam[regular]</code>
😄	<code>\faFaceGrin</code>	😂	<code>\faFaceLaughSquint</code>
😄	<code>\faFaceGrin[regular]</code>	😂	<code>\faFaceLaughSquint[regular]</code>
😄	<code>\faFaceGrinBeam</code>	😂	<code>\faFaceLaughWink</code>
😄	<code>\faFaceGrinBeam[regular]</code>	😂	<code>\faFaceLaughWink[regular]</code>
😄	<code>\faFaceGrinBeamSweat</code>	😐	<code>\faFaceMeh</code>
😄	<code>\faFaceGrinBeamSweat[regular]</code>	😐	<code>\faFaceMeh[regular]</code>
😄	<code>\faFaceGrinHearts</code>	😐	<code>\faFaceMehBlank</code>
😄	<code>\faFaceGrinHearts[regular]</code>	😐	<code>\faFaceMehBlank[regular]</code>
😄	<code>\faFaceGrinSquint</code>	😐	<code>\faFaceRollingEyes</code>
😄	<code>\faFaceGrinSquint[regular]</code>	😐	<code>\faFaceRollingEyes[regular]</code>
😄	<code>\faFaceGrinSquintTears</code>	😭	<code>\faFaceSadCry</code>
😄	<code>\faFaceGrinSquintTears[regular]</code>	😭	<code>\faFaceSadCry[regular]</code>
😄	<code>\faFaceGrinStars</code>	😭	<code>\faFaceSadTear</code>
😄	<code>\faFaceGrinStars[regular]</code>	😭	<code>\faFaceSadTear[regular]</code>
😄	<code>\faFaceGrinTears</code>	😊	<code>\faFaceSmile</code>
😄	<code>\faFaceGrinTears[regular]</code>	😊	<code>\faFaceSmile[regular]</code>
😄	<code>\faFaceGrinTongue</code>	😊	<code>\faFaceSmileBeam</code>
😄	<code>\faFaceGrinTongue[regular]</code>	😊	<code>\faFaceSmileBeam[regular]</code>









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	<code>\faFaceGrinTongueSquint</code>		<code>\faFaceSmileWink</code>
	<code>\faFaceGrinTongueSquint[regular]</code>		<code>\faFaceSmileWink[regular]</code>
	<code>\faFaceGrinTongueWink</code>		<code>\faFaceSurprise</code>
	<code>\faFaceGrinTongueWink[regular]</code>		<code>\faFaceSurprise[regular]</code>
	<code>\faFaceGrinWide</code>		<code>\faFaceTired</code>
	<code>\faFaceGrinWide[regular]</code>		<code>\faFaceTired[regular]</code>










In fontawesome5, all of these symbols were named without “Face” (e.g., `\faSmile` instead of `\faFaceSmile`). In addition, `\faFaceRollingEyes` was called `\faMehRollingEyes`.

TABLE 910: lucide-icons Faces

	<code>\lucideicon{angry}</code>		<code>\lucideicon{laugh}</code>
	<code>\lucideicon{annoyed}</code>		<code>\lucideicon{meh}</code>
	<code>\lucideicon{baby}</code>		<code>\lucideicon{smile}</code>
	<code>\lucideicon{frown}</code>		<code>\lucideicon{smile-plus}</code>








See the lucide-icons package note on page 454.

TABLE 911: twemojis Cat Faces

	<code>\twemoji{cat with tears of joy}</code>
	<code>\twemoji{cat with wry smile}</code>
	<code>\twemoji{crying cat}</code>
	<code>\twemoji{grinning cat}</code>
	<code>\twemoji{grinning cat with smiling eyes}</code>
	<code>\twemoji{kissing cat}</code>
	<code>\twemoji{pouting cat}</code>
	<code>\twemoji{smiling cat with heart-eyes}</code>
	<code>\twemoji{weary cat}</code>



































See the twemojis package note on page 460.

TABLE 912: simpsons Characters from *The Simpsons*

	<code>\Bart</code>		<code>\Homer</code>		<code>\Maggie</code>		<code>\SNPP</code>
	<code>\Burns</code>		<code>\Lisa</code>		<code>\Marge</code>		



















































































See the `simpsons` package note on page 458.

TABLE 913: asapsym People

	<code>\asapCycling</code>		<code>\asapMaleAtDrinkingFountain</code>
	<code>\asapFemaleAdult</code>		<code>\asapMaleAtHelpDesk</code>
	<code>\asapFemaleAtDrinkingFountain</code>		<code>\asapMaleChild</code>
	<code>\asapFemaleAtHelpDesk</code>		<code>\asapMaleDiscardingTrash</code>
	<code>\asapFemaleChild</code>		<code>\asapMaleHoldingInfant</code>
	<code>\asapFemaleDiscardingTrash</code>		<code>\asapMaleWalking</code>
	<code>\asapFemaleHoldingInfant</code>		<code>\asapMaleWalkingDog</code>
	<code>\asapFemaleWalking</code>		<code>\asapMaleWalkingStroller</code>
	<code>\asapFemaleWalkingDog</code>		<code>\asapMaleWithChild</code>
	<code>\asapFemaleWalkingStroller</code>		<code>\asapMaleWithLuggageWaiting</code>
	<code>\asapFemaleWithChild</code>		<code>\asapMaleWithLuggageWaving</code>
	<code>\asapFemaleWithLuggageWaiting</code>		<code>\asapMaleWithServiceAnimal</code>
	<code>\asapFemaleWithLuggageWaving</code>		<code>\asapPregnant</code>
	<code>\asapFemaleWithServiceAnimal</code>		<code>\asapWaitingSeated</code>
	<code>\asapGroupMeeting</code>		<code>\asapWalkingCane</code>
	<code>\asapInfant</code>		<code>\asapWheelchairInMotion</code>
	<code>\asapMaleAdult</code>		<code>\asapWheelchairStationary</code>

See the `asapsym` package note on page 450.

TABLE 914: twemojis People

	<code>\twemoji{artist}</code>		<code>\twemoji{person getting haircut}</code>
	<code>\twemoji{astronaut}</code>		<code>\twemoji{person getting massage}</code>
	<code>\twemoji{baby}</code>		<code>\twemoji{person golfing}</code>
	<code>\twemoji{baby angel}</code>		<code>\twemoji{person in bed}</code>
	<code>\twemoji{boy}</code>		<code>\twemoji{person in lotus position}</code>
	<code>\twemoji{breast-feeding}</code>		<code>\twemoji{person in manual wheelchair}</code>
	<code>\twemoji{child}</code>		<code>\twemoji{person in motorized wheelchair}</code>
	<code>\twemoji{construction worker}</code>		<code>\twemoji{person in steamy room}</code>
	<code>\twemoji{cook}</code>		<code>\twemoji{person in suit levitating}</code>
	<code>\twemoji{couple with heart}</code>		<code>\twemoji{person in tuxedo}</code>
	<code>\twemoji{couplekiss}</code>		<code>\twemoji{person juggling}</code>
	<code>\twemoji{deaf man}</code>		<code>\twemoji{person kneeling}</code>
	<code>\twemoji{deaf person}</code>		<code>\twemoji{person lifting weights}</code>
	<code>\twemoji{deaf woman}</code>		<code>\twemoji{person playing handball}</code>
	<code>\twemoji{detective}</code>		<code>\twemoji{person playing water polo}</code>
	<code>\twemoji{factory worker}</code>		<code>\twemoji{person pouting}</code>
	<code>\twemoji{family}</code>		<code>\twemoji{person raising hand}</code>
	<code>\twemoji{farmer}</code>		<code>\twemoji{person running}</code>
	<code>\twemoji{firefighter}</code>		<code>\twemoji{person shrugging}</code>
	<code>\twemoji{girl}</code>		<code>\twemoji{person standing}</code>
	<code>\twemoji{guard}</code>		<code>\twemoji{person surfing}</code>
	<code>\twemoji{health worker}</code>		<code>\twemoji{person swimming}</code>
	<code>\twemoji{judge}</code>		<code>\twemoji{person taking bath}</code>
	<code>\twemoji{man}</code>		<code>\twemoji{person tipping hand}</code>
	<code>\twemoji{man artist}</code>		<code>\twemoji{person walking}</code>
	<code>\twemoji{man astronaut}</code>		<code>\twemoji{person wearing turban}</code>
	<code>\twemoji{man bouncing ball}</code>		<code>\twemoji{person with crown}</code>
	<code>\twemoji{man bowing}</code>		<code>\twemoji{person with skullcap}</code>
	<code>\twemoji{man cartwheeling}</code>		<code>\twemoji{person with veil}</code>
	<code>\twemoji{man climbing}</code>		<code>\twemoji{person with white cane}</code>
	<code>\twemoji{man construction worker}</code>		<code>\twemoji{pilot}</code>
	<code>\twemoji{man cook}</code>		<code>\twemoji{police officer}</code>
	<code>\twemoji{man dancing}</code>		<code>\twemoji{pregnant man}</code>
	<code>\twemoji{man detective}</code>		<code>\twemoji{pregnant person}</code>
	<code>\twemoji{man facepalming}</code>		<code>\twemoji{pregnant woman}</code>
	<code>\twemoji{man factory worker}</code>		<code>\twemoji{scientist}</code>
	<code>\twemoji{man farmer}</code>		<code>\twemoji{ singer}</code>
	<code>\twemoji{man feeding baby}</code>		<code>\twemoji{skier}</code>
	<code>\twemoji{man firefighter}</code>		<code>\twemoji{snowboarder}</code>
	<code>\twemoji{man frowning}</code>		<code>\twemoji{student}</code>
	<code>\twemoji{man gesturing NO}</code>		<code>\twemoji{teacher}</code>







































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	<code>\twemoji{man gesturing OK}</code>		<code>\twemoji{technologist}</code>
	<code>\twemoji{man getting haircut}</code>		<code>\twemoji{woman}</code>
	<code>\twemoji{man getting massage}</code>		<code>\twemoji{woman and man holding hands}</code>
	<code>\twemoji{man golfing}</code>		<code>\twemoji{woman artist}</code>
	<code>\twemoji{man guard}</code>		<code>\twemoji{woman astronaut}</code>
	<code>\twemoji{man health worker}</code>		<code>\twemoji{woman bouncing ball}</code>
	<code>\twemoji{man in lotus position}</code>		<code>\twemoji{woman bowing}</code>
	<code>\twemoji{man in manual wheelchair}</code>		<code>\twemoji{woman cartwheeling}</code>
	<code>\twemoji{man in motorized wheelchair}</code>		<code>\twemoji{woman climbing}</code>
	<code>\twemoji{man in steamy room}</code>		<code>\twemoji{woman construction worker}</code>
	<code>\twemoji{man in tuxedo}</code>		<code>\twemoji{woman cook}</code>
	<code>\twemoji{man judge}</code>		<code>\twemoji{woman dancing}</code>
	<code>\twemoji{man juggling}</code>		<code>\twemoji{woman detective}</code>
	<code>\twemoji{man kneeling}</code>		<code>\twemoji{woman facepalming}</code>
	<code>\twemoji{man lifting weights}</code>		<code>\twemoji{woman factory worker}</code>
	<code>\twemoji{man mechanic}</code>		<code>\twemoji{woman farmer}</code>
	<code>\twemoji{man office worker}</code>		<code>\twemoji{woman feeding baby}</code>
	<code>\twemoji{man pilot}</code>		<code>\twemoji{woman firefighter}</code>
	<code>\twemoji{man playing handball}</code>		<code>\twemoji{woman frowning}</code>
	<code>\twemoji{man playing water polo}</code>		<code>\twemoji{woman gesturing NO}</code>
	<code>\twemoji{man police officer}</code>		<code>\twemoji{woman gesturing OK}</code>
	<code>\twemoji{man pouting}</code>		<code>\twemoji{woman getting haircut}</code>
	<code>\twemoji{man raising hand}</code>		<code>\twemoji{woman getting massage}</code>
	<code>\twemoji{man running}</code>		<code>\twemoji{woman golfing}</code>
	<code>\twemoji{man scientist}</code>		<code>\twemoji{woman guard}</code>
	<code>\twemoji{man shrugging}</code>		<code>\twemoji{woman health worker}</code>
	<code>\twemoji{man singer}</code>		<code>\twemoji{woman in lotus position}</code>
	<code>\twemoji{man standing}</code>		<code>\twemoji{woman in manual wheelchair}</code>
	<code>\twemoji{man student}</code>		<code>\twemoji{woman in motorized wheelchair}</code>
	<code>\twemoji{man surfing}</code>		<code>\twemoji{woman in steamy room}</code>
	<code>\twemoji{man swimming}</code>		<code>\twemoji{woman in tuxedo}</code>
	<code>\twemoji{man teacher}</code>		<code>\twemoji{woman judge}</code>
	<code>\twemoji{man technologist}</code>		<code>\twemoji{woman juggling}</code>
	<code>\twemoji{man tipping hand}</code>		<code>\twemoji{woman kneeling}</code>
	<code>\twemoji{man walking}</code>		<code>\twemoji{woman lifting weights}</code>
	<code>\twemoji{man wearing turban}</code>		<code>\twemoji{woman mechanic}</code>
	<code>\twemoji{man with veil}</code>		<code>\twemoji{woman office worker}</code>
	<code>\twemoji{man with white cane}</code>		<code>\twemoji{woman pilot}</code>
	<code>\twemoji{mechanic}</code>		<code>\twemoji{woman playing handball}</code>
	<code>\twemoji{men holding hands}</code>		<code>\twemoji{woman playing water polo}</code>
	<code>\twemoji{men with bunny ears}</code>		<code>\twemoji{woman police officer}</code>
	<code>\twemoji{men wrestling}</code>		<code>\twemoji{woman pouting}</code>
	<code>\twemoji{ninja}</code>		<code>\twemoji{woman raising hand}</code>

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	<code>\twemoji{office worker}</code>		<code>\twemoji{woman running}</code>
	<code>\twemoji{old man}</code>		<code>\twemoji{woman scientist}</code>
	<code>\twemoji{old woman}</code>		<code>\twemoji{woman shrugging}</code>
	<code>\twemoji{older person}</code>		<code>\twemoji{woman singer}</code>
	<code>\twemoji{people holding hands}</code>		<code>\twemoji{woman standing}</code>
	<code>\twemoji{people hugging}</code>		<code>\twemoji{woman student}</code>
	<code>\twemoji{people with bunny ears}</code>		<code>\twemoji{woman surfing}</code>
	<code>\twemoji{people wrestling}</code>		<code>\twemoji{woman swimming}</code>
	<code>\twemoji{person}</code>		<code>\twemoji{woman teacher}</code>
	<code>\twemoji{person bouncing ball}</code>		<code>\twemoji{woman technologist}</code>
	<code>\twemoji{person bowing}</code>		<code>\twemoji{woman tipping hand}</code>
	<code>\twemoji{person cartwheeling}</code>		<code>\twemoji{woman walking}</code>
	<code>\twemoji{person climbing}</code>		<code>\twemoji{woman wearing turban}</code>
	<code>\twemoji{person facepalming}</code>		<code>\twemoji{woman with headscarf}</code>
	<code>\twemoji{person feeding baby}</code>		<code>\twemoji{woman with veil}</code>
	<code>\twemoji{person fencing}</code>		<code>\twemoji{woman with white cane}</code>
	<code>\twemoji{person frowning}</code>		<code>\twemoji{women holding hands}</code>
	<code>\twemoji{person gesturing NO}</code>		<code>\twemoji{women with bunny ears}</code>
	<code>\twemoji{person gesturing OK}</code>		<code>\twemoji{women wrestling}</code>

The vast majority of the symbols in this table can be colored with different skin tones. See the `twemojis` package note on page 460, in particular the example showing symbol variants.

TABLE 916: fontawesome7 People






















	<code>\faArrowsDownToPeople</code>		<code>\faPersonCirclePlus</code>
	<code>\faChild</code>		<code>\faPersonCircleQuestion</code>
	<code>\faChildCombatant</code>		<code>\faPersonCircleXmark</code>
	<code>\faChildDress</code>		<code>\faPersonDigging</code>
	<code>\faChildReaching</code>		<code>\faPersonDress</code>
	<code>\faChildren</code>		<code>\faPersonDressBurst</code>
	<code>\faPeopleArrows</code>		<code>\faPersonDrowning</code>
	<code>\faPeopleCarryBox</code>		<code>\faPersonFalling</code>
	<code>\faPeopleGroup</code>		<code>\faPersonFallingBurst</code>
	<code>\faPeopleLine</code>		<code>\faPersonHalfDress</code>
	<code>\faPeoplePulling</code>		<code>\faPersonHarassing</code>
	<code>\faPeopleRobbery</code>		<code>\faPersonMilitaryPointing</code>
	<code>\faPeopleRoof</code>		<code>\faPersonMilitaryRifle</code>
	<code>\faPerson</code>		<code>\faPersonMilitaryToPerson</code>
	<code>\faPersonArrowDownToLine</code>		<code>\faPersonPregnant</code>
	<code>\faPersonArrowUpFromLine</code>		<code>\faPersonRays</code>
	<code>\faPersonBooth</code>		<code>\faPersonRifle</code>
	<code>\faPersonBreastfeeding</code>		<code>\faPersonShelter</code>
	<code>\faPersonBurst</code>		<code>\faPersonThroughWindow</code>
	<code>\faPersonCane</code>		<code>\faPersonWalkingArrowLoopLeft</code>
	<code>\faPersonChalkboard</code>		<code>\faPersonWalkingArrowRight</code>
	<code>\faPersonCircleCheck</code>		<code>\faPersonWalkingDashedLineArrowRight</code>
	<code>\faPersonCircleExclamation</code>		<code>\faPersonWalkingLuggage</code>
	<code>\faPersonCircleMinus</code>		<code>\faSquarePersonConfined</code>




























TABLE 917: utfsym People, Characters, and Creatures

	<code>\usym{1F464}</code>	<i>bust in silhouette</i>		<code>\usym{1F47C}</code>	<i>baby angel</i>
	<code>\usym{1F465}</code>	<i>busts in silhouette</i>		<code>\usym{1F47D}</code>	<i>extraterrestrial alien</i>
	<code>\usym{1F466}</code>	<i>boy</i>		<code>\usym{1F47E}</code>	<i>alien monster</i>
	<code>\usym{1F467}</code>	<i>girl</i>		<code>\usym{1F47F}</code>	<i>imp</i>
	<code>\usym{1F468}</code>	<i>man</i>		<code>\usym{1F480}</code>	<i>skull</i>
	<code>\usym{1F469}</code>	<i>woman</i>		<code>\usym{1F481}</code>	<i>information desk person</i>
	<code>\usym{1F46A}</code>	<i>family</i>		<code>\usym{1F482}</code>	<i>guardsman</i>
	<code>\usym{1F46B}</code>	<i>man and woman holding hands</i>		<code>\usym{1F483}</code>	<i>dancer</i>
	<code>\usym{1F46C}</code>	<i>two men holding hands</i>		<code>\usym{1F486}</code>	<i>face massage</i>
	<code>\usym{1F46D}</code>	<i>two women holding hands</i>		<code>\usym{1F487}</code>	<i>haircut</i>

(continued on next page)















(continued from previous page)

	<code>\usym{1F46E}</code>	<i>police officer</i>		<code>\usym{1F574}</code>	<i>man in business suit levitating</i>
	<code>\usym{1F46F}</code>	<i>woman with bunny ears</i>		<code>\usym{1F575}</code>	<i>sleuth or spy</i>
	<code>\usym{1F470}</code>	<i>bride with veil</i>		<code>\usym{1F57A}</code>	<i>man dancing</i>
	<code>\usym{1F471}</code>	<i>person with blond hair</i>		<code>\usym{1F5E3}</code>	<i>speaking head in silhouette</i>
	<code>\usym{1F472}</code>	<i>man with gua pi mao</i>		<code>\usym{1F6B6}</code>	<i>pedestrian</i>
	<code>\usym{1F473}</code>	<i>man with turban</i>		<code>\usym{1F6B7}</code>	<i>no pedestrians</i>
	<code>\usym{1F474}</code>	<i>older man</i>		<code>\usym{1F6B8}</code>	<i>children crossing</i>
	<code>\usym{1F475}</code>	<i>older woman</i>		<code>\usym{1F6B9}</code>	<i>men's room</i>
	<code>\usym{1F476}</code>	<i>baby</i>		<code>\usym{1F6BA}</code>	<i>women's room</i>
	<code>\usym{1F477}</code>	<i>construction worker</i>		<code>\usym{1F6BB}</code>	<i>restroom</i>
	<code>\usym{1F478}</code>	<i>princess</i>		<code>\usym{1F6BC}</code>	<i>baby</i>
	<code>\usym{1F479}</code>	<i>Japanese ogre</i>		<code>\usym{1F6C9}</code>	<i>boys</i>
	<code>\usym{1F47A}</code>	<i>Japanese goblin</i>		<code>\usym{1F6CA}</code>	<i>girls</i>
	<code>\usym{1F47B}</code>	<i>ghost</i>			







See the `utfsym` package note on page 461.

TABLE 919: sillypage Silly Walks

	<code>\sillystep{1}</code>		<code>\sillystep{5}</code>		<code>\sillystep{9}</code>
	<code>\sillystep{2}</code>		<code>\sillystep{6}</code>		<code>\sillystep{10}</code>
	<code>\sillystep{3}</code>		<code>\sillystep{7}</code>		<code>\sillystep{11}</code>
	<code>\sillystep{4}</code>		<code>\sillystep{8}</code>		<code>\sillystep{12}</code>

































See the `sillypage` package note on page 458.

TABLE 920: typicons Users

	<code>\tiUser</code>		<code>\tiUserAddOutline</code>		<code>\tiUserDeleteOutline</code>
	<code>\tiUserAdd</code>		<code>\tiUserDelete</code>		<code>\tiUserOutline</code>





















See the `typicons` package note on page 460.

TABLE 921: fontawesome7 Users

	<code>\faCircleUser</code>		<code>\faUserInjured</code>		<code>\faUserShield</code>
	<code>\faCircleUser[regular]</code>		<code>\faUserLock</code>		<code>\faUserSlash</code>
	<code>\faUser</code>		<code>\faUserMinus</code>		<code>\faUsersLine</code>
	<code>\faUser[regular]</code>		<code>\faUserNinja</code>		<code>\faUsersRays</code>
	<code>\faUserAstronaut</code>		<code>\faUserNurse</code>		<code>\faUsersRectangle</code>
	<code>\faUserCheck</code>		<code>\faUserPen</code>		<code>\faUsersSlash</code>
	<code>\faUserClock</code>		<code>\faUserPlus</code>		<code>\faUsersViewfinder</code>
	<code>\faUserDoctor</code>		<code>\faUsers</code>		<code>\faUserTag</code>
	<code>\faUserGear</code>		<code>\faUsersBetweenLines</code>		<code>\faUserTie</code>
	<code>\faUserGraduate</code>		<code>\faUserSecret</code>		<code>\faUserXmark</code>
	<code>\faUserGroup</code>		<code>\faUsersGear</code>		


Many of these symbols had different names in fontawesome5.

TABLE 922: lucide-icons Users

	<code>\lucideicon{user}</code>		<code>\lucideicon{user-round-minus}</code>
	<code>\lucideicon{user-check}</code>		<code>\lucideicon{user-round-pen}</code>
	<code>\lucideicon{user-cog}</code>		<code>\lucideicon{user-round-plus}</code>
	<code>\lucideicon{user-lock}</code>		<code>\lucideicon{user-round-search}</code>
	<code>\lucideicon{user-minus}</code>		<code>\lucideicon{user-round-x}</code>
	<code>\lucideicon{user-pen}</code>		<code>\lucideicon{user-search}</code>
	<code>\lucideicon{user-plus}</code>		<code>\lucideicon{user-star}</code>
	<code>\lucideicon{user-round}</code>		<code>\lucideicon{user-x}</code>
	<code>\lucideicon{user-round-check}</code>		<code>\lucideicon{users}</code>
	<code>\lucideicon{user-round-cog}</code>		<code>\lucideicon{users-round}</code>


See the lucide-icons package note on page 454.

TABLE 923: TikZlings Snowmen

	<code>\snowman</code>
-------------------------------------------------------------------------------------	-----------------------








































See the TikZlings package note on page 459.

TABLE 924: scsnowman Snowmen

	<code>\scsnowman</code>
-------------------------------------------------------------------------------------	-------------------------






























See the scsnowman package note on page 457.

TABLE 925: twemojis Characters and Creatures

	<code>\twemoji{alien}</code>		<code>\twemoji{mx claus}</code>
	<code>\twemoji{alien monster}</code>		<code>\twemoji{ogre}</code>
	<code>\twemoji{elf}</code>		<code>\twemoji{prince}</code>
	<code>\twemoji{fairy}</code>		<code>\twemoji{princess}</code>
	<code>\twemoji{genie}</code>		<code>\twemoji{robot}</code>
	<code>\twemoji{ghost}</code>		<code>\twemoji{Santa Claus}</code>
	<code>\twemoji{goblin}</code>		<code>\twemoji{superhero}</code>
	<code>\twemoji{mage}</code>		<code>\twemoji{supervillain}</code>
	<code>\twemoji{man elf}</code>		<code>\twemoji{troll}</code>
	<code>\twemoji{man fairy}</code>		<code>\twemoji{vampire}</code>
	<code>\twemoji{man genie}</code>		<code>\twemoji{woman elf}</code>
	<code>\twemoji{man mage}</code>		<code>\twemoji{woman fairy}</code>
	<code>\twemoji{man superhero}</code>		<code>\twemoji{woman genie}</code>
	<code>\twemoji{man supervillain}</code>		<code>\twemoji{woman mage}</code>
	<code>\twemoji{man vampire}</code>		<code>\twemoji{woman superhero}</code>
	<code>\twemoji{man zombie}</code>		<code>\twemoji{woman supervillain}</code>
	<code>\twemoji{mermaid}</code>		<code>\twemoji{woman vampire}</code>
	<code>\twemoji{merman}</code>		<code>\twemoji{woman zombie}</code>
	<code>\twemoji{merperson}</code>		<code>\twemoji{zombie}</code>
	<code>\twemoji{Mrs. Claus}</code>		

See the twemojis package note on page 460.

TABLE 926: lucide-icons Speech Bubbles

	<code>\lucideicon{bot-message-square}</code>		<code>\lucideicon{message-square-diff}</code>
	<code>\lucideicon{message-circle}</code>		<code>\lucideicon{message-square-dot}</code>
	<code>\lucideicon{message-circle-code}</code>		<code>\lucideicon{message-square-heart}</code>
	<code>\lucideicon{message-circle-dashed}</code>		<code>\lucideicon{message-square-lock}</code>
	<code>\lucideicon{message-circle-heart}</code>		<code>\lucideicon{message-square-more}</code>
	<code>\lucideicon{message-circle-more}</code>		<code>\lucideicon{message-square-off}</code>
	<code>\lucideicon{message-circle-off}</code>		<code>\lucideicon{message-square-plus}</code>
	<code>\lucideicon{message-circle-plus}</code>		<code>\lucideicon{message-square-quote}</code>
	<code>\lucideicon{message-circle-question-mark}</code>		<code>\lucideicon{message-square-reply}</code>
	<code>\lucideicon{message-circle-reply}</code>		<code>\lucideicon{message-square-share}</code>
	<code>\lucideicon{message-circle-warning}</code>		<code>\lucideicon{message-square-text}</code>
	<code>\lucideicon{message-circle-x}</code>		<code>\lucideicon{message-square-warning}</code>
	<code>\lucideicon{message-square}</code>		<code>\lucideicon{message-square-x}</code>
	<code>\lucideicon{message-square-code}</code>		<code>\lucideicon{messages-square}</code>
	<code>\lucideicon{message-square-dashed}</code>		

See the lucide-icons package note on page 454.

TABLE 927: utfsym Speech Bubbles






















	<code>\usym{1F4AC}</code>	<i>speech balloon</i>		<code>\usym{1F5EC}</code>	<i>left thought bubble</i>
	<code>\usym{1F4AD}</code>	<i>thought balloon</i>		<code>\usym{1F5ED}</code>	<i>right thought bubble</i>
	<code>\usym{1F5E8}</code>	<i>left speech bubble</i>		<code>\usym{1F5EE}</code>	<i>left anger bubble</i>
	<code>\usym{1F5E9}</code>	<i>right speech bubble</i>		<code>\usym{1F5EF}</code>	<i>right anger bubble</i>
	<code>\usym{1F5EA}</code>	<i>two speech bubbles</i>		<code>\usym{1F5F0}</code>	<i>mood bubble</i>
	<code>\usym{1F5EB}</code>	<i>three speech bubbles</i>		<code>\usym{1F5F1}</code>	<i>lightning mood bubble</i>

TABLE 928: Miscellaneous tikzsymbols Symbols

	<code>\Bed</code>		<code>\Chair</code>		<code>\Fire</code>		<code>\Snowman</code>		<code>\Tribar</code>
	<code>\Candle</code>		<code>\Coffeecup</code>		<code>\Moai</code>		<code>\Strichmaxerl*</code>		

See the tikzsymbols package note on page 460.












\* `\Strichmaxerl` supports customization of the angles at which the stick figure's arms and legs are drawn. See the tikzsymbols documentation for more information.

TABLE 929: fontawesome7 Postal Symbols

	<code>\faEnvelope</code>		<code>\faEnvelopeOpen[regular]</code>
	<code>\faEnvelope[regular]</code>		<code>\faEnvelopeOpenText</code>
	<code>\faEnvelopeCircleCheck</code>		<code>\faEnvelopesBulk*</code>
	<code>\faEnvelopeOpen</code>		

\* fontawesome7 has renamed this symbol from what it was called in fontawesome5.

TABLE 930: lucide-icons Postal Symbols

	<code>\lucideicon{mail}</code>		<code>\lucideicon{mail-search}</code>
	<code>\lucideicon{mail-check}</code>		<code>\lucideicon{mail-warning}</code>
	<code>\lucideicon{mail-minus}</code>		<code>\lucideicon{mail-x}</code>
	<code>\lucideicon{mail-open}</code>		<code>\lucideicon{mailbox}</code>
	<code>\lucideicon{mail-plus}</code>		<code>\lucideicon{mails}</code>
	<code>\lucideicon{mail-question-mark}</code>		

See the lucide-icons package note on page 454.

TABLE 931: utfsym Postal Symbols















	<code>\usym{2709}</code>	<i>envelope</i>		<code>\usym{1F4ED}</code>	<i>open mailbox with lowered flag</i>
	<code>\usym{1F4E7}</code>	<i>e-mail</i>		<code>\usym{1F4EE}</code>	<i>postbox</i>
	<code>\usym{1F4E8}</code>	<i>incoming envelope</i>		<code>\usym{1F582}</code>	<i>back of envelope</i>
	<code>\usym{1F4E9}</code>	<i>envelope with downwards arrow above</i>		<code>\usym{1F583}</code>	<i>stamped envelope</i>
	<code>\usym{1F4EA}</code>	<i>closed mailbox with lowered flag</i>		<code>\usym{1F584}</code>	<i>envelope with lightning</i>
	<code>\usym{1F4EB}</code>	<i>closed mailbox with raised flag</i>		<code>\usym{1F585}</code>	<i>flying envelope</i>
	<code>\usym{1F4EC}</code>	<i>open mailbox with raised flag</i>		<code>\usym{1F586}</code>	<i>pen over stamped envelope</i>

TABLE 932: bahaistar Religion Symbols

✱ `\bahaistar`

TABLE 933: fontawesome7 Religion Symbols

	<code>\faAnkh</code>		<code>\faHamsa</code>		<code>\faPlaceOfWorship</code>
	<code>\faBahai</code>		<code>\faHandsPraying*</code>		<code>\faScrollTorah*</code>
	<code>\faBookBible*</code>		<code>\faHanukiah</code>		<code>\faSpaghettiMonsterFlying*</code>
	<code>\faBookQuran*</code>		<code>\faKaaba</code>		<code>\faStarAndCrescent</code>
	<code>\faBookTanakh</code>		<code>\faKhanda</code>		<code>\faStarOfDavid</code>
	<code>\faChurch</code>		<code>\faMenorah</code>		<code>\faSynagogue</code>
	<code>\faCross</code>		<code>\faMosque</code>		<code>\faToriiGate</code>
	<code>\faDharmachakra</code>		<code>\faOm</code>		<code>\faVihara</code>
	<code>\faGopuram</code>		<code>\faPersonPraying*</code>		<code>\faYinYang</code>

\* In fontawesome5, `\faBookQuran` was called `\faQuran`, `\faBookBible` was called `\faBible`, `\faScrollTorah` was called `\faTorah`, `\faSpaghettiMonsterFlying` was called `\faPastafarianism`, `\faHandsPraying` was called `\faPrayingHands`, and `\faPersonPraying` was called `\faPray`.

TABLE 934: utfsym Religion Symbols

♀	<code>\usym{2625}</code>	<i>ankh</i>	𐍚	<code>\usym{26E9}</code>	<i>shintō shrine</i>
✝	<code>\usym{2626}</code>	<i>orthodox cross</i>	⛪	<code>\usym{26EA}</code>	<i>church</i>
Ⲡ	<code>\usym{2627}</code>	<i>chi rho</i>	🙏	<code>\usym{1F4FF}</code>	<i>prayer beads</i>
✝	<code>\usym{2628}</code>	<i>Cross of Lorraine</i>	✠	<code>\usym{1F545}</code>	<i>symbol for marks chapter</i>
✝	<code>\usym{2629}</code>	<i>Jerusalem cross</i>	ॐ	<code>\usym{1F549}</code>	<i>Om</i>
☾	<code>\usym{262A}</code>	<i>star and crescent</i>	🕌	<code>\usym{1F54B}</code>	<i>Kaaba</i>
❁	<code>\usym{262C}</code>	<i>Adi Shakti</i>	🕌	<code>\usym{1F54C}</code>	<i>mosque</i>
⚙	<code>\usym{2638}</code>	<i>wheel of dharma</i>	🕍	<code>\usym{1F54D}</code>	<i>synagogue</i>
✝	<code>\usym{2670}</code>	<i>west Syriac cross</i>	🕯	<code>\usym{1F54E}</code>	<i>menorah with nine branches</i>
✝	<code>\usym{2671}</code>	<i>east Syriac cross</i>			

See the `utfsym` package note on page 461.

TABLE 935: twemojis Religion Symbols

🏛	<code>\twemoji{church}</code>	🙏	<code>\twemoji{om}</code>
🔦	<code>\twemoji{diya lamp}</code>	✝	<code>\twemoji{orthodox cross}</code>
🖐	<code>\twemoji{hamsa}</code>	🕌	<code>\twemoji{place of worship}</code>
🏛	<code>\twemoji{hindu temple}</code>	🙏	<code>\twemoji{prayer beads}</code>
🕌	<code>\twemoji{kaaba}</code>	✠	<code>\twemoji{shintō shrine}</code>
✝	<code>\twemoji{latin cross}</code>	☾	<code>\twemoji{star and crescent}</code>
🕯	<code>\twemoji{menorah}</code>	❁	<code>\twemoji{star of David}</code>
🕌	<code>\twemoji{mosque}</code>	🕍	<code>\twemoji{synagogue}</code>
🕯	<code>\twemoji{nazar amulet}</code>	⚙	<code>\twemoji{wheel of dharma}</code>















See the `twemojis` package note on page 460.

TABLE 936: utfsym Celebration Symbols

🎊	<code>\usym{1F380}</code>	<i>ribbon</i>	🎈	<code>\usym{1F388}</code>	<i>balloon</i>
📺	<code>\usym{1F381}</code>	<i>wrapped present</i>	🎉	<code>\usym{1F389}</code>	<i>party popper</i>
🏠	<code>\usym{1F383}</code>	<i>jack-o-lantern</i>	🎊	<code>\usym{1F38A}</code>	<i>confetti ball</i>
🎄	<code>\usym{1F384}</code>	<i>Christmas tree</i>	🎋	<code>\usym{1F38B}</code>	<i>tanabata tree</i>
🎅	<code>\usym{1F385}</code>	<i>Father Christmas</i>	🎍	<code>\usym{1F38D}</code>	<i>pine decoration</i>
🎆	<code>\usym{1F386}</code>	<i>fireworks</i>	🎏	<code>\usym{1F38F}</code>	<i>carp streamer</i>
🎇	<code>\usym{1F387}</code>	<i>firework sparkler</i>	🌕	<code>\usym{1F391}</code>	<i>moon viewing ceremony</i>








See the `utfsym` package note on page 461.

TABLE 937: utfsym I Ching Hexagrams

	<code>\usym{2630}</code>	<i>trigram for heaven</i>		<code>\usym{2637}</code>	<i>trigram for earth</i>
	<code>\usym{2631}</code>	<i>trigram for lake</i>		<code>\usym{268A}</code>	<i>monogram for yang</i>
	<code>\usym{2632}</code>	<i>trigram for fire</i>		<code>\usym{268B}</code>	<i>monogram for yin</i>
	<code>\usym{2633}</code>	<i>trigram for thunder</i>		<code>\usym{268C}</code>	<i>digram for greater yang</i>
	<code>\usym{2634}</code>	<i>trigram for wind</i>		<code>\usym{268D}</code>	<i>digram for lesser yin</i>
	<code>\usym{2635}</code>	<i>trigram for water</i>		<code>\usym{268E}</code>	<i>digram for lesser yang</i>
	<code>\usym{2636}</code>	<i>trigram for mountain</i>		<code>\usym{268F}</code>	<i>digram for greater yin</i>




























See the `utfsym` package note on page 461.

TABLE 938: asapsym Elevators, Escalators, and Stairs

	<code>\asapElevator</code>		<code>\asapEscalatorUp</code>		<code>\asapStairUp</code>
	<code>\asapEscalator</code>		<code>\asapStair</code>		
	<code>\asapEscalatorDown</code>		<code>\asapStairDown</code>		

See the `asapsym` package note on page 450.

TABLE 939: Miscellaneous bclogo Symbols















	<code>\bcattention</code>		<code>\bcetoile</code>		<code>\bcpanchant</code>
	<code>\bcbombe</code>		<code>\bcfemme</code>		<code>\bcpeaceandlove</code>
	<code>\bcbook</code>		<code>\bcfeujaune</code>		<code>\bcpluie</code>
	<code>\bccalendrier</code>		<code>\bcfeurouge</code>		<code>\bcplume</code>
	<code>\bccle</code>		<code>\bcfeutricolore</code>		<code>\bcpoisson</code>
	<code>\bcclefa</code>		<code>\bcfeuvert</code>		<code>\bcquestion</code>
	<code>\bcclesol</code>		<code>\bcfleur</code>		<code>\bcrecyclage</code>
	<code>\bccoeur</code>		<code>\bchomme</code>		<code>\bcrosevents</code>
	<code>\bccrayon</code>		<code>\bchorloge</code>		<code>\bcsmbh</code>

(continued on next page)

(continued from previous page)

	<code>\bccube</code>		<code>\bcicosaedre</code>		<code>\bcsmmh</code>
	<code>\bcdallemagne</code>		<code>\bcinfo</code>		<code>\bcsoleil</code>
	<code>\bcdanger</code>		<code>\bcinterdit</code>		<code>\bcspadesuit</code>
	<code>\bcdautriche</code>		<code>\bclampe</code>		<code>\bcstop</code>
	<code>\bcdbelgique</code>		<code>\bcloupe</code>		<code>\bctakecare</code>
	<code>\bcdbulgarie</code>		<code>\bcneige</code>		<code>\bctetraedre</code>
	<code>\bcdfrance</code>		<code>\bcnote</code>		<code>\bctrefle</code>
	<code>\bcditalie</code>		<code>\bcnucleaire</code>		<code>\bctrombone</code>
	<code>\bcdluxembourg</code>		<code>\bcocetaedre</code>		<code>\bcvaletcoeur</code>
	<code>\bcdodecaedre</code>		<code>\bcoeil</code>		<code>\bcvelo</code>
	<code>\bcdpaysbas</code>		<code>\bcorne</code>		<code>\bcyin</code>
	<code>\bcdz</code>		<code>\bcours</code>		
	<code>\bceclaircie</code>		<code>\bcoutil</code>		

See the `bclogo` package note on page 450.TABLE 941: `utfsym` Arts and Entertainment

	<code>\usym{1F39E}</code>	<i>film frames</i>		<code>\usym{1F3A6}</code>	<i>cinema</i>
	<code>\usym{1F39F}</code>	<i>admission tickets</i>		<code>\usym{1F3A7}</code>	<i>headphones</i>
	<code>\usym{1F3A0}</code>	<i>carousel horse</i>		<code>\usym{1F3A8}</code>	<i>artist palette</i>
	<code>\usym{1F3A1}</code>	<i>ferris wheel</i>		<code>\usym{1F3AA}</code>	<i>circus tent</i>
	<code>\usym{1F3A2}</code>	<i>roller coaster</i>		<code>\usym{1F3AB}</code>	<i>ticket</i>
	<code>\usym{1F3A4}</code>	<i>microphone</i>		<code>\usym{1F3AC}</code>	<i>clapper board</i>
	<code>\usym{1F3A5}</code>	<i>movie camera</i>		<code>\usym{1F3AD}</code>	<i>performing arts</i>

See the `utfsym` package note on page 461.TABLE 942: `fontawesome7` Shields







	<code>\faShield</code>		<code>\faShieldDog</code>		<code>\faShieldHeart</code>
	<code>\faShieldCat</code>		<code>\faShieldHalved</code>		<code>\faShieldVirus</code>



TABLE 943: lucide-icons Badges and Shields































	<code>\lucideicon{badge}</code>		<code>\lucideicon{shield-ban}</code>
	<code>\lucideicon{badge-alert}</code>		<code>\lucideicon{shield-check}</code>
	<code>\lucideicon{badge-check}</code>		<code>\lucideicon{shield-ellipsis}</code>
	<code>\lucideicon{badge-info}</code>		<code>\lucideicon{shield-half}</code>
	<code>\lucideicon{badge-minus}</code>		<code>\lucideicon{shield-minus}</code>
	<code>\lucideicon{badge-percent}</code>		<code>\lucideicon{shield-off}</code>
	<code>\lucideicon{badge-plus}</code>		<code>\lucideicon{shield-plus}</code>
	<code>\lucideicon{badge-question-mark}</code>		<code>\lucideicon{shield-question-mark}</code>
	<code>\lucideicon{badge-x}</code>		<code>\lucideicon{shield-user}</code>
	<code>\lucideicon{shield}</code>		<code>\lucideicon{shield-x}</code>
	<code>\lucideicon{shield-alert}</code>		

Table 834 on page 350 presents lucide-icons badges of currency symbols.








See the lucide-icons package note on page 454.

TABLE 944: fontawesome7 Disability Symbols

	<code>\faBraille</code>		<code>\faHandsAslInterpreting</code>
	<code>\faEarDeaf</code>		<code>\faPersonWalkingWithCane</code>
	<code>\faEarListen</code>		<code>\faTty</code>
	<code>\faEyeLowVision</code>		<code>\faWheelchair</code>
	<code>\faHands</code>		<code>\faWheelchairMove</code>



































































Almost all of these symbols had different names in fontawesome5. Most notably, `\faHands` was called `\faSignLanguage`.

TABLE 945: fontawesome7 Books

	<code>\faBook</code>		<code>\faBookJournalWhills</code>		<code>\faBookSkull</code>
	<code>\faBookAtlas</code>		<code>\faBookOpen</code>		
	<code>\faBookBookmark</code>		<code>\faBookOpenReader</code>		
















































Many of these symbols had different names in fontawesome5. See also Table 933 on page 389, which presents religious books.

TABLE 946: lucide-icons Books and Paper

	<code>\lucideicon{album}</code>		<code>\lucideicon{clipboard-check}</code>
	<code>\lucideicon{book}</code>		<code>\lucideicon{clipboard-clock}</code>
	<code>\lucideicon{book-a}</code>		<code>\lucideicon{clipboard-copy}</code>
	<code>\lucideicon{book-alert}</code>		<code>\lucideicon{clipboard-list}</code>
	<code>\lucideicon{book-audio}</code>		<code>\lucideicon{clipboard-minus}</code>
	<code>\lucideicon{book-check}</code>		<code>\lucideicon{clipboard-paste}</code>
	<code>\lucideicon{book-copy}</code>		<code>\lucideicon{clipboard-pen}</code>
	<code>\lucideicon{book-dashed}</code>		<code>\lucideicon{clipboard-pen-line}</code>
	<code>\lucideicon{book-down}</code>		<code>\lucideicon{clipboard-plus}</code>
	<code>\lucideicon{book-headphones}</code>		<code>\lucideicon{clipboard-type}</code>
	<code>\lucideicon{book-heart}</code>		<code>\lucideicon{clipboard-x}</code>
	<code>\lucideicon{book-image}</code>		<code>\lucideicon{library}</code>
	<code>\lucideicon{book-key}</code>		<code>\lucideicon{library-big}</code>
	<code>\lucideicon{book-lock}</code>		<code>\lucideicon{newspaper}</code>
	<code>\lucideicon{book-marked}</code>		<code>\lucideicon{notebook}</code>
	<code>\lucideicon{book-minus}</code>		<code>\lucideicon{notebook-pen}</code>
	<code>\lucideicon{book-open}</code>		<code>\lucideicon{notebook-tabs}</code>
	<code>\lucideicon{book-open-check}</code>		<code>\lucideicon{notebook-text}</code>
	<code>\lucideicon{book-open-text}</code>		<code>\lucideicon{notepad-text}</code>
	<code>\lucideicon{book-plus}</code>		<code>\lucideicon{notepad-text-dashed}</code>
	<code>\lucideicon{book-search}</code>		<code>\lucideicon{scroll}</code>
	<code>\lucideicon{book-text}</code>		<code>\lucideicon{scroll-text}</code>
	<code>\lucideicon{book-type}</code>		<code>\lucideicon{sticker}</code>
	<code>\lucideicon{book-up}</code>		<code>\lucideicon{sticky-note}</code>
	<code>\lucideicon{book-up-2}</code>		<code>\lucideicon{ticket}</code>
	<code>\lucideicon{book-user}</code>		<code>\lucideicon{ticket-check}</code>
	<code>\lucideicon{book-x}</code>		<code>\lucideicon{ticket-minus}</code>
	<code>\lucideicon{bookmark}</code>		<code>\lucideicon{ticket-percent}</code>
	<code>\lucideicon{bookmark-check}</code>		<code>\lucideicon{ticket-plus}</code>
	<code>\lucideicon{bookmark-minus}</code>		<code>\lucideicon{ticket-slash}</code>
	<code>\lucideicon{bookmark-plus}</code>		<code>\lucideicon{ticket-x}</code>
	<code>\lucideicon{bookmark-x}</code>		<code>\lucideicon{tickets}</code>
	<code>\lucideicon{clipboard}</code>		<code>\lucideicon{tickets-plane}</code>

See the lucide-icons package note on page 454.

TABLE 948: utfsym Books and Paper

	<code>\usym{1F4C1}</code>	<i>file folder</i>		<code>\usym{1F5BA}</code>	<i>document with text and picture</i>
	<code>\usym{1F4C2}</code>	<i>open file folder</i>		<code>\usym{1F5BB}</code>	<i>document with picture</i>
	<code>\usym{1F4C3}</code>	<i>page with curl</i>		<code>\usym{1F5BF}</code>	<i>black folder</i>
	<code>\usym{1F4C4}</code>	<i>page facing up</i>		<code>\usym{1F5C0}</code>	<i>folder</i>
	<code>\usym{1F4C5}</code>	<i>calendar</i>		<code>\usym{1F5C1}</code>	<i>open folder</i>
	<code>\usym{1F4C6}</code>	<i>tear-off calendar</i>		<code>\usym{1F5C2}</code>	<i>card index dividers</i>
	<code>\usym{1F4C7}</code>	<i>card index</i>		<code>\usym{1F5C3}</code>	<i>card file box</i>
	<code>\usym{1F4CB}</code>	<i>clipboard</i>		<code>\usym{1F5C5}</code>	<i>empty note</i>
	<code>\usym{1F4D1}</code>	<i>bookmark tabs</i>		<code>\usym{1F5C6}</code>	<i>empty note page</i>
	<code>\usym{1F4D2}</code>	<i>ledger</i>		<code>\usym{1F5C7}</code>	<i>empty note pad</i>
	<code>\usym{1F4D3}</code>	<i>notebook</i>		<code>\usym{1F5C8}</code>	<i>note</i>
	<code>\usym{1F4D4}</code>	<i>notebook with decorative cover</i>		<code>\usym{1F5C9}</code>	<i>note page</i>
	<code>\usym{1F4D5}</code>	<i>closed book</i>		<code>\usym{1F5CA}</code>	<i>note pad</i>
	<code>\usym{1F4D6}</code>	<i>open book</i>		<code>\usym{1F5CB}</code>	<i>empty document</i>
	<code>\usym{1F4D7}</code>	<i>green book</i>		<code>\usym{1F5CC}</code>	<i>empty page</i>
	<code>\usym{1F4D8}</code>	<i>blue book</i>		<code>\usym{1F5CD}</code>	<i>empty pages</i>
	<code>\usym{1F4D9}</code>	<i>orange book</i>		<code>\usym{1F5CE}</code>	<i>document</i>
	<code>\usym{1F4DA}</code>	<i>books</i>		<code>\usym{1F5CF}</code>	<i>page</i>
	<code>\usym{1F4DC}</code>	<i>scroll</i>		<code>\usym{1F5D0}</code>	<i>pages</i>
	<code>\usym{1F4DD}</code>	<i>memo</i>		<code>\usym{1F5D2}</code>	<i>spiral note pad</i>
	<code>\usym{1F4F0}</code>	<i>newspaper</i>		<code>\usym{1F5D3}</code>	<i>spiral calendar pad</i>
	<code>\usym{1F516}</code>	<i>bookmark</i>		<code>\usym{1F5DE}</code>	<i>rolled-up newspaper</i>
	<code>\usym{1F56E}</code>	<i>book</i>		<code>\usym{1F5DF}</code>	<i>page with circled text</i>
	<code>\usym{1F5B9}</code>	<i>document with text</i>			










See the utfsym package note on page 461.

TABLE 950: twemojis Books and Paper

	<code>\twemoji{blue book}</code>		<code>\twemoji{open book}</code>
	<code>\twemoji{bookmark}</code>		<code>\twemoji{orange book}</code>
	<code>\twemoji{bookmark tabs}</code>		<code>\twemoji{page facing up}</code>
	<code>\twemoji{books}</code>		<code>\twemoji{page with curl}</code>
	<code>\twemoji{clipboard}</code>		<code>\twemoji{receipt}</code>
	<code>\twemoji{closed book}</code>		<code>\twemoji{rolled-up newspaper}</code>
	<code>\twemoji{green book}</code>		<code>\twemoji{scroll}</code>
	<code>\twemoji{ledger}</code>		<code>\twemoji{spiral calendar}</code>
	<code>\twemoji{newspaper}</code>		<code>\twemoji{spiral notepad}</code>
	<code>\twemoji{notebook}</code>		<code>\twemoji{tear-off calendar}</code>
	<code>\twemoji{notebook with decorative cover}</code>		





See the twemojis package note on page 460.

TABLE 951: asapsym Everyday Objects

	<code>\asapBook</code>		<code>\asapGift</code>		<code>\asapMug</code>
	<code>\asapCigarette</code>		<code>\asapHanger</code>		<code>\asapPhone</code>
	<code>\asapEnvelope</code>		<code>\asapMicroscope</code>		<code>\asapUtensils</code>

See the `asapsym` package note on page 450.

TABLE 952: typicons Everyday Objects

	<code>\tiAnchor</code>		<code>\tiFlagOutline</code>		<code>\tiPiOutline</code>
	<code>\tiAnchorOutline</code>		<code>\tiGift</code>		<code>\tiPipette</code>
	<code>\tiAttachment</code>		<code>\tiGlobe</code>		<code>\tiPlane</code>
	<code>\tiAttachmentOutline</code>		<code>\tiGlobeOutline</code>		<code>\tiPlaneOutline</code>
	<code>\tiBeaker</code>		<code>\tiHeadphones</code>		<code>\tiPlug</code>
	<code>\tiBeer</code>		<code>\tiHome</code>		<code>\tiPuzzle</code>
	<code>\tiBell</code>		<code>\tiHomeOutline</code>		<code>\tiPuzzleOutline</code>
	<code>\tiBook</code>		<code>\tiKey</code>		<code>\tiScissors</code>
	<code>\tiBriefcase</code>		<code>\tiKeyOutline</code>		<code>\tiScissorsOutline</code>
	<code>\tiBrush</code>		<code>\tiLeaf</code>		<code>\tiShoppingBag</code>
	<code>\tiBusinessCard</code>		<code>\tiLightbulb</code>		<code>\tiShoppingCart</code>
	<code>\tiCalculator</code>		<code>\tiLockClosed</code>		<code>\tiSpanner</code>
	<code>\tiCamera</code>		<code>\tiLockClosedOutline</code>		<code>\tiSpannerOutline</code>
	<code>\tiCameraOutline</code>		<code>\tiLockOpen</code>		<code>\tiTag</code>
	<code>\tiClipboard</code>		<code>\tiLockOpenOutline</code>		<code>\tiTags</code>
	<code>\tiCoffee</code>		<code>\tiMail</code>		<code>\tiTicket</code>
	<code>\tiCompass</code>		<code>\tiMap</code>		<code>\tiTrash</code>
	<code>\tiContacts</code>		<code>\tiMicrophone</code>		<code>\tiTree</code>
	<code>\tiCreditCard</code>		<code>\tiMicrophoneOutline</code>		<code>\tiVideo</code>
	<code>\tiDirections</code>		<code>\tiMortarBoard</code>		<code>\tiVideoOutline</code>
	<code>\tiEye</code>		<code>\tiNews</code>		<code>\tiWine</code>
	<code>\tiEyeOutline</code>		<code>\tiPhone</code>		<code>\tiWorld</code>
	<code>\tiFeather</code>		<code>\tiPhoneOutline</code>		<code>\tiWorldOutline</code>
	<code>\tiFilm</code>		<code>\tiPin</code>		
	<code>\tiFlag</code>		<code>\tiPinOutline</code>		

See the `typicons` package note on page 460.

TABLE 954: fontawesome7 Everyday Objects

	<code>\faAppleWhole</code>		<code>\faFireExtinguisher</code>		<code>\faPiggyBank</code>
	<code>\faArchway</code>		<code>\faFlask</code>		<code>\faPizzaSlice</code>
	<code>\faAward</code>		<code>\faFlaskVial</code>		<code>\faPlantWilt</code>
	<code>\faBaby</code>		<code>\faGamepad</code>		<code>\faPumpSoap</code>
	<code>\faBabyCarriage</code>		<code>\faGasPump</code>		<code>\faPuzzlePiece</code>
	<code>\faBacon</code>		<code>\faGavel</code>		<code>\faRadio</code>
	<code>\faBagShopping</code>		<code>\faGem</code>		<code>\faRainbow</code>
	<code>\faBasketShopping</code>		<code>\faGem[regular]</code>		<code>\faReceipt</code>
	<code>\faBath</code>		<code>\faGift</code>		<code>\faRecordVinyl</code>
	<code>\faBed</code>		<code>\faGifts</code>		<code>\faRibbon</code>
	<code>\faBeerMugEmpty</code>		<code>\faGlasses</code>		<code>\faRing</code>
	<code>\faBell</code>		<code>\faGlassWater</code>		<code>\faRobot</code>
	<code>\faBell[regular]</code>		<code>\faGlassWaterDroplet</code>		<code>\faRug</code>
	<code>\faBellConcierge</code>		<code>\faGraduationCap</code>		<code>\faRuler</code>
	<code>\faBinoculars</code>		<code>\faGuitar</code>		<code>\faRulerCombined</code>
	<code>\faBlender</code>		<code>\faGun</code>		<code>\faRulerHorizontal</code>
	<code>\faBlenderPhone</code>		<code>\faHammer</code>		<code>\faRulerVertical</code>
	<code>\faBomb</code>		<code>\faHandcuffs</code>		<code>\faSatellite</code>
	<code>\faBone</code>		<code>\faHatCowboy</code>		<code>\faSatelliteDish</code>
	<code>\faBong</code>		<code>\faHatCowboySide</code>		<code>\faScrewdriver</code>
	<code>\faBottleDroplet</code>		<code>\faHatWizard</code>		<code>\faScrewdriverWrench</code>
	<code>\faBottleWater</code>		<code>\faHeadphones</code>		<code>\faScroll</code>
	<code>\faBowlFood</code>		<code>\faHeadset</code>		<code>\faSdCard</code>
	<code>\faBowlRice</code>		<code>\faHelmetSafety</code>		<code>\faSeedling</code>
	<code>\faBox</code>		<code>\faHotdog</code>		<code>\faShirt</code>
	<code>\faBoxArchive</code>		<code>\faHotTubPerson</code>		<code>\faShoePrints</code>
	<code>\faBoxesPacking</code>		<code>\faIceCream</code>		<code>\faShower</code>
	<code>\faBoxesStacked</code>		<code>\faIdBadge</code>		<code>\faShuttleSpace</code>
	<code>\faBoxOpen</code>		<code>\faIdBadge[regular]</code>		<code>\faSignHanging</code>
	<code>\faBoxTissue</code>		<code>\faIdCard</code>		<code>\faSimCard</code>
	<code>\faBreadSlice</code>		<code>\faIdCard[regular]</code>		<code>\faSink</code>
	<code>\faBriefcase</code>		<code>\faIdCardClip</code>		<code>\faSleigh</code>
	<code>\faBroom</code>		<code>\faJar</code>		<code>\faSmoking</code>
	<code>\faBrush</code>		<code>\faJoint</code>		<code>\faSnowman</code>
	<code>\faBucket</code>		<code>\faJugDetergent</code>		<code>\faSnowplow</code>
	<code>\faBullhorn</code>		<code>\faKey</code>		<code>\faSoap</code>
	<code>\faBurger</code>		<code>\faKitchenSet</code>		<code>\faSocks</code>
	<code>\faCakeCandles</code>		<code>\faLeaf</code>		<code>\faSolarPanel</code>
	<code>\faCalculator</code>		<code>\faLemon</code>		<code>\faSpoon</code>
	<code>\faCamera</code>		<code>\faLemon[regular]</code>		<code>\faSprayCan</code>
	<code>\faCameraRetro</code>		<code>\faLifeRing</code>		<code>\faSprayCanSparkles</code>




(continued on next page)

*(continued from previous page)*

	<code>\faCandyCane</code>		<code>\faLifeRing[regular]</code>		<code>\faStairs</code>
	<code>\faCannabis</code>		<code>\faLightbulb</code>		<code>\faStamp</code>
	<code>\faCarBattery</code>		<code>\faLightbulb[regular]</code>		<code>\faStapler</code>
	<code>\faCarrot</code>		<code>\faLinesLeaning</code>		<code>\faStroopwafel</code>
	<code>\faCarSide</code>		<code>\faLock</code>		<code>\faSunPlantWilt</code>
	<code>\faCartShopping</code>		<code>\faLockOpen</code>		<code>\faSwatchbook</code>
	<code>\faCashRegister</code>		<code>\faMagnet</code>		<code>\faTag</code>
	<code>\faChair</code>		<code>\faMartiniGlass</code>		<code>\faTags</code>
	<code>\faChalkboard</code>		<code>\faMartiniGlassCitrus</code>		<code>\faTape</code>
	<code>\faChampagneGlasses</code>		<code>\faMartiniGlassEmpty</code>		<code>\faTeeth</code>
	<code>\faCheese</code>		<code>\faMask</code>		<code>\faTeethOpen</code>
	<code>\faClapperboard</code>		<code>\faMasksTheater</code>		<code>\faThermometer</code>
	<code>\faClipboard</code>		<code>\faMattressPillow</code>		<code>\faThumbtack</code>
	<code>\faClipboard[regular]</code>		<code>\faMedal</code>		<code>\faTicket</code>
	<code>\faClover</code>		<code>\faMeteor</code>		<code>\faTicketSimple</code>
	<code>\faCoins</code>		<code>\faMicrophone</code>		<code>\faToilet</code>
	<code>\faCompactDisc</code>		<code>\faMicrophoneLines</code>		<code>\faToiletPaper</code>
	<code>\faCompass</code>		<code>\faMicroscope</code>		<code>\faToiletPortable</code>
	<code>\faCompass[regular]</code>		<code>\faMitten</code>		<code>\faToiletsPortable</code>
	<code>\faCompassDrafting</code>		<code>\faMonument</code>		<code>\faToolbox</code>
	<code>\faCookie</code>		<code>\faMoon</code>		<code>\faTooth</code>
	<code>\faCookieBite</code>		<code>\faMoon[regular]</code>		<code>\faTrash</code>
	<code>\faCouch</code>		<code>\faMortarPestle</code>		<code>\faTrashCan</code>
	<code>\faCreditCard</code>		<code>\faMugHot</code>		<code>\faTrashCan[regular]</code>
	<code>\faCreditCard[regular]</code>		<code>\faMugSaucer</code>		<code>\faTrophy</code>
	<code>\faCrown</code>		<code>\faNewspaper</code>		<code>\faTrowel</code>
	<code>\faDolly</code>		<code>\faNewspaper[regular]</code>		<code>\faTv</code>
	<code>\faDoorClosed</code>		<code>\faNoteSticky</code>		<code>\faUmbrella</code>
	<code>\faDoorOpen</code>		<code>\faNoteSticky[regular]</code>		<code>\faUmbrellaBeach</code>
	<code>\faDrum</code>		<code>\faOilCan</code>		<code>\faUnlock</code>
	<code>\faDrumSteelpan</code>		<code>\faPager</code>		<code>\faUtensils</code>
	<code>\faDrumstickBite</code>		<code>\faPaintbrush</code>		<code>\faVault</code>
	<code>\faDumpster</code>		<code>\faPaintRoller</code>		<code>\faVest</code>
	<code>\faDungeon</code>		<code>\faPalette</code>		<code>\faVestPatches</code>
	<code>\faEgg</code>		<code>\faPallet</code>		<code>\faVrCardboard</code>
	<code>\faElevator</code>		<code>\faPaperclip</code>		<code>\faWalkieTalkie</code>
	<code>\faEyeDropper</code>		<code>\faPaperPlane</code>		<code>\faWallet</code>
	<code>\faFan</code>		<code>\faPaperPlane[regular]</code>		<code>\faWaterLadder</code>
	<code>\faFaucet</code>		<code>\faParachuteBox</code>		<code>\faWeightHanging</code>
	<code>\faFaucetDrip</code>		<code>\faPassport</code>		<code>\faWhiskeyGlass</code>
	<code>\faFax</code>		<code>\faPenRuler</code>		<code>\faWineBottle</code>
	<code>\faFeather</code>		<code>\faPepperHot</code>		<code>\faWineGlass</code>
	<code>\faFeatherPointed</code>		<code>\faPhone</code>		<code>\faWineGlassEmpty</code>



































































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 \faFireBurner       \faPhoneFlip       \faWrench




























































































Many of these symbols had different names in fontawesome5.

TABLE 956: lucide-icons Everyday Objects

	\lucideicon{air-vent}		\lucideicon{lock}
	\lucideicon{alarm-smoke}		\lucideicon{lock-keyhole}
	\lucideicon{amphora}		\lucideicon{lock-keyhole-open}
	\lucideicon{anchor}		\lucideicon{lock-open}
	\lucideicon{antenna}		\lucideicon{magnet}
	\lucideicon{anvil}		\lucideicon{medal}
	\lucideicon{armchair}		\lucideicon{megaphone}
	\lucideicon{award}		\lucideicon{megaphone-off}
	\lucideicon{axe}		\lucideicon{mic}
	\lucideicon{backpack}		\lucideicon{mic-off}
	\lucideicon{balloon}		\lucideicon{mic-vocal}
	\lucideicon{bandage}		\lucideicon{milestone}
	\lucideicon{barrel}		\lucideicon{moon}
	\lucideicon{bath}		\lucideicon{moon-star}
	\lucideicon{bed}		\lucideicon{mountain}
	\lucideicon{bed-double}		\lucideicon{mountain-snow}
	\lucideicon{bed-single}		\lucideicon{origami}
	\lucideicon{binoculars}		\lucideicon{package}
	\lucideicon{birdhouse}		\lucideicon{package-2}
	\lucideicon{blinds}		\lucideicon{paint-bucket}
	\lucideicon{bolt}		\lucideicon{paint-roller}
	\lucideicon{bomb}		\lucideicon{paintbrush}
	\lucideicon{bone}		\lucideicon{paintbrush-vertical}
	\lucideicon{boom-box}		\lucideicon{palette}
	\lucideicon{bow-arrow}		\lucideicon{paperclip}
	\lucideicon{brick-wall}		\lucideicon{party-popper}
	\lucideicon{briefcase}		\lucideicon{paw-print}
	\lucideicon{briefcase-business}		\lucideicon{pickaxe}
	\lucideicon{briefcase-medical}		\lucideicon{pill}
	\lucideicon{brush}		\lucideicon{pill-bottle}
	\lucideicon{brush-cleaning}		\lucideicon{pin}
	\lucideicon{bubbles}		\lucideicon{pipette}
	\lucideicon{cctv}		\lucideicon{pocket-knife}

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













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	<code>\lucideicon{cigarette-off}</code>		<code>\lucideicon{puzzle}</code>
	<code>\lucideicon{clapperboard}</code>		<code>\lucideicon{radio-tower}</code>
	<code>\lucideicon{cog}</code>		<code>\lucideicon{rectangle-goggles}</code>
	<code>\lucideicon{coins}</code>		<code>\lucideicon{ribbon}</code>
	<code>\lucideicon{compass}</code>		<code>\lucideicon{rocking-chair}</code>
	<code>\lucideicon{concierge-bell}</code>		<code>\lucideicon{roller-coaster}</code>
	<code>\lucideicon{construction}</code>		<code>\lucideicon{ruler}</code>
	<code>\lucideicon{container}</code>		<code>\lucideicon{satellite-dish}</code>
	<code>\lucideicon{crown}</code>		<code>\lucideicon{scale}</code>
	<code>\lucideicon{dam}</code>		<code>\lucideicon{shell}</code>
	<code>\lucideicon{door-closed}</code>		<code>\lucideicon{shirt}</code>
	<code>\lucideicon{door-closed-locked}</code>		<code>\lucideicon{shopping-bag}</code>
	<code>\lucideicon{door-open}</code>		<code>\lucideicon{shopping-basket}</code>
	<code>\lucideicon{drafting-compass}</code>		<code>\lucideicon{shopping-cart}</code>
	<code>\lucideicon{drill}</code>		<code>\lucideicon{shovel}</code>
	<code>\lucideicon{drone}</code>		<code>\lucideicon{shower-head}</code>
	<code>\lucideicon{drum}</code>		<code>\lucideicon{shredder}</code>
	<code>\lucideicon{dumbbell}</code>		<code>\lucideicon{signpost}</code>
	<code>\lucideicon{eraser}</code>		<code>\lucideicon{signpost-big}</code>
	<code>\lucideicon{fan}</code>		<code>\lucideicon{siren}</code>
	<code>\lucideicon{feather}</code>		<code>\lucideicon{slice}</code>
	<code>\lucideicon{fence}</code>		<code>\lucideicon{soap-dispenser-droplet}</code>
	<code>\lucideicon{ferris-wheel}</code>		<code>\lucideicon{sofa}</code>
	<code>\lucideicon{film}</code>		<code>\lucideicon{solar-panel}</code>
	<code>\lucideicon{fire-extinguisher}</code>		<code>\lucideicon{speaker}</code>
	<code>\lucideicon{fishing-hook}</code>		<code>\lucideicon{spool}</code>
	<code>\lucideicon{flame}</code>		<code>\lucideicon{spotlight}</code>
	<code>\lucideicon{flame-kindling}</code>		<code>\lucideicon{spray-can}</code>
	<code>\lucideicon{flashlight}</code>		<code>\lucideicon{stamp}</code>
	<code>\lucideicon{flashlight-off}</code>		
	<code>\lucideicon{footprints}</code>		<code>\lucideicon{stethoscope}</code>
	<code>\lucideicon{funnel}</code>		<code>\lucideicon{stone}</code>
	<code>\lucideicon{gavel}</code>		<code>\lucideicon{sun-moon}</code>
	<code>\lucideicon{gem}</code>		<code>\lucideicon{swatch-book}</code>
	<code>\lucideicon{gift}</code>		<code>\lucideicon{sword}</code>
	<code>\lucideicon{glasses}</code>		<code>\lucideicon{swords}</code>
	<code>\lucideicon{graduation-cap}</code>		<code>\lucideicon{syringe}</code>
	<code>\lucideicon{hammer}</code>		<code>\lucideicon{tablets}</code>
	<code>\lucideicon{handbag}</code>		<code>\lucideicon{tent}</code>
	<code>\lucideicon{hard-hat}</code>		<code>\lucideicon{tent-tree}</code>
	<code>\lucideicon{heater}</code>		<code>\lucideicon{toilet}</code>
	<code>\lucideicon{id-card}</code>		<code>\lucideicon{tool-case}</code>
	<code>\lucideicon{id-card-lanyard}</code>		<code>\lucideicon{toolbox}</code>
	<code>\lucideicon{inspection-panel}</code>		<code>\lucideicon{toy-brick}</code>
	<code>\lucideicon{key}</code>		<code>\lucideicon{trash}</code>

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





















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	<code>\lucideicon{key-round}</code>		<code>\lucideicon{trash-2}</code>
	<code>\lucideicon{key-square}</code>		<code>\lucideicon{trophy}</code>
	<code>\lucideicon{lamp}</code>		<code>\lucideicon{utility-pole}</code>
	<code>\lucideicon{lamp-ceiling}</code>		<code>\lucideicon{vault}</code>
	<code>\lucideicon{lamp-desk}</code>		<code>\lucideicon{venetian-mask}</code>
	<code>\lucideicon{lamp-floor}</code>		<code>\lucideicon{volleyball}</code>
	<code>\lucideicon{lamp-wall-down}</code>		<code>\lucideicon{wand}</code>
	<code>\lucideicon{lamp-wall-up}</code>		<code>\lucideicon{wand-sparkles}</code>
	<code>\lucideicon{lectern}</code>		<code>\lucideicon{washing-machine}</code>
	<code>\lucideicon{life-buoy}</code>		<code>\lucideicon{waves-ladder}</code>
	<code>\lucideicon{lightbulb}</code>		<code>\lucideicon{weight}</code>
	<code>\lucideicon{lightbulb-off}</code>		<code>\lucideicon{wrench}</code>


























See the lucide-icons package note on page 454.

TABLE 958: utfsym Everyday Objects

	<code>\usym{2692}</code>	<i>hammer and pick</i>		<code>\usym{1F4E6}</code>	<i>package</i>
	<code>\usym{2693}</code>	<i>anchor</i>		<code>\usym{1F525}</code>	<i>fire</i>
	<code>\usym{2697}</code>	<i>alembic</i>		<code>\usym{1F526}</code>	<i>electric torch</i>
	<code>\usym{2699}</code>	<i>gear</i>		<code>\usym{1F527}</code>	<i>wrench</i>
	<code>\usym{26CF}</code>	<i>pick</i>		<code>\usym{1F528}</code>	<i>hammer</i>
	<code>\usym{26FD}</code>	<i>fuel pump</i>		<code>\usym{1F529}</code>	<i>nut and bolt</i>
	<code>\usym{1F330}</code>	<i>chestnut</i>		<code>\usym{1F52A}</code>	<i>hocho</i>
	<code>\usym{1F358}</code>	<i>rice cracker</i>		<code>\usym{1F52B}</code>	<i>pistol</i>
	<code>\usym{1F359}</code>	<i>rice ball</i>		<code>\usym{1F52C}</code>	<i>microscope</i>
	<code>\usym{1F38E}</code>	<i>Japanese dolls</i>		<code>\usym{1F52D}</code>	<i>telescope</i>
	<code>\usym{1F390}</code>	<i>wind chime</i>		<code>\usym{1F52E}</code>	<i>crystal ball</i>
	<code>\usym{1F392}</code>	<i>school satchel</i>		<code>\usym{1F56B}</code>	<i>bullhorn</i>
	<code>\usym{1F393}</code>	<i>graduation cap</i>		<code>\usym{1F56C}</code>	<i>bullhorn with sound waves</i>
	<code>\usym{1F396}</code>	<i>military medal</i>		<code>\usym{1F56D}</code>	<i>ringing bell</i>
	<code>\usym{1F397}</code>	<i>reminder ribbon</i>		<code>\usym{1F56F}</code>	<i>candle</i>
	<code>\usym{1F3A3}</code>	<i>fishing pole and fish</i>		<code>\usym{1F578}</code>	<i>spider web</i>
	<code>\usym{1F3B4}</code>	<i>flower playing cards</i>		<code>\usym{1F587}</code>	<i>linked paperclips</i>
	<code>\usym{1F3EE}</code>	<i>izakaya lantern</i>		<code>\usym{1F588}</code>	<i>black pushpin</i>
	<code>\usym{1F3FA}</code>	<i>amphora</i>		<code>\usym{1F5BC}</code>	<i>frame with picture</i>
	<code>\usym{1F484}</code>	<i>lipstick</i>		<code>\usym{1F5DD}</code>	<i>old key</i>
	<code>\usym{1F488}</code>	<i>barber pole</i>		<code>\usym{1F5E1}</code>	<i>dagger knife</i>
	<code>\usym{1F489}</code>	<i>syringe</i>		<code>\usym{1F5F3}</code>	<i>ballot box with ballot</i>


































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	<code>\usym{1F48A}</code>	<i>pill</i>		<code>\usym{1F6AA}</code>	<i>door</i>
	<code>\usym{1F4A1}</code>	<i>electric light bulb</i>		<code>\usym{1F6BD}</code>	<i>toilet</i>
	<code>\usym{1F4BA}</code>	<i>seat</i>		<code>\usym{1F6BF}</code>	<i>shower</i>
	<code>\usym{1F4BC}</code>	<i>briefcase</i>		<code>\usym{1F6C0}</code>	<i>bath</i>
	<code>\usym{1F4CC}</code>	<i>pushpin</i>		<code>\usym{1F6C1}</code>	<i>bathtub</i>
	<code>\usym{1F4CD}</code>	<i>round pushpin</i>		<code>\usym{1F6CB}</code>	<i>couch and lamp</i>
	<code>\usym{1F4CE}</code>	<i>paperclip</i>		<code>\usym{1F6CC}</code>	<i>sleeping accommodation</i>
	<code>\usym{1F4CF}</code>	<i>straight ruler</i>		<code>\usym{1F6CD}</code>	<i>shopping bags</i>
	<code>\usym{1F4D0}</code>	<i>triangular ruler</i>		<code>\usym{1F6CE}</code>	<i>bellhop bell</i>
	<code>\usym{1F4DB}</code>	<i>name badge</i>		<code>\usym{1F6CF}</code>	<i>bed</i>
	<code>\usym{1F4E1}</code>	<i>satellite antenna</i>		<code>\usym{1F6E2}</code>	<i>oil drum</i>
	<code>\usym{1F4E2}</code>	<i>public address loudspeaker</i>		<code>\usym{1F573}</code>	<i>hole</i>
	<code>\usym{1F4E3}</code>	<i>cheering megaphone</i>			


















































See the `utfsym` package note on page 461.

TABLE 960: figchild Everyday Objects

	<code>\fcAppleTree</code>		<code>\fcDeskLampD</code>		<code>\fcMonster</code>
	<code>\fcBabe</code>		<code>\fcDressingTable</code>		<code>\fcNose</code>
	<code>\fcBall</code>		<code>\fcDryer</code>		<code>\fcPalmTree</code>
	<code>\fcBallA</code>		<code>\fcEar</code>		<code>\fcPencil</code>
	<code>\fcBallB</code>		<code>\fcFaceTowel</code>		<code>\fcPencilA</code>
	<code>\fcBallC</code>		<code>\fcFan</code>		<code>\fcPhone</code>
	<code>\fcBalloonsA</code>		<code>\fcFanA</code>		<code>\fcPillow</code>
	<code>\fcBalloonsB</code>		<code>\fcFlashlight</code>		<code>\fcPumpkinA</code>
	<code>\fcBaseballBat</code>		<code>\fcFlower</code>		<code>\fcPyramid</code>
	<code>\fcBed</code>		<code>\fcFlowerA</code>		<code>\fcRake</code>
	<code>\fcBedsideLamp</code>		<code>\fcFlowerB</code>		<code>\fcRazor</code>






























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	<code>\fcBell</code>		<code>\fcFlowerC</code>		<code>\fcRobe</code>
	<code>\fcBinoculars</code>		<code>\fcFlowerD</code>		<code>\fcSandal</code>
	<code>\fcBonnet</code>		<code>\fcFlowerE</code>		<code>\fcSchoolbag</code>
	<code>\fcBookA</code>		<code>\fcFlowerF</code>		<code>\fcScissors</code>
	<code>\fcBookB</code>		<code>\fcFlowerG</code>		<code>\fcSeeds</code>
	<code>\fcBroom</code>		<code>\fcFlowerH</code>		<code>\fcSheet</code>
	<code>\fcBud</code>		<code>\fcFlowerI</code>		<code>\fcsheetA</code>
	<code>\fcCactus</code>		<code>\fcFlowerJ</code>		<code>\fcsheetB</code>
	<code>\fcCactusA</code>		<code>\fcFlowerK</code>		<code>\fcShower</code>
	<code>\fcCactusB</code>		<code>\fcFlowerL</code>		<code>\fcSleepingBag</code>
	<code>\fcCandle</code>		<code>\fcFlowerM</code>		<code>\fcSnowflake</code>
	<code>\fcCartA</code>		<code>\fcFlowerN</code>		<code>\fcSock</code>
	<code>\fcCellPhone</code>		<code>\fcGlass</code>		<code>\fcSofaA</code>
	<code>\fcChairA</code>		<code>\fcGloves</code>		<code>\fcSofaB</code>
	<code>\fcChairB</code>		<code>\fcHand</code>		<code>\fcSpinning</code>
	<code>\fcChairC</code>		<code>\fcHat</code>		<code>\fcSpray</code>
	<code>\fcChairD</code>		<code>\fcHata</code>		<code>\fcStoolA</code>
	<code>\fcChristmasTree</code>		<code>\fcHouse</code>		<code>\fcStoolB</code>
	<code>\fcChrysanthemum</code>		<code>\fcHouseA</code>		<code>\fcStoolC</code>
	<code>\fcClock</code>		<code>\fcHouseB</code>		<code>\fcTelevision</code>
	<code>\fcClockA</code>		<code>\fcKey</code>		<code>\fcTent</code>
	<code>\fcComb</code>		<code>\fcKite</code>		<code>\fcThroat</code>
	<code>\fcComputer</code>		<code>\fcKiteA</code>		<code>\fcToiletPaper</code>



























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	<code>\fcCrown</code>		<code>\fcKnees</code>		<code>\fcTornado</code>
	<code>\fcCrownA</code>		<code>\fcLamp</code>		<code>\fcTree</code>
	<code>\fcCushion</code>		<code>\fcLanguage</code>		<code>\fcTrunk</code>
	<code>\fcDaisy</code>		<code>\fcLightBulb</code>		<code>\fcTulip</code>
	<code>\fcDarts</code>		<code>\fcLightning</code>		<code>\fcUmbrella</code>
	<code>\fcData</code>		<code>\fcMailbox</code>		<code>\fcVase</code>
	<code>\fcDeskLamp</code>		<code>\fcMailBoxA</code>		<code>\fcWardrobe</code>
	<code>\fcDeskLampA</code>		<code>\fcMat</code>		<code>\fcWateringCan</code>
	<code>\fcDeskLampB</code>		<code>\fcMill</code>		<code>\fcYoyo</code>
	<code>\fcDeskLampC</code>		<code>\fcMirror</code>		

See the figchild package note on page 452.

TABLE 962: twemojis Everyday Objects

	<code>\twemoji{1f6cf}</code>		<code>\twemoji{label}</code>
	<code>\twemoji{abacus}</code>		<code>\twemoji{ladder}</code>
	<code>\twemoji{admission tickets}</code>		<code>\twemoji{light bulb}</code>
	<code>\twemoji{alembic}</code>		<code>\twemoji{linked paperclips}</code>
	<code>\twemoji{amphora}</code>		<code>\twemoji{lipstick}</code>
	<code>\twemoji{anchor}</code>		<code>\twemoji{locked}</code>
	<code>\twemoji{artist palette}</code>		<code>\twemoji{lotion bottle}</code>
	<code>\twemoji{axe}</code>		<code>\twemoji{loudspeaker}</code>
	<code>\twemoji{baby bottle}</code>		<code>\twemoji{luggage}</code>
	<code>\twemoji{balance scale}</code>		<code>\twemoji{magnet}</code>
	<code>\twemoji{balloon}</code>		<code>\twemoji{magnifying glass tilted left}</code>
	<code>\twemoji{ballot box with ballot}</code>		<code>\twemoji{magnifying glass tilted right}</code>
	<code>\twemoji{barber pole}</code>		<code>\twemoji{megaphone}</code>




































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	<code>\twemoji{basket}</code>		<code>\twemoji{microscope}</code>
	<code>\twemoji{bathtub}</code>		<code>\twemoji{mirror}</code>
	<code>\twemoji{battery}</code>		<code>\twemoji{mirror ball}</code>
	<code>\twemoji{beans}</code>		<code>\twemoji{mouse trap}</code>
	<code>\twemoji{bell}</code>		<code>\twemoji{name badge}</code>
	<code>\twemoji{bellhop bell}</code>		<code>\twemoji{nest with eggs}</code>
	<code>\twemoji{birthday cake}</code>		<code>\twemoji{nesting dolls}</code>
	<code>\twemoji{boomerang}</code>		<code>\twemoji{nut and bolt}</code>
	<code>\twemoji{bricks}</code>		<code>\twemoji{old key}</code>
	<code>\twemoji{briefcase}</code>		<code>\twemoji{open file folder}</code>
	<code>\twemoji{broom}</code>		<code>\twemoji{package}</code>
	<code>\twemoji{bubbles}</code>		<code>\twemoji{paperclip}</code>
	<code>\twemoji{bucket}</code>		<code>\twemoji{party popper}</code>
	<code>\twemoji{candle}</code>		<code>\twemoji{pick}</code>
	<code>\twemoji{card file box}</code>		<code>\twemoji{pine decoration}</code>
	<code>\twemoji{card index}</code>		<code>\twemoji{piñata}</code>
	<code>\twemoji{card index dividers}</code>		<code>\twemoji{placard}</code>
	<code>\twemoji{carousel horse}</code>		<code>\twemoji{playground slide}</code>
	<code>\twemoji{carp streamer}</code>		<code>\twemoji{plunger}</code>
	<code>\twemoji{carpentry saw}</code>		<code>\twemoji{postbox}</code>
	<code>\twemoji{chains}</code>		<code>\twemoji{pushpin}</code>
	<code>\twemoji{chair}</code>		<code>\twemoji{puzzle piece}</code>
	<code>\twemoji{chess pawn}</code>		<code>\twemoji{razor}</code>
	<code>\twemoji{chestnut}</code>		<code>\twemoji{red paper lantern}</code>
	<code>\twemoji{cigarette}</code>		<code>\twemoji{reminder ribbon}</code>
	<code>\twemoji{clamp}</code>		<code>\twemoji{ribbon}</code>
	<code>\twemoji{clapper board}</code>		<code>\twemoji{ring buoy}</code>
	<code>\twemoji{closed mailbox with lowered flag}</code>		<code>\twemoji{rock}</code>
	<code>\twemoji{closed mailbox with raised flag}</code>		<code>\twemoji{roll of paper}</code>
	<code>\twemoji{closed umbrella}</code>		<code>\twemoji{round pushpin}</code>
	<code>\twemoji{coin}</code>		<code>\twemoji{safety pin}</code>
	<code>\twemoji{compass}</code>		<code>\twemoji{scissors}</code>
	<code>\twemoji{couch and lamp}</code>		<code>\twemoji{screwdriver}</code>
	<code>\twemoji{dagger}</code>		<code>\twemoji{seat}</code>
	<code>\twemoji{diving mask}</code>		<code>\twemoji{sewing needle}</code>
	<code>\twemoji{door}</code>		<code>\twemoji{shopping bags}</code>
	<code>\twemoji{electric plug}</code>		<code>\twemoji{shopping cart}</code>
	<code>\twemoji{empty nest}</code>		<code>\twemoji{shower}</code>
	<code>\twemoji{envelope}</code>		<code>\twemoji{snowflake}</code>
	<code>\twemoji{feather}</code>		<code>\twemoji{soap}</code>
	<code>\twemoji{file cabinet}</code>		<code>\twemoji{sponge}</code>
	<code>\twemoji{file folder}</code>		<code>\twemoji{spoon}</code>
	<code>\twemoji{fire extinguisher}</code>		<code>\twemoji{straight ruler}</code>
	<code>\twemoji{firecracker}</code>		<code>\twemoji{teddy bear}</code>

































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	<code>\twemoji{fishing pole}</code>		<code>\twemoji{telescope}</code>
	<code>\twemoji{flashlight}</code>		<code>\twemoji{thread}</code>
	<code>\twemoji{fountain}</code>		<code>\twemoji{ticket}</code>
	<code>\twemoji{framed picture}</code>		<code>\twemoji{toilet}</code>
	<code>\twemoji{fuel pump}</code>		<code>\twemoji{toolbox}</code>
	<code>\twemoji{gear}</code>		<code>\twemoji{toothbrush}</code>
	<code>\twemoji{hammer}</code>		<code>\twemoji{triangular ruler}</code>
	<code>\twemoji{hammer and pick}</code>		<code>\twemoji{umbrella}</code>
	<code>\twemoji{hammer and wrench}</code>		<code>\twemoji{unlocked}</code>
	<code>\twemoji{hole}</code>		<code>\twemoji{videocassette}</code>
	<code>\twemoji{hook}</code>		<code>\twemoji{wastebasket}</code>
	<code>\twemoji{identification card}</code>		<code>\twemoji{water pistol}</code>
	<code>\twemoji{jack-o-lantern}</code>		<code>\twemoji{window}</code>
	<code>\twemoji{Japanese dolls}</code>		<code>\twemoji{wrapped gift}</code>
	<code>\twemoji{jar}</code>		<code>\twemoji{wrench}</code>
	<code>\twemoji{key}</code>		<code>\twemoji{yarn}</code>
	<code>\twemoji{kitchen knife}</code>		<code>\twemoji{yo-yo}</code>
	<code>\twemoji{kite}</code>		
































See the twemojis package note on page 460.

TABLE 964: lucide-icons Boxed Symbols

	<code>\lucideicon{square-activity}</code>		<code>\lucideicon{square-kanban}</code>
	<code>\lucideicon{square-arrow-down}</code>		<code>\lucideicon{square-library}</code>
	<code>\lucideicon{square-arrow-down-left}</code>		<code>\lucideicon{square-m}</code>
	<code>\lucideicon{square-arrow-down-right}</code>		<code>\lucideicon{square-menu}</code>
	<code>\lucideicon{square-arrow-left}</code>		<code>\lucideicon{square-minus}</code>
	<code>\lucideicon{square-arrow-out-down-left}</code>		<code>\lucideicon{square-mouse-pointer}</code>
	<code>\lucideicon{square-arrow-out-down-right}</code>		<code>\lucideicon{square-parking}</code>
	<code>\lucideicon{square-arrow-out-up-left}</code>		<code>\lucideicon{square-parking-off}</code>
	<code>\lucideicon{square-arrow-out-up-right}</code>		<code>\lucideicon{square-pause}</code>
	<code>\lucideicon{square-arrow-right}</code>		<code>\lucideicon{square-pen}</code>
	<code>\lucideicon{square-arrow-up}</code>		<code>\lucideicon{square-percent}</code>
	<code>\lucideicon{square-arrow-up-left}</code>		<code>\lucideicon{square-pi}</code>
	<code>\lucideicon{square-arrow-up-right}</code>		<code>\lucideicon{square-pilcrow}</code>
	<code>\lucideicon{square-asterisk}</code>		<code>\lucideicon{square-play}</code>
	<code>\lucideicon{square-bottom-dashed-scissors}</code>		<code>\lucideicon{square-plus}</code>
	<code>\lucideicon{square-check}</code>		<code>\lucideicon{square-power}</code>


































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	<code>\lucideicon{square-check-big}</code>		<code>\lucideicon{square-radical}</code>
	<code>\lucideicon{square-chevron-down}</code>		<code>\lucideicon{square-round-corner}</code>
	<code>\lucideicon{square-chevron-left}</code>		<code>\lucideicon{square-scissors}</code>
	<code>\lucideicon{square-chevron-right}</code>		<code>\lucideicon{square-sigma}</code>
	<code>\lucideicon{square-chevron-up}</code>		<code>\lucideicon{square-slash}</code>
	<code>\lucideicon{square-code}</code>		<code>\lucideicon{square-split-horizontal}</code>
	<code>\lucideicon{square-dashed}</code>		<code>\lucideicon{square-split-vertical}</code>
	<code>\lucideicon{square-dashed-bottom}</code>		<code>\lucideicon{square-square}</code>
	<code>\lucideicon{square-dashed-bottom-code}</code>		<code>\lucideicon{square-stack}</code>
	<code>\lucideicon{square-dashed-kanban}</code>		<code>\lucideicon{square-star}</code>
	<code>\lucideicon{square-dashed-mouse-pointer}</code>		<code>\lucideicon{square-stop}</code>
	<code>\lucideicon{square-dashed-top-solid}</code>		<code>\lucideicon{square-terminal}</code>
	<code>\lucideicon{square-divide}</code>		<code>\lucideicon{square-user}</code>
	<code>\lucideicon{square-dot}</code>		<code>\lucideicon{square-user-round}</code>
	<code>\lucideicon{square-equal}</code>		<code>\lucideicon{square-x}</code>
	<code>\lucideicon{square-function}</code>		



























See the lucide-icons package note on page 454.

TABLE 966: lucide-icons Circled Symbols

	<code>\lucideicon{circle-alert}</code>		<code>\lucideicon{circle-dot-dashed}</code>
	<code>\lucideicon{circle-arrow-down}</code>		<code>\lucideicon{circle-ellipsis}</code>
	<code>\lucideicon{circle-arrow-left}</code>		<code>\lucideicon{circle-equal}</code>
	<code>\lucideicon{circle-arrow-out-down-left}</code>		<code>\lucideicon{circle-fading-arrow-up}</code>
	<code>\lucideicon{circle-arrow-out-down-right}</code>		<code>\lucideicon{circle-fading-plus}</code>
	<code>\lucideicon{circle-arrow-out-up-left}</code>		<code>\lucideicon{circle-minus}</code>
	<code>\lucideicon{circle-arrow-out-up-right}</code>		<code>\lucideicon{circle-off}</code>
	<code>\lucideicon{circle-arrow-right}</code>		<code>\lucideicon{circle-percent}</code>
	<code>\lucideicon{circle-arrow-up}</code>		<code>\lucideicon{circle-plus}</code>
	<code>\lucideicon{circle-check}</code>		<code>\lucideicon{circle-question-mark}</code>
	<code>\lucideicon{circle-check-big}</code>		<code>\lucideicon{circle-slash}</code>
	<code>\lucideicon{circle-chevron-down}</code>		<code>\lucideicon{circle-slash-2}</code>
	<code>\lucideicon{circle-chevron-left}</code>		<code>\lucideicon{circle-star}</code>
	<code>\lucideicon{circle-chevron-right}</code>		<code>\lucideicon{circle-user}</code>
	<code>\lucideicon{circle-chevron-up}</code>		<code>\lucideicon{circle-user-round}</code>
	<code>\lucideicon{circle-divide}</code>		<code>\lucideicon{circle-x}</code>
	<code>\lucideicon{circle-dot}</code>		

See the lucide-icons package note on page 454.

TABLE 967: twemojis Buttons

	<code>\twemoji{CL button}</code>
	<code>\twemoji{COOL button}</code>
	<code>\twemoji{FREE button}</code>
	<code>\twemoji{ID button}</code>
	<code>\twemoji{Japanese "acceptable" button}</code>
	<code>\twemoji{Japanese "application" button}</code>
	<code>\twemoji{Japanese "bargain" button}</code>
	<code>\twemoji{Japanese "congratulations" button}</code>
	<code>\twemoji{Japanese "discount" button}</code>
	<code>\twemoji{Japanese "free of charge" button}</code>
	<code>\twemoji{Japanese "here" button}</code>
	<code>\twemoji{Japanese "monthly amount" button}</code>
	<code>\twemoji{Japanese "no vacancy" button}</code>
	<code>\twemoji{Japanese "not free of charge" button}</code>
	<code>\twemoji{Japanese "open for business" button}</code>
	<code>\twemoji{Japanese "passing grade" button}</code>
	<code>\twemoji{Japanese "prohibited" button}</code>
	<code>\twemoji{Japanese "reserved" button}</code>
	<code>\twemoji{Japanese "secret" button}</code>
	<code>\twemoji{Japanese "service charge" button}</code>
	<code>\twemoji{Japanese "vacancy" button}</code>
	<code>\twemoji{NEW button}</code>
	<code>\twemoji{NG button}</code>
	<code>\twemoji{OK button}</code>
	<code>\twemoji{SOS button}</code>
	<code>\twemoji{UP! button}</code>
	<code>\twemoji{VS button}</code>

See the twemojis package note on page 460.

TABLE 969: Miscellaneous asapsym Symbols

	<code>\asapCross</code>		<code>\asapLocker</code>
	<code>\asapDog</code>		<code>\asapLostAndFound</code>

See the asapsym package note on page 450.



TABLE 970: Miscellaneous typicons Symbols

@	\tiAt	♥	\tiHeartHalfOutline	⊗	\tiPointOfInterestOutline
⚡	\tiFlash	♡	\tiHeartOutline	⊗	\tiRadar
⚡	\tiFlashOutline	♪	\tiNotes	⊗	\tiRadarOutline
♥	\tiHeart	♪	\tiNotesOutline	⊗	\tiSpiral
♥	\tiHeartFullOutline	⊗	\tiPointOfInterest		





























See the typicons package note on page 460.

TABLE 971: Miscellaneous fontawesome7 Symbols

	\faArrowUpFromGroundWater		\faPhoneSlash
	\faArrowUpFromWaterPump		\faPhoneVolume
	\faAtom		\faPlaneSlash
	\faBan		\faPlateWheat
	\faBanSmoking		\faPoo
	\faBarcode		\faPoop
	\faBoreHole		\faPooStorm
	\faBullseye		\faRadiation
	\faBurst		\faRepublican
	\faCampground		\faRestroom
	\faCarBurst		\faSackDollar
	\faCertificate		\faSackXmark
	\faChalkboardUser		\faScaleBalanced
	\faChargingStation		\faScaleUnbalanced
	\faCheckToSlot		\faScaleUnbalancedFlip
	\faCircleRadiation		\faSheetPlastic
	\faClipboardList		\faSignsPost
	\faCube		\faSkull
	\faCubes		\faSkullCrossbones
	\faCubesStacked		\faSpa
	\faDemocrat		\faSplotch
	\faDiamondTurnRight		\faSquareH
	\faDumpsterFire		\faSquareParking
	\faExplosion		\faSquarePhone
	\faFilterCircleDollar		\faSquarePhoneFlip
	\faFire		\faTarp
	\faFireFlameSimple		\faTarpDroplet
	\faGears		\faToiletPaperSlash
	\faGhost		\faTowerBroadcast

































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	<code>\faHelicopterSymbol</code>		<code>\faTowerCell</code>
	<code>\faHelmetUn</code>		<code>\faTowerObservation</code>
	<code>\faHollyBerry</code>		<code>\faTreeCity</code>
	<code>\faIndustry</code>		<code>\faTrowelBricks</code>
	<code>\faJarWheat</code>		<code>\faTruckFast</code>
	<code>\faLandMineOn</code>		<code>\faVolcano</code>
	<code>\faMercury</code>		<code>\faWandMagic</code>
	<code>\faOilWell</code>		<code>\faWandMagicSparkles</code>
	<code>\faPanorama</code>		<code>\faWandSparkles</code>
	<code>\faPaw</code>		<code>\faWater</code>
	<code>\faPeace</code>		<code>\faWaveSquare</code>
	<code>\faPersonHiking</code>		<code>\faWeightScale</code>
	<code>\faPersonRunning</code>		<code>\faWheatAwn</code>
	<code>\faPersonWalking</code>		<code>\faWheatAwnCircleExclamation</code>































Many of these symbols had different names in fontawesome5.

TABLE 973: Miscellaneous utfsym Symbols

	<code>\usym{262B}</code>	<i>emblem of Iran</i>		<code>\usym{1F3FF}</code>	<i>emoji modifier Fitzpatrick type 6</i>
	<code>\usym{262D}</code>	<i>hammer and sickle</i>		<code>\usym{1F43D}</code>	<i>pig nose</i>
	<code>\usym{262E}</code>	<i>peace</i>		<code>\usym{1F43E}</code>	<i>paw prints</i>
	<code>\usym{262F}</code>	<i>yin yang</i>		<code>\usym{1F463}</code>	<i>footprints</i>
	<code>\usym{2668}</code>	<i>hot springs</i>		<code>\usym{1F485}</code>	<i>nail polish</i>
	<code>\usym{267F}</code>	<i>wheelchair</i>		<code>\usym{1F4A0}</code>	<i>diamond shape with a dot inside</i>
	<code>\usym{2694}</code>	<i>crossed swords</i>		<code>\usym{1F4A2}</code>	<i>anger</i>
	<code>\usym{2695}</code>	<i>rod of Asclepius</i>		<code>\usym{1F4A3}</code>	<i>bomb</i>
	<code>\usym{2696}</code>	<i>scales</i>		<code>\usym{1F4A4}</code>	<i>sleeping</i>
	<code>\usym{269A}</code>	<i>staff of hermes</i>		<code>\usym{1F4A5}</code>	<i>collision</i>
	<code>\usym{269B}</code>	<i>atom</i>		<code>\usym{1F4A6}</code>	<i>splashing sweat</i>
	<code>\usym{269C}</code>	<i>feur-de-lis</i>		<code>\usym{1F4A8}</code>	<i>dash</i>
	<code>\usym{269E}</code>	<i>three lines converging right</i>		<code>\usym{1F4A9}</code>	<i>pile of poo</i>
	<code>\usym{269F}</code>	<i>three lines converging left</i>		<code>\usym{1F4AB}</code>	<i>dizzy</i>
	<code>\usym{26D1}</code>	<i>helmet with white cross</i>		<code>\usym{1F4AF}</code>	<i>hundred points</i>
	<code>\usym{26E8}</code>	<i>black cross on shield</i>		<code>\usym{1F530}</code>	<i>Japanese symbol for beginner</i>



























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	<code>\usym{26EB}</code>	<i>castle</i>		<code>\usym{1F531}</code>	<i>trident emblem</i>
	<code>\usym{26EC}</code>	<i>historic site</i>		<code>\usym{1F543}</code>	<i>notched left semicircle with three dots</i>
	<code>\usym{26ED}</code>	<i>gear without hub</i>		<code>\usym{1F544}</code>	<i>notched right semicircle with three dots</i>
	<code>\usym{26EE}</code>	<i>gear with handles</i>		<code>\usym{1F54F}</code>	<i>bowl of Hygieia</i>
	<code>\usym{26EF}</code>	<i>map symbol for lighthouse</i>		<code>\usym{1F571}</code>	<i>black skull and crossbones</i>
	<code>\usym{26F6}</code>	<i>square four corners</i>		<code>\usym{1F5BD}</code>	<i>frame with tiles</i>
	<code>\usym{27B0}</code>	<i>curly loop</i>		<code>\usym{1F5BE}</code>	<i>frame with an X</i>
	<code>\usym{27BF}</code>	<i>double curly loop</i>		<code>\usym{1F5E4}</code>	<i>three rays above</i>
	<code>\usym{1F39A}</code>	<i>level slider</i>		<code>\usym{1F5E5}</code>	<i>three rays below</i>
	<code>\usym{1F39B}</code>	<i>control knobs</i>		<code>\usym{1F5E6}</code>	<i>three rays left</i>
	<code>\usym{1F3F7}</code>	<i>label</i>		<code>\usym{1F5E7}</code>	<i>three rays right</i>
	<code>\usym{1F3FB}</code>	<i>emoji modifier Fitzpatrick type 1–2</i>		<code>\usym{1F5F2}</code>	<i>lightning mood</i>
	<code>\usym{1F3FC}</code>	<i>emoji modifier Fitzpatrick type 3</i>		<code>\usym{1F5FF}</code>	<i>moyai</i>
	<code>\usym{1F3FD}</code>	<i>emoji modifier Fitzpatrick type 4</i>		<code>\usym{1F6E1}</code>	<i>shield</i>
	<code>\usym{1F3FE}</code>	<i>emoji modifier Fitzpatrick type 5</i>		<code>\usym{1F6F0}</code>	<i>satellite</i>

See the `utfsym` package note on page 461.

TABLE 975: Miscellaneous twemojis Symbols

	<code>\twemoji{anger symbol}</code>		<code>\twemoji{left speech bubble}</code>
	<code>\twemoji{antenna bars}</code>		<code>\twemoji{level slider}</code>
	<code>\twemoji{atom symbol}</code>		<code>\twemoji{light skin tone}</code>
	<code>\twemoji{baby symbol}</code>		<code>\twemoji{link}</code>
	<code>\twemoji{bell with slash}</code>		<code>\twemoji{locked with key}</code>
	<code>\twemoji{bomb}</code>		<code>\twemoji{locked with pen}</code>
	<code>\twemoji{bust in silhouette}</code>		<code>\twemoji{love letter}</code>
	<code>\twemoji{busts in silhouette}</code>		<code>\twemoji{low battery}</code>
	<code>\twemoji{cinema}</code>		<code>\twemoji{magic wand}</code>
	<code>\twemoji{collision}</code>		<code>\twemoji{medium skin tone}</code>
	<code>\twemoji{comet}</code>		<code>\twemoji{medium-dark skin tone}</code>
	<code>\twemoji{confetti ball}</code>		<code>\twemoji{medium-light skin tone}</code>
	<code>\twemoji{control knobs}</code>		<code>\twemoji{military medal}</code>

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















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	<code>\twemoji{coral}</code>		<code>\twemoji{moyai}</code>
	<code>\twemoji{crossed swords}</code>		<code>\twemoji{nail polish}*</code>
	<code>\twemoji{crystal ball}</code>		<code>\twemoji{oil drum}</code>
	<code>\twemoji{curly loop}</code>		<code>\twemoji{open mailbox with lowered flag}</code>
	<code>\twemoji{cyclone}</code>		<code>\twemoji{open mailbox with raised flag}</code>
	<code>\twemoji{dark skin tone}</code>		<code>\twemoji{outbox tray}</code>
	<code>\twemoji{dashing away}</code>		<code>\twemoji{part alternation mark}</code>
	<code>\twemoji{date}</code>		<code>\twemoji{peace symbol}</code>
	<code>\twemoji{diamond with a dot}</code>		<code>\twemoji{performing arts}</code>
	<code>\twemoji{dizzy}</code>		<code>\twemoji{pile of poo}</code>
	<code>\twemoji{double curly loop}</code>		<code>\twemoji{pouring liquid}</code>
	<code>\twemoji{droplet}</code>		<code>\twemoji{radio button}</code>
	<code>\twemoji{e-mail}</code>		<code>\twemoji{radioactive}</code>
	<code>\twemoji{e50a}</code>		<code>\twemoji{recycling symbol}</code>
	<code>\twemoji{envelope with arrow}</code>		<code>\twemoji{red envelope}</code>
	<code>\twemoji{eye in speech bubble}</code>		<code>\twemoji{right anger bubble}</code>
	<code>\twemoji{ferris wheel}</code>		<code>\twemoji{rosette}</code>
	<code>\twemoji{film frames}</code>		<code>\twemoji{satellite antenna}</code>
	<code>\twemoji{fire}</code>		<code>\twemoji{selfie}*</code>
	<code>\twemoji{fleur-de-lis}</code>		<code>\twemoji{shield}</code>
	<code>\twemoji{footprints}</code>		<code>\twemoji{sparkle}</code>
	<code>\twemoji{gem stone}</code>		<code>\twemoji{sparkler}</code>
	<code>\twemoji{high voltage}</code>		<code>\twemoji{sparkles}</code>
	<code>\twemoji{hot springs}</code>		<code>\twemoji{speaking head}</code>
	<code>\twemoji{hundred points}</code>		<code>\twemoji{speech balloon}</code>
	<code>\twemoji{inbox tray}</code>		<code>\twemoji{spider web}</code>
	<code>\twemoji{incoming envelope}</code>		<code>\twemoji{Statue of Liberty}</code>
	<code>\twemoji{infinity}</code>		<code>\twemoji{sweat droplets}</code>
	<code>\twemoji{input latin letters}</code>		<code>\twemoji{thought balloon}</code>
	<code>\twemoji{input latin lowercase}</code>		<code>\twemoji{trident emblem}</code>
	<code>\twemoji{input latin uppercase}</code>		<code>\twemoji{vibration mode}</code>
	<code>\twemoji{input numbers}</code>		<code>\twemoji{water wave}</code>
	<code>\twemoji{input symbols}</code>		<code>\twemoji{wavy dash}</code>
	<code>\twemoji{Japanese symbol for beginner}</code>		<code>\twemoji{wedding}</code>
	<code>\twemoji{kiss}*</code>		<code>\twemoji{yin yang}</code>
	<code>\twemoji{knot}</code>		<code>\twemoji{zzz}</code>

See the twemojis package note on page 460.

















































\* Variants of this symbol portraying different colors and styles are not shown. See the example in the twemojis note on page 460.

TABLE 977: Miscellaneous fontmfizz Symbols

	<code>\mfAntenna</code>		<code>\mfLineGraph</code>		<code>\mfPhoneRetro</code>
	<code>\mfBomb</code>		<code>\mfMicroscope</code>		<code>\mfScript</code>
	<code>\mfDatabase</code>		<code>\mfMobileDevice</code>		<code>\mfScriptAlt</code>
	<code>\mfDatabaseAlt</code>		<code>\mfMobilePhoneAlt</code>		<code>\mfShell</code>
	<code>\mfDatabaseAlttwo</code>		<code>\mfMobilePhoneBroadcast</code>		<code>\mfSplatter</code>
	<code>\mfGhost</code>		<code>\mfPhoneAlt</code>		<code>\mfWireless</code>
	<code>\mfIphone</code>		<code>\mfPhoneGap</code>		






















See the fontmfizz package note on page 452.

TABLE 978: rubikcube Rubik's Cube Rotations

	<code>\rrhD</code>		<code>\rrhF</code>		<code>\rrhLw</code>		<code>\rrhRw</code>		<code>\rrhU</code>
	<code>\rrhDa</code>		<code>\rrhFp</code>		<code>\rrhLwp</code>		<code>\rrhRwp</code>		<code>\rrhUa</code>
	<code>\rrhDap</code>		<code>\rrhFw</code>		<code>\rrhM</code>		<code>\rrhSd</code>		<code>\rrhUap</code>
	<code>\rrhDp</code>		<code>\rrhFwp</code>		<code>\rrhMp</code>		<code>\rrhSdp</code>		<code>\rrhUp</code>
	<code>\rrhDs</code>		<code>\rrhL</code>		<code>\rrhR</code>		<code>\rrhSl</code>		<code>\rrhUs</code>
	<code>\rrhDsp</code>		<code>\rrhLa</code>		<code>\rrhRa</code>		<code>\rrhSlp</code>		<code>\rrhUsp</code>
	<code>\rrhDw</code>		<code>\rrhLap</code>		<code>\rrhRap</code>		<code>\rrhSr</code>		<code>\rrhUw</code>
	<code>\rrhDwp</code>		<code>\rrhLp</code>		<code>\rrhRp</code>		<code>\rrhSrp</code>		<code>\rrhUwp</code>
	<code>\rrhE</code>		<code>\rrhLs</code>		<code>\rrhRs</code>		<code>\rrhSu</code>		
	<code>\rrhEp</code>		<code>\rrhLsp</code>		<code>\rrhRsp</code>		<code>\rrhSup</code>		









See the rubikcube package note on page 457.

TABLE 979: sacsymb Orchestrated Objective Reduction Symbols

	<code>\ca</code>		<code>\cd</code>		<code>\cg</code>		<code>\cj</code>		<code>\cm</code>		<code>\cq</code>		<code>\cu</code>
	<code>\cb</code>		<code>\ce</code>		<code>\ch</code>		<code>\ck</code>		<code>\cn</code>		<code>\cs</code>		<code>\cv</code>
	<code>\cc</code>		<code>\cf</code>		<code>\ci</code>		<code>\cl</code>		<code>\co</code>		<code>\ct</code>		<code>\cw</code>











































See the sacsymb package note on page 457.

TABLE 980: Miscellaneous figchild Symbols

	<code>\fcAngel</code>		<code>\fcGhost</code>		<code>\fcPassB</code>
	<code>\fcEyebrows</code>		<code>\fcLoveLetter</code>		<code>\fcWitchHat</code>
	<code>\fcEyes</code>		<code>\fcPassA</code>		


























See the figchild package note on page 452.

TABLE 981: Miscellaneous symbats3 Symbols

	<code>\angleacute</code>		<code>\parting</code>
	<code>\ankh</code>		<code>\perfectcouple</code>
	<code>\athameeast</code>		<code>\perfectcouplethirddegree</code>
	<code>\athamenorth</code>		<code>\powergoingforth</code>
	<code>\athamesouth</code>		<code>\rockartgoddess</code>
	<code>\athamewest</code>		<code>\rockarthorse</code>
	<code>\awen</code>		<code>\salute</code>
	<code>\beltane</code>		<code>\samhuinn</code>
	<code>\celtictrefoilknotopen</code>		<code>\scourge</code>
	<code>\celtictrefoilknotsolid</code>		<code>\serpentimpaled</code>
	<code>\circleplus</code>		<code>\stareightarrows</code>
	<code>\crossedstaff</code>		<code>\sulphur</code>
	<code>\eostre</code>		<code>\valknutoutline</code>
	<code>\goddessmoon</code>		<code>\valknutsolid</code>
	<code>\hammer</code>		<code>\venusfigureoutline</code>
	<code>\imbolc</code>		<code>\venusfiguresolid</code>
	<code>\labrys</code>		<code>\whiteknifeeast</code>
	<code>\lightning</code>		<code>\whiteknifenorth</code>
	<code>\lughnasadh</code>		<code>\whiteknifesouth</code>
	<code>\mazeround</code>		<code>\whiteknifewest</code>
	<code>\mazesquarebase</code>		<code>\yule</code>

See the symbats3 package note on page 458.

TABLE 982: Miscellaneous lucide-icons Symbols

	<code>\lucideicon{activity}</code>		<code>\lucideicon{goal}</code>
	<code>\lucideicon{aperture}</code>		<code>\lucideicon{handshake}</code>
	<code>\lucideicon{bot}</code>		<code>\lucideicon{hat-glasses}</code>
	<code>\lucideicon{bot-off}</code>		<code>\lucideicon{kanban}</code>
	<code>\lucideicon{brick-wall-fire}</code>		<code>\lucideicon{land-plot}</code>
	<code>\lucideicon{brick-wall-shield}</code>		<code>\lucideicon{person-standing}</code>
	<code>\lucideicon{circle-gauge}</code>		<code>\lucideicon{satellite}</code>
	<code>\lucideicon{cross}</code>		<code>\lucideicon{sparkle}</code>
	<code>\lucideicon{drama}</code>		<code>\lucideicon{sparkles}</code>
	<code>\lucideicon{fingerprint-pattern}</code>		<code>\lucideicon{vote}</code>
	<code>\lucideicon{frame}</code>		<code>\lucideicon{waves}</code>
	<code>\lucideicon{gauge}</code>		<code>\lucideicon{weight-tilde}</code>
	<code>\lucideicon{ghost}</code>		

See the lucide-icons package note on page 454.

## Chapter 12

# Fonts with minimal L<sup>A</sup>T<sub>E</sub>X support

The symbol fonts shown in this chapter are provided without a corresponding L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> style file that assigns a convenient name to each glyph. Consequently, each glyph must be accessed by number. To help with this, the `pifont` package defines a `\Pisymbol` command that typesets a specified character by number from a specified L<sup>A</sup>T<sub>E</sub>X font family. Alas, most of the fonts in this chapter do not even define a L<sup>A</sup>T<sub>E</sub>X font family. Hence, except where otherwise specified, a document will need to include code like the following in its preamble:

```
\usepackage{pifont}
\DeclareFontFamily{U}{\langle name \rangle}{}
\DeclareFontShape{U}{\langle name \rangle}{m}{n}{<-> \langle font \rangle}{}

```

where *font* is the name of the `.tfm` font file (or `.mf` font file, from which a `.tfm` font file can be generated automatically), and *name* is a name to use to refer to that font. It's generally good practice to use the name of the font file for *name*, as in the following:

```
\usepackage{pifont}
\DeclareFontFamily{U}{hands}{}
\DeclareFontShape{U}{hands}{m}{n}{<-> hands}{}

```

TABLE 983: hands Fists





	<code>\Pisymbol{hands}{65}</code>		<code>\Pisymbol{hands}{67}</code>
	<code>\Pisymbol{hands}{66}</code>		<code>\Pisymbol{hands}{68}</code>

TABLE 984: greenpoint Recycling Symbols





























































































































 `\Pisymbol{greenpoint}{71}`



TABLE 985: nkarta Map Symbols

	<code>\Pisymbol{nkarta}{33}</code>		<code>\Pisymbol{nkarta}{96}</code>		<code>\Pisymbol{nkarta}{193}</code>
	<code>\Pisymbol{nkarta}{34}</code>		<code>\Pisymbol{nkarta}{97}</code>		<code>\Pisymbol{nkarta}{194}</code>
	<code>\Pisymbol{nkarta}{35}</code>		<code>\Pisymbol{nkarta}{98}</code>		<code>\Pisymbol{nkarta}{195}</code>
	<code>\Pisymbol{nkarta}{36}</code>		<code>\Pisymbol{nkarta}{99}</code>		<code>\Pisymbol{nkarta}{196}</code>
	<code>\Pisymbol{nkarta}{37}</code>		<code>\Pisymbol{nkarta}{100}</code>		<code>\Pisymbol{nkarta}{197}</code>
	<code>\Pisymbol{nkarta}{38}</code>		<code>\Pisymbol{nkarta}{101}</code>		<code>\Pisymbol{nkarta}{198}</code>
	<code>\Pisymbol{nkarta}{39}</code>		<code>\Pisymbol{nkarta}{102}</code>		<code>\Pisymbol{nkarta}{199}</code>
	<code>\Pisymbol{nkarta}{40}</code>		<code>\Pisymbol{nkarta}{103}</code>		<code>\Pisymbol{nkarta}{200}</code>
	<code>\Pisymbol{nkarta}{41}</code>		<code>\Pisymbol{nkarta}{104}</code>		<code>\Pisymbol{nkarta}{201}</code>
	<code>\Pisymbol{nkarta}{42}</code>		<code>\Pisymbol{nkarta}{105}</code>		<code>\Pisymbol{nkarta}{202}</code>
	<code>\Pisymbol{nkarta}{43}</code>		<code>\Pisymbol{nkarta}{106}</code>		<code>\Pisymbol{nkarta}{203}</code>
	<code>\Pisymbol{nkarta}{44}</code>		<code>\Pisymbol{nkarta}{107}</code>		<code>\Pisymbol{nkarta}{204}</code>
	<code>\Pisymbol{nkarta}{45}</code>		<code>\Pisymbol{nkarta}{108}</code>		<code>\Pisymbol{nkarta}{205}</code>
	<code>\Pisymbol{nkarta}{46}</code>		<code>\Pisymbol{nkarta}{109}</code>		<code>\Pisymbol{nkarta}{206}</code>
	<code>\Pisymbol{nkarta}{47}</code>		<code>\Pisymbol{nkarta}{110}</code>		<code>\Pisymbol{nkarta}{207}</code>
	<code>\Pisymbol{nkarta}{48}</code>		<code>\Pisymbol{nkarta}{111}</code>		<code>\Pisymbol{nkarta}{208}</code>
	<code>\Pisymbol{nkarta}{49}</code>		<code>\Pisymbol{nkarta}{112}</code>		<code>\Pisymbol{nkarta}{209}</code>
	<code>\Pisymbol{nkarta}{50}</code>		<code>\Pisymbol{nkarta}{113}</code>		<code>\Pisymbol{nkarta}{210}</code>
	<code>\Pisymbol{nkarta}{51}</code>		<code>\Pisymbol{nkarta}{114}</code>		<code>\Pisymbol{nkarta}{211}</code>
	<code>\Pisymbol{nkarta}{52}</code>		<code>\Pisymbol{nkarta}{115}</code>		<code>\Pisymbol{nkarta}{212}</code>
	<code>\Pisymbol{nkarta}{53}</code>		<code>\Pisymbol{nkarta}{116}</code>		<code>\Pisymbol{nkarta}{213}</code>
	<code>\Pisymbol{nkarta}{54}</code>		<code>\Pisymbol{nkarta}{117}</code>		<code>\Pisymbol{nkarta}{214}</code>
	<code>\Pisymbol{nkarta}{55}</code>		<code>\Pisymbol{nkarta}{118}</code>		<code>\Pisymbol{nkarta}{215}</code>
	<code>\Pisymbol{nkarta}{56}</code>		<code>\Pisymbol{nkarta}{119}</code>		<code>\Pisymbol{nkarta}{216}</code>
	<code>\Pisymbol{nkarta}{57}</code>		<code>\Pisymbol{nkarta}{120}</code>		<code>\Pisymbol{nkarta}{217}</code>
	<code>\Pisymbol{nkarta}{58}</code>		<code>\Pisymbol{nkarta}{121}</code>		<code>\Pisymbol{nkarta}{218}</code>
	<code>\Pisymbol{nkarta}{59}</code>		<code>\Pisymbol{nkarta}{122}</code>		<code>\Pisymbol{nkarta}{219}</code>
	<code>\Pisymbol{nkarta}{60}</code>		<code>\Pisymbol{nkarta}{123}</code>		<code>\Pisymbol{nkarta}{220}</code>
	<code>\Pisymbol{nkarta}{61}</code>		<code>\Pisymbol{nkarta}{124}</code>		<code>\Pisymbol{nkarta}{221}</code>
	<code>\Pisymbol{nkarta}{62}</code>		<code>\Pisymbol{nkarta}{125}</code>		<code>\Pisymbol{nkarta}{222}</code>
	<code>\Pisymbol{nkarta}{63}</code>		<code>\Pisymbol{nkarta}{126}</code>		<code>\Pisymbol{nkarta}{223}</code>
	<code>\Pisymbol{nkarta}{64}</code>		<code>\Pisymbol{nkarta}{161}</code>		<code>\Pisymbol{nkarta}{224}</code>
	<code>\Pisymbol{nkarta}{65}</code>		<code>\Pisymbol{nkarta}{162}</code>		<code>\Pisymbol{nkarta}{225}</code>
	<code>\Pisymbol{nkarta}{66}</code>		<code>\Pisymbol{nkarta}{163}</code>		<code>\Pisymbol{nkarta}{226}</code>
	<code>\Pisymbol{nkarta}{67}</code>		<code>\Pisymbol{nkarta}{164}</code>		<code>\Pisymbol{nkarta}{227}</code>
	<code>\Pisymbol{nkarta}{68}</code>		<code>\Pisymbol{nkarta}{165}</code>		<code>\Pisymbol{nkarta}{228}</code>
	<code>\Pisymbol{nkarta}{69}</code>		<code>\Pisymbol{nkarta}{166}</code>		<code>\Pisymbol{nkarta}{229}</code>
	<code>\Pisymbol{nkarta}{70}</code>		<code>\Pisymbol{nkarta}{167}</code>		<code>\Pisymbol{nkarta}{230}</code>
	<code>\Pisymbol{nkarta}{71}</code>		<code>\Pisymbol{nkarta}{168}</code>		<code>\Pisymbol{nkarta}{231}</code>
	<code>\Pisymbol{nkarta}{72}</code>		<code>\Pisymbol{nkarta}{169}</code>		<code>\Pisymbol{nkarta}{232}</code>
	<code>\Pisymbol{nkarta}{73}</code>		<code>\Pisymbol{nkarta}{170}</code>		<code>\Pisymbol{nkarta}{233}</code>

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





















































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	<code>\Pisymbol{nkarta}{74}</code>		<code>\Pisymbol{nkarta}{171}</code>		<code>\Pisymbol{nkarta}{234}</code>
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	<code>\Pisymbol{nkarta}{76}</code>		<code>\Pisymbol{nkarta}{173}</code>		<code>\Pisymbol{nkarta}{236}</code>
	<code>\Pisymbol{nkarta}{77}</code>		<code>\Pisymbol{nkarta}{174}</code>		<code>\Pisymbol{nkarta}{237}</code>
	<code>\Pisymbol{nkarta}{78}</code>		<code>\Pisymbol{nkarta}{175}</code>		<code>\Pisymbol{nkarta}{238}</code>
	<code>\Pisymbol{nkarta}{79}</code>		<code>\Pisymbol{nkarta}{176}</code>		<code>\Pisymbol{nkarta}{239}</code>
	<code>\Pisymbol{nkarta}{80}</code>		<code>\Pisymbol{nkarta}{177}</code>		<code>\Pisymbol{nkarta}{240}</code>
	<code>\Pisymbol{nkarta}{81}</code>		<code>\Pisymbol{nkarta}{178}</code>		<code>\Pisymbol{nkarta}{241}</code>
	<code>\Pisymbol{nkarta}{82}</code>		<code>\Pisymbol{nkarta}{179}</code>		<code>\Pisymbol{nkarta}{242}</code>
	<code>\Pisymbol{nkarta}{83}</code>		<code>\Pisymbol{nkarta}{180}</code>		<code>\Pisymbol{nkarta}{243}</code>
	<code>\Pisymbol{nkarta}{84}</code>		<code>\Pisymbol{nkarta}{181}</code>		<code>\Pisymbol{nkarta}{244}</code>
	<code>\Pisymbol{nkarta}{85}</code>		<code>\Pisymbol{nkarta}{182}</code>		<code>\Pisymbol{nkarta}{245}</code>
	<code>\Pisymbol{nkarta}{86}</code>		<code>\Pisymbol{nkarta}{183}</code>		<code>\Pisymbol{nkarta}{246}</code>
	<code>\Pisymbol{nkarta}{87}</code>		<code>\Pisymbol{nkarta}{184}</code>		<code>\Pisymbol{nkarta}{247}</code>
	<code>\Pisymbol{nkarta}{88}</code>		<code>\Pisymbol{nkarta}{185}</code>		<code>\Pisymbol{nkarta}{248}</code>
	<code>\Pisymbol{nkarta}{89}</code>		<code>\Pisymbol{nkarta}{186}</code>		<code>\Pisymbol{nkarta}{249}</code>
	<code>\Pisymbol{nkarta}{90}</code>		<code>\Pisymbol{nkarta}{187}</code>		<code>\Pisymbol{nkarta}{250}</code>
	<code>\Pisymbol{nkarta}{91}</code>		<code>\Pisymbol{nkarta}{188}</code>		<code>\Pisymbol{nkarta}{251}</code>
	<code>\Pisymbol{nkarta}{92}</code>		<code>\Pisymbol{nkarta}{189}</code>		<code>\Pisymbol{nkarta}{252}</code>
	<code>\Pisymbol{nkarta}{93}</code>		<code>\Pisymbol{nkarta}{190}</code>		<code>\Pisymbol{nkarta}{253}</code>
	<code>\Pisymbol{nkarta}{94}</code>		<code>\Pisymbol{nkarta}{191}</code>		<code>\Pisymbol{nkarta}{254}</code>
	<code>\Pisymbol{nkarta}{95}</code>		<code>\Pisymbol{nkarta}{192}</code>		

TABLE 987: moonphase Astronomical Symbols





































































	<code>\Pisymbol{moonphase}{0}</code>		<code>\Pisymbol{moonphase}{2}</code>
	<code>\Pisymbol{moonphase}{1}</code>		<code>\Pisymbol{moonphase}{3}</code>

TABLE 988: astrosym Astronomical Symbols

	<code>\Pisymbol{astrosym}{0}</code>		<code>\Pisymbol{astrosym}{132}</code>
	<code>\Pisymbol{astrosym}{1}</code>		<code>\Pisymbol{astrosym}{133}</code>
	<code>\Pisymbol{astrosym}{2}</code>		<code>\Pisymbol{astrosym}{134}</code>
	<code>\Pisymbol{astrosym}{3}</code>		<code>\Pisymbol{astrosym}{135}</code>
	<code>\Pisymbol{astrosym}{4}</code>		<code>\Pisymbol{astrosym}{136}</code>
	<code>\Pisymbol{astrosym}{5}</code>		<code>\Pisymbol{astrosym}{137}</code>
	<code>\Pisymbol{astrosym}{6}</code>		<code>\Pisymbol{astrosym}{138}</code>
	<code>\Pisymbol{astrosym}{7}</code>		<code>\Pisymbol{astrosym}{139}</code>
	<code>\Pisymbol{astrosym}{8}</code>		<code>\Pisymbol{astrosym}{140}</code>
	<code>\Pisymbol{astrosym}{9}</code>		<code>\Pisymbol{astrosym}{141}</code>
	<code>\Pisymbol{astrosym}{10}</code>		<code>\Pisymbol{astrosym}{142}</code>
	<code>\Pisymbol{astrosym}{11}</code>		<code>\Pisymbol{astrosym}{143}</code>
	<code>\Pisymbol{astrosym}{12}</code>		<code>\Pisymbol{astrosym}{144}</code>
	<code>\Pisymbol{astrosym}{13}</code>		<code>\Pisymbol{astrosym}{145}</code>
	<code>\Pisymbol{astrosym}{14}</code>		<code>\Pisymbol{astrosym}{146}</code>
	<code>\Pisymbol{astrosym}{15}</code>		<code>\Pisymbol{astrosym}{147}</code>
	<code>\Pisymbol{astrosym}{16}</code>		<code>\Pisymbol{astrosym}{148}</code>
	<code>\Pisymbol{astrosym}{17}</code>		<code>\Pisymbol{astrosym}{149}</code>
	<code>\Pisymbol{astrosym}{18}</code>		<code>\Pisymbol{astrosym}{150}</code>
	<code>\Pisymbol{astrosym}{19}</code>		<code>\Pisymbol{astrosym}{151}</code>
	<code>\Pisymbol{astrosym}{20}</code>		<code>\Pisymbol{astrosym}{152}</code>
	<code>\Pisymbol{astrosym}{21}</code>		<code>\Pisymbol{astrosym}{153}</code>
	<code>\Pisymbol{astrosym}{22}</code>		<code>\Pisymbol{astrosym}{154}</code>
	<code>\Pisymbol{astrosym}{23}</code>		<code>\Pisymbol{astrosym}{155}</code>
	<code>\Pisymbol{astrosym}{24}</code>		<code>\Pisymbol{astrosym}{156}</code>
	<code>\Pisymbol{astrosym}{25}</code>		<code>\Pisymbol{astrosym}{157}</code>
	<code>\Pisymbol{astrosym}{26}</code>		<code>\Pisymbol{astrosym}{158}</code>
	<code>\Pisymbol{astrosym}{27}</code>		<code>\Pisymbol{astrosym}{159}</code>
	<code>\Pisymbol{astrosym}{28}</code>		<code>\Pisymbol{astrosym}{160}</code>
	<code>\Pisymbol{astrosym}{29}</code>		<code>\Pisymbol{astrosym}{161}</code>
	<code>\Pisymbol{astrosym}{30}</code>		<code>\Pisymbol{astrosym}{162}</code>
	<code>\Pisymbol{astrosym}{31}</code>		<code>\Pisymbol{astrosym}{163}</code>
	<code>\Pisymbol{astrosym}{32}</code>		<code>\Pisymbol{astrosym}{164}</code>

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	<code>\Pisymbol{astrosym}{33}</code>		<code>\Pisymbol{astrosym}{165}</code>
	<code>\Pisymbol{astrosym}{34}</code>		<code>\Pisymbol{astrosym}{166}</code>
	<code>\Pisymbol{astrosym}{35}</code>		<code>\Pisymbol{astrosym}{167}</code>
	<code>\Pisymbol{astrosym}{36}</code>		<code>\Pisymbol{astrosym}{168}</code>
	<code>\Pisymbol{astrosym}{37}</code>		<code>\Pisymbol{astrosym}{169}</code>
	<code>\Pisymbol{astrosym}{38}</code>		<code>\Pisymbol{astrosym}{178}</code>
	<code>\Pisymbol{astrosym}{39}</code>		<code>\Pisymbol{astrosym}{179}</code>
	<code>\Pisymbol{astrosym}{40}</code>		<code>\Pisymbol{astrosym}{180}</code>
	<code>\Pisymbol{astrosym}{41}</code>		<code>\Pisymbol{astrosym}{181}</code>
	<code>\Pisymbol{astrosym}{42}</code>		<code>\Pisymbol{astrosym}{182}</code>
	<code>\Pisymbol{astrosym}{43}</code>		<code>\Pisymbol{astrosym}{183}</code>
	<code>\Pisymbol{astrosym}{44}</code>		<code>\Pisymbol{astrosym}{184}</code>
	<code>\Pisymbol{astrosym}{45}</code>		<code>\Pisymbol{astrosym}{185}</code>
	<code>\Pisymbol{astrosym}{46}</code>		<code>\Pisymbol{astrosym}{186}</code>
	<code>\Pisymbol{astrosym}{47}</code>		<code>\Pisymbol{astrosym}{187}</code>
	<code>\Pisymbol{astrosym}{48}</code>		<code>\Pisymbol{astrosym}{188}</code>
	<code>\Pisymbol{astrosym}{49}</code>		<code>\Pisymbol{astrosym}{189}</code>
	<code>\Pisymbol{astrosym}{50}</code>		<code>\Pisymbol{astrosym}{190}</code>
	<code>\Pisymbol{astrosym}{51}</code>		<code>\Pisymbol{astrosym}{191}</code>
	<code>\Pisymbol{astrosym}{52}</code>		<code>\Pisymbol{astrosym}{200}</code>
	<code>\Pisymbol{astrosym}{53}</code>		<code>\Pisymbol{astrosym}{201}</code>
	<code>\Pisymbol{astrosym}{54}</code>		<code>\Pisymbol{astrosym}{202}</code>
	<code>\Pisymbol{astrosym}{55}</code>		<code>\Pisymbol{astrosym}{203}</code>
	<code>\Pisymbol{astrosym}{56}</code>		<code>\Pisymbol{astrosym}{204}</code>
	<code>\Pisymbol{astrosym}{57}</code>		<code>\Pisymbol{astrosym}{205}</code>
	<code>\Pisymbol{astrosym}{58}</code>		<code>\Pisymbol{astrosym}{206}</code>
	<code>\Pisymbol{astrosym}{59}</code>		<code>\Pisymbol{astrosym}{207}</code>
	<code>\Pisymbol{astrosym}{60}</code>		<code>\Pisymbol{astrosym}{208}</code>
	<code>\Pisymbol{astrosym}{61}</code>		<code>\Pisymbol{astrosym}{209}</code>
	<code>\Pisymbol{astrosym}{62}</code>		<code>\Pisymbol{astrosym}{210}</code>
	<code>\Pisymbol{astrosym}{63}</code>		<code>\Pisymbol{astrosym}{211}</code>
	<code>\Pisymbol{astrosym}{64}</code>		<code>\Pisymbol{astrosym}{212}</code>
	<code>\Pisymbol{astrosym}{65}</code>		<code>\Pisymbol{astrosym}{213}</code>
	<code>\Pisymbol{astrosym}{66}</code>		<code>\Pisymbol{astrosym}{214}</code>
	<code>\Pisymbol{astrosym}{67}</code>		<code>\Pisymbol{astrosym}{215}</code>

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	<code>\Pisymbol{astroSYM}{68}</code>		<code>\Pisymbol{astroSYM}{216}</code>
	<code>\Pisymbol{astroSYM}{69}</code>		<code>\Pisymbol{astroSYM}{217}</code>
	<code>\Pisymbol{astroSYM}{90}</code>		<code>\Pisymbol{astroSYM}{218}</code>
	<code>\Pisymbol{astroSYM}{91}</code>		<code>\Pisymbol{astroSYM}{219}</code>
	<code>\Pisymbol{astroSYM}{92}</code>		<code>\Pisymbol{astroSYM}{220}</code>
	<code>\Pisymbol{astroSYM}{93}</code>		<code>\Pisymbol{astroSYM}{221}</code>
	<code>\Pisymbol{astroSYM}{94}</code>		<code>\Pisymbol{astroSYM}{222}</code>
	<code>\Pisymbol{astroSYM}{95}</code>		<code>\Pisymbol{astroSYM}{223}</code>
	<code>\Pisymbol{astroSYM}{100}</code>		<code>\Pisymbol{astroSYM}{224}</code>
	<code>\Pisymbol{astroSYM}{101}</code>		<code>\Pisymbol{astroSYM}{225}</code>
	<code>\Pisymbol{astroSYM}{102}</code>		<code>\Pisymbol{astroSYM}{226}</code>
	<code>\Pisymbol{astroSYM}{103}</code>		<code>\Pisymbol{astroSYM}{227}</code>
	<code>\Pisymbol{astroSYM}{104}</code>		<code>\Pisymbol{astroSYM}{228}</code>
	<code>\Pisymbol{astroSYM}{105}</code>		<code>\Pisymbol{astroSYM}{229}</code>
	<code>\Pisymbol{astroSYM}{106}</code>		<code>\Pisymbol{astroSYM}{230}</code>
	<code>\Pisymbol{astroSYM}{107}</code>		<code>\Pisymbol{astroSYM}{231}</code>
	<code>\Pisymbol{astroSYM}{108}</code>		<code>\Pisymbol{astroSYM}{232}</code>
	<code>\Pisymbol{astroSYM}{109}</code>		<code>\Pisymbol{astroSYM}{233}</code>
	<code>\Pisymbol{astroSYM}{110}</code>		<code>\Pisymbol{astroSYM}{234}</code>
	<code>\Pisymbol{astroSYM}{111}</code>		<code>\Pisymbol{astroSYM}{235}</code>
	<code>\Pisymbol{astroSYM}{112}</code>		<code>\Pisymbol{astroSYM}{236}</code>
	<code>\Pisymbol{astroSYM}{113}</code>		<code>\Pisymbol{astroSYM}{237}</code>
	<code>\Pisymbol{astroSYM}{114}</code>		<code>\Pisymbol{astroSYM}{238}</code>
	<code>\Pisymbol{astroSYM}{115}</code>		<code>\Pisymbol{astroSYM}{239}</code>
	<code>\Pisymbol{astroSYM}{116}</code>		<code>\Pisymbol{astroSYM}{240}</code>
	<code>\Pisymbol{astroSYM}{117}</code>		<code>\Pisymbol{astroSYM}{241}</code>
	<code>\Pisymbol{astroSYM}{118}</code>		<code>\Pisymbol{astroSYM}{242}</code>
	<code>\Pisymbol{astroSYM}{119}</code>		<code>\Pisymbol{astroSYM}{243}</code>
	<code>\Pisymbol{astroSYM}{120}</code>		<code>\Pisymbol{astroSYM}{244}</code>
	<code>\Pisymbol{astroSYM}{121}</code>		<code>\Pisymbol{astroSYM}{245}</code>
	<code>\Pisymbol{astroSYM}{122}</code>		<code>\Pisymbol{astroSYM}{246}</code>
	<code>\Pisymbol{astroSYM}{123}</code>		<code>\Pisymbol{astroSYM}{247}</code>
	<code>\Pisymbol{astroSYM}{124}</code>		<code>\Pisymbol{astroSYM}{248}</code>
	<code>\Pisymbol{astroSYM}{125}</code>		<code>\Pisymbol{astroSYM}{249}</code>
	<code>\Pisymbol{astroSYM}{126}</code>		<code>\Pisymbol{astroSYM}{250}</code>
	<code>\Pisymbol{astroSYM}{127}</code>		<code>\Pisymbol{astroSYM}{251}</code>

*(continued on next page)*

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	<code>\Pisymbol{astroSYM}{128}</code>		<code>\Pisymbol{astroSYM}{252}</code>
	<code>\Pisymbol{astroSYM}{129}</code>		<code>\Pisymbol{astroSYM}{253}</code>
	<code>\Pisymbol{astroSYM}{130}</code>		<code>\Pisymbol{astroSYM}{254}</code>
	<code>\Pisymbol{astroSYM}{131}</code>		<code>\Pisymbol{astroSYM}{255}</code>

TABLE 990: webomints Decorative Borders

	<code>\Pisymbol{WebOMintsGD}{47}</code>		<code>\Pisymbol{WebOMintsGD}{87}</code>
	<code>\Pisymbol{WebOMintsGD}{48}</code>		<code>\Pisymbol{WebOMintsGD}{88}</code>
	<code>\Pisymbol{WebOMintsGD}{49}</code>		<code>\Pisymbol{WebOMintsGD}{89}</code>
	<code>\Pisymbol{WebOMintsGD}{50}</code>		<code>\Pisymbol{WebOMintsGD}{90}</code>
	<code>\Pisymbol{WebOMintsGD}{51}</code>		<code>\Pisymbol{WebOMintsGD}{91}</code>
	<code>\Pisymbol{WebOMintsGD}{52}</code>		<code>\Pisymbol{WebOMintsGD}{93}</code>
	<code>\Pisymbol{WebOMintsGD}{53}</code>		<code>\Pisymbol{WebOMintsGD}{97}</code>
	<code>\Pisymbol{WebOMintsGD}{54}</code>		<code>\Pisymbol{WebOMintsGD}{98}</code>
	<code>\Pisymbol{WebOMintsGD}{55}</code>		<code>\Pisymbol{WebOMintsGD}{99}</code>
	<code>\Pisymbol{WebOMintsGD}{56}</code>		<code>\Pisymbol{WebOMintsGD}{100}</code>
	<code>\Pisymbol{WebOMintsGD}{57}</code>		<code>\Pisymbol{WebOMintsGD}{101}</code>
	<code>\Pisymbol{WebOMintsGD}{65}</code>		<code>\Pisymbol{WebOMintsGD}{102}</code>
	<code>\Pisymbol{WebOMintsGD}{66}</code>		<code>\Pisymbol{WebOMintsGD}{103}</code>
	<code>\Pisymbol{WebOMintsGD}{67}</code>		<code>\Pisymbol{WebOMintsGD}{104}</code>
	<code>\Pisymbol{WebOMintsGD}{68}</code>		<code>\Pisymbol{WebOMintsGD}{105}</code>
	<code>\Pisymbol{WebOMintsGD}{69}</code>		<code>\Pisymbol{WebOMintsGD}{106}</code>
	<code>\Pisymbol{WebOMintsGD}{70}</code>		<code>\Pisymbol{WebOMintsGD}{107}</code>
	<code>\Pisymbol{WebOMintsGD}{71}</code>		<code>\Pisymbol{WebOMintsGD}{108}</code>
	<code>\Pisymbol{WebOMintsGD}{72}</code>		<code>\Pisymbol{WebOMintsGD}{109}</code>
	<code>\Pisymbol{WebOMintsGD}{73}</code>		<code>\Pisymbol{WebOMintsGD}{110}</code>
	<code>\Pisymbol{WebOMintsGD}{74}</code>		<code>\Pisymbol{WebOMintsGD}{111}</code>
	<code>\Pisymbol{WebOMintsGD}{75}</code>		<code>\Pisymbol{WebOMintsGD}{112}</code>
	<code>\Pisymbol{WebOMintsGD}{76}</code>		<code>\Pisymbol{WebOMintsGD}{113}</code>
	<code>\Pisymbol{WebOMintsGD}{77}</code>		<code>\Pisymbol{WebOMintsGD}{114}</code>
	<code>\Pisymbol{WebOMintsGD}{78}</code>		<code>\Pisymbol{WebOMintsGD}{115}</code>
	<code>\Pisymbol{WebOMintsGD}{79}</code>		<code>\Pisymbol{WebOMintsGD}{116}</code>
	<code>\Pisymbol{WebOMintsGD}{80}</code>		<code>\Pisymbol{WebOMintsGD}{117}</code>
	<code>\Pisymbol{WebOMintsGD}{81}</code>		<code>\Pisymbol{WebOMintsGD}{118}</code>
	<code>\Pisymbol{WebOMintsGD}{82}</code>		<code>\Pisymbol{WebOMintsGD}{119}</code>

*(continued on next page)*

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	<code>\Pisymbol{WebOMintsGD}{83}</code>		<code>\Pisymbol{WebOMintsGD}{120}</code>
	<code>\Pisymbol{WebOMintsGD}{84}</code>		<code>\Pisymbol{WebOMintsGD}{121}</code>
	<code>\Pisymbol{WebOMintsGD}{85}</code>		<code>\Pisymbol{WebOMintsGD}{122}</code>
	<code>\Pisymbol{WebOMintsGD}{86}</code>		








































See the webomints package note on page 461.

TABLE 992: umranda Decorative Borders

	<code>\Pisymbol{umranda}{0}</code>		<code>\Pisymbol{umranda}{34}</code>		<code>\Pisymbol{umranda}{68}</code>
	<code>\Pisymbol{umranda}{1}</code>		<code>\Pisymbol{umranda}{35}</code>		<code>\Pisymbol{umranda}{69}</code>
	<code>\Pisymbol{umranda}{2}</code>		<code>\Pisymbol{umranda}{36}</code>		<code>\Pisymbol{umranda}{70}</code>
	<code>\Pisymbol{umranda}{3}</code>		<code>\Pisymbol{umranda}{37}</code>		<code>\Pisymbol{umranda}{71}</code>
	<code>\Pisymbol{umranda}{4}</code>		<code>\Pisymbol{umranda}{38}</code>		<code>\Pisymbol{umranda}{72}</code>
	<code>\Pisymbol{umranda}{5}</code>		<code>\Pisymbol{umranda}{39}</code>		<code>\Pisymbol{umranda}{73}</code>
	<code>\Pisymbol{umranda}{6}</code>		<code>\Pisymbol{umranda}{40}</code>		<code>\Pisymbol{umranda}{74}</code>
	<code>\Pisymbol{umranda}{7}</code>		<code>\Pisymbol{umranda}{41}</code>		<code>\Pisymbol{umranda}{75}</code>
	<code>\Pisymbol{umranda}{8}</code>		<code>\Pisymbol{umranda}{42}</code>		<code>\Pisymbol{umranda}{76}</code>
	<code>\Pisymbol{umranda}{9}</code>		<code>\Pisymbol{umranda}{43}</code>		<code>\Pisymbol{umranda}{77}</code>
	<code>\Pisymbol{umranda}{10}</code>		<code>\Pisymbol{umranda}{44}</code>		<code>\Pisymbol{umranda}{78}</code>
	<code>\Pisymbol{umranda}{11}</code>		<code>\Pisymbol{umranda}{45}</code>		<code>\Pisymbol{umranda}{79}</code>
	<code>\Pisymbol{umranda}{12}</code>		<code>\Pisymbol{umranda}{46}</code>		<code>\Pisymbol{umranda}{80}</code>
	<code>\Pisymbol{umranda}{13}</code>		<code>\Pisymbol{umranda}{47}</code>		<code>\Pisymbol{umranda}{81}</code>
	<code>\Pisymbol{umranda}{14}</code>		<code>\Pisymbol{umranda}{48}</code>		<code>\Pisymbol{umranda}{82}</code>
	<code>\Pisymbol{umranda}{15}</code>		<code>\Pisymbol{umranda}{49}</code>		<code>\Pisymbol{umranda}{83}</code>
	<code>\Pisymbol{umranda}{16}</code>		<code>\Pisymbol{umranda}{50}</code>		<code>\Pisymbol{umranda}{84}</code>
	<code>\Pisymbol{umranda}{17}</code>		<code>\Pisymbol{umranda}{51}</code>		<code>\Pisymbol{umranda}{85}</code>
	<code>\Pisymbol{umranda}{18}</code>		<code>\Pisymbol{umranda}{52}</code>		<code>\Pisymbol{umranda}{86}</code>
	<code>\Pisymbol{umranda}{19}</code>		<code>\Pisymbol{umranda}{53}</code>		<code>\Pisymbol{umranda}{87}</code>
	<code>\Pisymbol{umranda}{20}</code>		<code>\Pisymbol{umranda}{54}</code>		<code>\Pisymbol{umranda}{88}</code>

*(continued on next page)*

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	<code>\Pisymbol{umranda}{21}</code>		<code>\Pisymbol{umranda}{55}</code>		<code>\Pisymbol{umranda}{89}</code>
	<code>\Pisymbol{umranda}{22}</code>		<code>\Pisymbol{umranda}{56}</code>		<code>\Pisymbol{umranda}{90}</code>
	<code>\Pisymbol{umranda}{23}</code>		<code>\Pisymbol{umranda}{57}</code>		<code>\Pisymbol{umranda}{91}</code>
	<code>\Pisymbol{umranda}{24}</code>		<code>\Pisymbol{umranda}{58}</code>		<code>\Pisymbol{umranda}{92}</code>
	<code>\Pisymbol{umranda}{25}</code>		<code>\Pisymbol{umranda}{59}</code>		<code>\Pisymbol{umranda}{93}</code>
	<code>\Pisymbol{umranda}{26}</code>		<code>\Pisymbol{umranda}{60}</code>		<code>\Pisymbol{umranda}{94}</code>
	<code>\Pisymbol{umranda}{27}</code>		<code>\Pisymbol{umranda}{61}</code>		<code>\Pisymbol{umranda}{95}</code>
	<code>\Pisymbol{umranda}{28}</code>		<code>\Pisymbol{umranda}{62}</code>		<code>\Pisymbol{umranda}{96}</code>
	<code>\Pisymbol{umranda}{29}</code>		<code>\Pisymbol{umranda}{63}</code>		<code>\Pisymbol{umranda}{97}</code>
	<code>\Pisymbol{umranda}{30}</code>		<code>\Pisymbol{umranda}{64}</code>		<code>\Pisymbol{umranda}{98}</code>
	<code>\Pisymbol{umranda}{31}</code>		<code>\Pisymbol{umranda}{65}</code>		<code>\Pisymbol{umranda}{99}</code>
	<code>\Pisymbol{umranda}{32}</code>		<code>\Pisymbol{umranda}{66}</code>		<code>\Pisymbol{umranda}{100}</code>
	<code>\Pisymbol{umranda}{33}</code>		<code>\Pisymbol{umranda}{67}</code>		<code>\Pisymbol{umranda}{101}</code>

The niceframe package can be used to typeset decorative frames using fonts such as umranda.

TABLE 994: umrandb Decorative Borders

	<code>\Pisymbol{umrandb}{0}</code>		<code>\Pisymbol{umrandb}{42}</code>		<code>\Pisymbol{umrandb}{84}</code>
	<code>\Pisymbol{umrandb}{1}</code>		<code>\Pisymbol{umrandb}{43}</code>		<code>\Pisymbol{umrandb}{85}</code>
	<code>\Pisymbol{umrandb}{2}</code>		<code>\Pisymbol{umrandb}{44}</code>		<code>\Pisymbol{umrandb}{86}</code>
	<code>\Pisymbol{umrandb}{3}</code>		<code>\Pisymbol{umrandb}{45}</code>		<code>\Pisymbol{umrandb}{87}</code>
	<code>\Pisymbol{umrandb}{4}</code>		<code>\Pisymbol{umrandb}{46}</code>		<code>\Pisymbol{umrandb}{88}</code>
	<code>\Pisymbol{umrandb}{5}</code>		<code>\Pisymbol{umrandb}{47}</code>		<code>\Pisymbol{umrandb}{89}</code>
	<code>\Pisymbol{umrandb}{6}</code>		<code>\Pisymbol{umrandb}{48}</code>		<code>\Pisymbol{umrandb}{90}</code>
	<code>\Pisymbol{umrandb}{7}</code>		<code>\Pisymbol{umrandb}{49}</code>		<code>\Pisymbol{umrandb}{91}</code>
	<code>\Pisymbol{umrandb}{8}</code>		<code>\Pisymbol{umrandb}{50}</code>		<code>\Pisymbol{umrandb}{92}</code>
	<code>\Pisymbol{umrandb}{9}</code>		<code>\Pisymbol{umrandb}{51}</code>		<code>\Pisymbol{umrandb}{93}</code>
	<code>\Pisymbol{umrandb}{10}</code>		<code>\Pisymbol{umrandb}{52}</code>		<code>\Pisymbol{umrandb}{94}</code>
	<code>\Pisymbol{umrandb}{11}</code>		<code>\Pisymbol{umrandb}{53}</code>		<code>\Pisymbol{umrandb}{95}</code>
	<code>\Pisymbol{umrandb}{12}</code>		<code>\Pisymbol{umrandb}{54}</code>		<code>\Pisymbol{umrandb}{96}</code>
	<code>\Pisymbol{umrandb}{13}</code>		<code>\Pisymbol{umrandb}{55}</code>		<code>\Pisymbol{umrandb}{97}</code>

*(continued on next page)*



















(continued from previous page)

	<code>\Pisymbol{umrandb}{14}</code>		<code>\Pisymbol{umrandb}{56}</code>		<code>\Pisymbol{umrandb}{98}</code>
	<code>\Pisymbol{umrandb}{15}</code>		<code>\Pisymbol{umrandb}{57}</code>		<code>\Pisymbol{umrandb}{99}</code>
	<code>\Pisymbol{umrandb}{16}</code>		<code>\Pisymbol{umrandb}{58}</code>		<code>\Pisymbol{umrandb}{100}</code>
	<code>\Pisymbol{umrandb}{17}</code>		<code>\Pisymbol{umrandb}{59}</code>		<code>\Pisymbol{umrandb}{101}</code>
	<code>\Pisymbol{umrandb}{18}</code>		<code>\Pisymbol{umrandb}{60}</code>		<code>\Pisymbol{umrandb}{102}</code>
	<code>\Pisymbol{umrandb}{19}</code>		<code>\Pisymbol{umrandb}{61}</code>		<code>\Pisymbol{umrandb}{103}</code>
	<code>\Pisymbol{umrandb}{20}</code>		<code>\Pisymbol{umrandb}{62}</code>		<code>\Pisymbol{umrandb}{104}</code>
	<code>\Pisymbol{umrandb}{21}</code>		<code>\Pisymbol{umrandb}{63}</code>		<code>\Pisymbol{umrandb}{105}</code>
	<code>\Pisymbol{umrandb}{22}</code>		<code>\Pisymbol{umrandb}{64}</code>		<code>\Pisymbol{umrandb}{106}</code>
	<code>\Pisymbol{umrandb}{23}</code>		<code>\Pisymbol{umrandb}{65}</code>		<code>\Pisymbol{umrandb}{107}</code>
	<code>\Pisymbol{umrandb}{24}</code>		<code>\Pisymbol{umrandb}{66}</code>		<code>\Pisymbol{umrandb}{108}</code>
	<code>\Pisymbol{umrandb}{25}</code>		<code>\Pisymbol{umrandb}{67}</code>		<code>\Pisymbol{umrandb}{109}</code>
	<code>\Pisymbol{umrandb}{26}</code>		<code>\Pisymbol{umrandb}{68}</code>		<code>\Pisymbol{umrandb}{110}</code>
	<code>\Pisymbol{umrandb}{27}</code>		<code>\Pisymbol{umrandb}{69}</code>		<code>\Pisymbol{umrandb}{111}</code>
	<code>\Pisymbol{umrandb}{28}</code>		<code>\Pisymbol{umrandb}{70}</code>		<code>\Pisymbol{umrandb}{112}</code>
	<code>\Pisymbol{umrandb}{29}</code>		<code>\Pisymbol{umrandb}{71}</code>		<code>\Pisymbol{umrandb}{113}</code>
	<code>\Pisymbol{umrandb}{30}</code>		<code>\Pisymbol{umrandb}{72}</code>		<code>\Pisymbol{umrandb}{114}</code>
	<code>\Pisymbol{umrandb}{31}</code>		<code>\Pisymbol{umrandb}{73}</code>		<code>\Pisymbol{umrandb}{115}</code>
	<code>\Pisymbol{umrandb}{32}</code>		<code>\Pisymbol{umrandb}{74}</code>		<code>\Pisymbol{umrandb}{116}</code>
	<code>\Pisymbol{umrandb}{33}</code>		<code>\Pisymbol{umrandb}{75}</code>		<code>\Pisymbol{umrandb}{117}</code>
	<code>\Pisymbol{umrandb}{34}</code>		<code>\Pisymbol{umrandb}{76}</code>		<code>\Pisymbol{umrandb}{118}</code>
	<code>\Pisymbol{umrandb}{35}</code>		<code>\Pisymbol{umrandb}{77}</code>		<code>\Pisymbol{umrandb}{119}</code>
	<code>\Pisymbol{umrandb}{36}</code>		<code>\Pisymbol{umrandb}{78}</code>		<code>\Pisymbol{umrandb}{120}</code>
	<code>\Pisymbol{umrandb}{37}</code>		<code>\Pisymbol{umrandb}{79}</code>		<code>\Pisymbol{umrandb}{121}</code>
	<code>\Pisymbol{umrandb}{38}</code>		<code>\Pisymbol{umrandb}{80}</code>		<code>\Pisymbol{umrandb}{122}</code>
	<code>\Pisymbol{umrandb}{39}</code>		<code>\Pisymbol{umrandb}{81}</code>		<code>\Pisymbol{umrandb}{123}</code>
	<code>\Pisymbol{umrandb}{40}</code>		<code>\Pisymbol{umrandb}{82}</code>		
	<code>\Pisymbol{umrandb}{41}</code>		<code>\Pisymbol{umrandb}{83}</code>		

The niceframe package can be used to typeset decorative frames using fonts such as umrandb.

TABLE 996: dingbat Decorative Borders































































	<code>\Pisymbol{dingbat}{69}</code>		<code>\Pisymbol{dingbat}{97}</code>
	<code>\Pisymbol{dingbat}{70}</code>		<code>\Pisymbol{dingbat}{98}</code>
	<code>\Pisymbol{dingbat}{71}</code>		<code>\Pisymbol{dingbat}{99}</code>
	<code>\Pisymbol{dingbat}{72}</code>		<code>\Pisymbol{dingbat}{100}</code>
	<code>\Pisymbol{dingbat}{74}</code>		<code>\Pisymbol{dingbat}{101}</code>
	<code>\Pisymbol{dingbat}{75}</code>		<code>\Pisymbol{dingbat}{102}</code>
	<code>\Pisymbol{dingbat}{76}</code>		<code>\Pisymbol{dingbat}{103}</code>
	<code>\Pisymbol{dingbat}{77}</code>		<code>\Pisymbol{dingbat}{104}</code>

This table is incomplete in that it includes only unnamed dingbat symbols. Named symbols are included in Table 555 on page 219 and Table 617 on page 238 (both intermixed with symbols from the ark10 font).

The dingbat package includes a `udingbat.fd` file so a document does not need to specify the `\DeclareFontFamily` and `\DeclareFontShape` commands list at the beginning of Chapter 12.

































































The niceframe package can be used to typeset decorative frames using fonts such as dingbat.

TABLE 997: pgfornament Decorative Borders (Vintage)

	<code>\pgfornament{1}</code>		<code>\pgfornament{102}</code>
	<code>\pgfornament{2}</code>		<code>\pgfornament{103}</code>
	<code>\pgfornament{3}</code>		<code>\pgfornament{104}</code>
	<code>\pgfornament{4}</code>		<code>\pgfornament{105}</code>
	<code>\pgfornament{5}</code>		<code>\pgfornament{106}</code>
	<code>\pgfornament{6}</code>		<code>\pgfornament{107}</code>
	<code>\pgfornament{7}</code>		<code>\pgfornament{108}</code>
	<code>\pgfornament{8}</code>		<code>\pgfornament{109}</code>
	<code>\pgfornament{9}</code>		<code>\pgfornament{110}</code>
	<code>\pgfornament{10}</code>		<code>\pgfornament{111}</code>
	<code>\pgfornament{11}</code>		<code>\pgfornament{112}</code>
	<code>\pgfornament{12}</code>		<code>\pgfornament{113}</code>
	<code>\pgfornament{13}</code>		<code>\pgfornament{114}</code>
	<code>\pgfornament{14}</code>		<code>\pgfornament{115}</code>
	<code>\pgfornament{15}</code>		<code>\pgfornament{116}</code>
	<code>\pgfornament{16}</code>		<code>\pgfornament{117}</code>
	<code>\pgfornament{17}</code>		<code>\pgfornament{118}</code>
	<code>\pgfornament{18}</code>		<code>\pgfornament{119}</code>
	<code>\pgfornament{19}</code>		<code>\pgfornament{120}</code>
	<code>\pgfornament{20}</code>		<code>\pgfornament{121}</code>
	<code>\pgfornament{21}</code>		<code>\pgfornament{122}</code>
	<code>\pgfornament{22}</code>		<code>\pgfornament{123}</code>
	<code>\pgfornament{23}</code>		<code>\pgfornament{124}</code>
	<code>\pgfornament{24}</code>		<code>\pgfornament{125}</code>
	<code>\pgfornament{25}</code>		<code>\pgfornament{126}</code>
	<code>\pgfornament{26}</code>		<code>\pgfornament{127}</code>
	<code>\pgfornament{27}</code>		<code>\pgfornament{128}</code>
	<code>\pgfornament{28}</code>		<code>\pgfornament{129}</code>
	<code>\pgfornament{29}</code>		<code>\pgfornament{130}</code>
	<code>\pgfornament{30}</code>		<code>\pgfornament{131}</code>
	<code>\pgfornament{31}</code>		<code>\pgfornament{132}</code>

































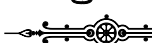

























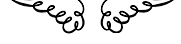



*(continued on next page)*

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	<code>\pgfornament{32}</code>		<code>\pgfornament{133}</code>
	<code>\pgfornament{33}</code>		<code>\pgfornament{134}</code>
	<code>\pgfornament{34}</code>		<code>\pgfornament{135}</code>
	<code>\pgfornament{35}</code>		<code>\pgfornament{136}</code>
	<code>\pgfornament{36}</code>		<code>\pgfornament{137}</code>
	<code>\pgfornament{37}</code>		<code>\pgfornament{138}</code>
	<code>\pgfornament{38}</code>		<code>\pgfornament{139}</code>
	<code>\pgfornament{39}</code>		<code>\pgfornament{140}</code>
	<code>\pgfornament{40}</code>		<code>\pgfornament{141}</code>
	<code>\pgfornament{41}</code>		<code>\pgfornament{142}</code>
	<code>\pgfornament{42}</code>		<code>\pgfornament{143}</code>
	<code>\pgfornament{43}</code>		<code>\pgfornament{144}</code>
	<code>\pgfornament{44}</code>		<code>\pgfornament{145}</code>
	<code>\pgfornament{45}</code>		<code>\pgfornament{146}</code>
	<code>\pgfornament{46}</code>		<code>\pgfornament{147}</code>
	<code>\pgfornament{47}</code>		<code>\pgfornament{148}</code>
	<code>\pgfornament{48}</code>		<code>\pgfornament{149}</code>
	<code>\pgfornament{49}</code>		<code>\pgfornament{150}</code>
	<code>\pgfornament{50}</code>		<code>\pgfornament{151}</code>
	<code>\pgfornament{51}</code>		<code>\pgfornament{152}</code>
	<code>\pgfornament{52}</code>		<code>\pgfornament{153}</code>
	<code>\pgfornament{53}</code>		<code>\pgfornament{154}</code>
	<code>\pgfornament{54}</code>		<code>\pgfornament{155}</code>
	<code>\pgfornament{55}</code>		<code>\pgfornament{156}</code>
	<code>\pgfornament{56}</code>		<code>\pgfornament{157}</code>
	<code>\pgfornament{57}</code>		<code>\pgfornament{158}</code>
	<code>\pgfornament{58}</code>		<code>\pgfornament{159}</code>
	<code>\pgfornament{59}</code>		<code>\pgfornament{160}</code>
	<code>\pgfornament{60}</code>		<code>\pgfornament{161}</code>
	<code>\pgfornament{61}</code>		<code>\pgfornament{162}</code>
	<code>\pgfornament{62}</code>		<code>\pgfornament{163}</code>
	<code>\pgfornament{63}</code>		<code>\pgfornament{164}</code>







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	<code>\pgfornament{64}</code>		<code>\pgfornament{165}</code>
	<code>\pgfornament{65}</code>		<code>\pgfornament{166}</code>
	<code>\pgfornament{66}</code>		<code>\pgfornament{167}</code>
	<code>\pgfornament{67}</code>		<code>\pgfornament{168}</code>
	<code>\pgfornament{68}</code>		<code>\pgfornament{169}</code>
	<code>\pgfornament{69}</code>		<code>\pgfornament{171}</code>
	<code>\pgfornament{70}</code>		<code>\pgfornament{172}</code>
	<code>\pgfornament{71}</code>		<code>\pgfornament{173}</code>
	<code>\pgfornament{72}</code>		<code>\pgfornament{174}</code>
	<code>\pgfornament{73}</code>		<code>\pgfornament{175}</code>
	<code>\pgfornament{74}</code>		<code>\pgfornament{176}</code>
	<code>\pgfornament{75}</code>		<code>\pgfornament{177}</code>
	<code>\pgfornament{76}</code>		<code>\pgfornament{178}</code>
	<code>\pgfornament{77}</code>		<code>\pgfornament{179}</code>
	<code>\pgfornament{78}</code>		<code>\pgfornament{180}</code>
	<code>\pgfornament{79}</code>		<code>\pgfornament{181}</code>
	<code>\pgfornament{81}</code>		<code>\pgfornament{182}</code>
	<code>\pgfornament{84}</code>		<code>\pgfornament{183}</code>
	<code>\pgfornament{87}</code>		<code>\pgfornament{184}</code>
	<code>\pgfornament{90}</code>		<code>\pgfornament{185}</code>
	<code>\pgfornament{91}</code>		<code>\pgfornament{186}</code>
	<code>\pgfornament{92}</code>		<code>\pgfornament{187}</code>
	<code>\pgfornament{93}</code>		<code>\pgfornament{188}</code>
	<code>\pgfornament{94}</code>		<code>\pgfornament{189}</code>
	<code>\pgfornament{95}</code>		<code>\pgfornament{190}</code>
	<code>\pgfornament{96}</code>		<code>\pgfornament{191}</code>
	<code>\pgfornament{97}</code>		<code>\pgfornament{192}</code>
	<code>\pgfornament{98}</code>		<code>\pgfornament{193}</code>
	<code>\pgfornament{99}</code>		<code>\pgfornament{194}</code>
	<code>\pgfornament{100}</code>		<code>\pgfornament{195}</code>
	<code>\pgfornament{101}</code>		<code>\pgfornament{196}</code>





















The symbols in this table are selected with `\newpgfornamentfamily{vectorian}`.

The following symbols are omitted from the table due to their width:

	<code>\pgfornament{80}</code>
	<code>\pgfornament{82}</code>
	<code>\pgfornament{83}</code>
	<code>\pgfornament{85}</code>
	<code>\pgfornament{86}</code>
	<code>\pgfornament{88}</code>









































See the `pgfornament` package note on page 456.

TABLE 999: `pgfornament` Decorative Borders (Traditional Chinese Motifs)

	<code>\pgfornament{1}</code>		<code>\pgfornament{42}</code>
	<code>\pgfornament{2}</code>		<code>\pgfornament{43}</code>
	<code>\pgfornament{3}</code>		<code>\pgfornament{44}</code>
	<code>\pgfornament{4}</code>		<code>\pgfornament{45}</code>
	<code>\pgfornament{5}</code>		<code>\pgfornament{46}</code>
	<code>\pgfornament{6}</code>		<code>\pgfornament{47}</code>
	<code>\pgfornament{7}</code>		<code>\pgfornament{48}</code>
	<code>\pgfornament{8}</code>		<code>\pgfornament{49}</code>
	<code>\pgfornament{9}</code>		<code>\pgfornament{50}</code>
	<code>\pgfornament{10}</code>		<code>\pgfornament{51}</code>















(continued on next page)

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	<code>\pgfornament{11}</code>		<code>\pgfornament{52}</code>
	<code>\pgfornament{12}</code>		<code>\pgfornament{53}</code>
	<code>\pgfornament{13}</code>		<code>\pgfornament{54}</code>
	<code>\pgfornament{14}</code>		<code>\pgfornament{55}</code>
	<code>\pgfornament{15}</code>		<code>\pgfornament{56}</code>
	<code>\pgfornament{16}</code>		<code>\pgfornament{57}</code>
	<code>\pgfornament{17}</code>		<code>\pgfornament{58}</code>
	<code>\pgfornament{18}</code>		<code>\pgfornament{59}</code>
	<code>\pgfornament{19}</code>		<code>\pgfornament{60}</code>
	<code>\pgfornament{20}</code>		<code>\pgfornament{61}</code>
	<code>\pgfornament{21}</code>		<code>\pgfornament{62}</code>
	<code>\pgfornament{22}</code>		<code>\pgfornament{63}</code>
	<code>\pgfornament{23}</code>		<code>\pgfornament{64}</code>
	<code>\pgfornament{24}</code>		<code>\pgfornament{65}</code>
	<code>\pgfornament{25}</code>		<code>\pgfornament{66}</code>
	<code>\pgfornament{26}</code>		<code>\pgfornament{67}</code>
	<code>\pgfornament{27}</code>		<code>\pgfornament{68}</code>
	<code>\pgfornament{28}</code>		<code>\pgfornament{69}</code>
	<code>\pgfornament{33}</code>		<code>\pgfornament{70}</code>
	<code>\pgfornament{34}</code>		<code>\pgfornament{71}</code>

*(continued on next page)*

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








	<code>\pgfornament{35}</code>		<code>\pgfornament{72}</code>
	<code>\pgfornament{36}</code>		<code>\pgfornament{73}</code>
	<code>\pgfornament{37}</code>		<code>\pgfornament{74}</code>
	<code>\pgfornament{38}</code>		<code>\pgfornament{75}</code>
	<code>\pgfornament{39}</code>		<code>\pgfornament{76}</code>
	<code>\pgfornament{40}</code>		<code>\pgfornament{77}</code>
	<code>\pgfornament{41}</code>		<code>\pgfornament{78}</code>

The symbols in this table are selected with `\newpgfornamentfamily{han}`.

Not shown in the table due to their width are `\pgfornament{29}`, `\pgfornament{30}`, `\pgfornament{31}`, and `\pgfornament{32}`. These represent various horizontal rules (thick, double thin, double thick, and triple thin, respectively).

See the `pgfornament` package note on page 456.





































































































TABLE 1001: knot Celtic Knots

	<code>\Pisymbol{knot1}{48}</code>		<code>\Pisymbol{knot1}{68}</code>		<code>\Pisymbol{knot1}{84}</code>
	<code>\Pisymbol{knot1}{49}</code>		<code>\Pisymbol{knot1}{69}</code>		<code>\Pisymbol{knot1}{85}</code>
	<code>\Pisymbol{knot1}{50}</code>		<code>\Pisymbol{knot1}{70}</code>		<code>\Pisymbol{knot1}{86}</code>
	<code>\Pisymbol{knot1}{51}</code>		<code>\Pisymbol{knot1}{71}</code>		<code>\Pisymbol{knot1}{87}</code>
	<code>\Pisymbol{knot1}{52}</code>		<code>\Pisymbol{knot1}{72}</code>		<code>\Pisymbol{knot1}{88}</code>
	<code>\Pisymbol{knot1}{53}</code>		<code>\Pisymbol{knot1}{73}</code>		<code>\Pisymbol{knot1}{96}</code>
	<code>\Pisymbol{knot1}{58}</code>		<code>\Pisymbol{knot1}{74}</code>		<code>\Pisymbol{knot1}{97}</code>
	<code>\Pisymbol{knot1}{59}</code>		<code>\Pisymbol{knot1}{75}</code>		<code>\Pisymbol{knot1}{98}</code>
	<code>\Pisymbol{knot1}{60}</code>		<code>\Pisymbol{knot1}{76}</code>		<code>\Pisymbol{knot1}{99}</code>
	<code>\Pisymbol{knot1}{61}</code>		<code>\Pisymbol{knot1}{77}</code>		<code>\Pisymbol{knot1}{100}</code>

(continued on next page)







































































































*(continued from previous page)*

	<code>\Pisymbol{knot1}{62}</code>		<code>\Pisymbol{knot1}{78}</code>		<code>\Pisymbol{knot1}{101}</code>
	<code>\Pisymbol{knot1}{63}</code>		<code>\Pisymbol{knot1}{79}</code>		<code>\Pisymbol{knot1}{102}</code>
	<code>\Pisymbol{knot1}{64}</code>		<code>\Pisymbol{knot1}{80}</code>		<code>\Pisymbol{knot1}{103}</code>
	<code>\Pisymbol{knot1}{65}</code>		<code>\Pisymbol{knot1}{81}</code>		<code>\Pisymbol{knot1}{104}</code>
	<code>\Pisymbol{knot1}{66}</code>		<code>\Pisymbol{knot1}{82}</code>		<code>\Pisymbol{knot1}{105}</code>
	<code>\Pisymbol{knot1}{67}</code>		<code>\Pisymbol{knot1}{83}</code>		
	<code>\Pisymbol{knot2}{48}</code>		<code>\Pisymbol{knot2}{68}</code>		<code>\Pisymbol{knot2}{84}</code>
	<code>\Pisymbol{knot2}{49}</code>		<code>\Pisymbol{knot2}{69}</code>		<code>\Pisymbol{knot2}{85}</code>
	<code>\Pisymbol{knot2}{50}</code>		<code>\Pisymbol{knot2}{70}</code>		<code>\Pisymbol{knot2}{86}</code>
	<code>\Pisymbol{knot2}{51}</code>		<code>\Pisymbol{knot2}{71}</code>		<code>\Pisymbol{knot2}{87}</code>
	<code>\Pisymbol{knot2}{52}</code>		<code>\Pisymbol{knot2}{72}</code>		<code>\Pisymbol{knot2}{88}</code>
	<code>\Pisymbol{knot2}{53}</code>		<code>\Pisymbol{knot2}{73}</code>		<code>\Pisymbol{knot2}{89}</code>
	<code>\Pisymbol{knot2}{54}</code>		<code>\Pisymbol{knot2}{74}</code>		<code>\Pisymbol{knot2}{90}</code>
	<code>\Pisymbol{knot2}{55}</code>		<code>\Pisymbol{knot2}{75}</code>		<code>\Pisymbol{knot2}{91}</code>
	<code>\Pisymbol{knot2}{56}</code>		<code>\Pisymbol{knot2}{76}</code>		<code>\Pisymbol{knot2}{92}</code>
	<code>\Pisymbol{knot2}{57}</code>		<code>\Pisymbol{knot2}{77}</code>		<code>\Pisymbol{knot2}{93}</code>
	<code>\Pisymbol{knot2}{58}</code>		<code>\Pisymbol{knot2}{78}</code>		<code>\Pisymbol{knot2}{94}</code>
	<code>\Pisymbol{knot2}{59}</code>		<code>\Pisymbol{knot2}{79}</code>		<code>\Pisymbol{knot2}{95}</code>
	<code>\Pisymbol{knot2}{60}</code>		<code>\Pisymbol{knot2}{80}</code>		<code>\Pisymbol{knot2}{96}</code>
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












































































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	<code>\Pisymbol{knot3}{62}</code>		<code>\Pisymbol{knot3}{78}</code>		<code>\Pisymbol{knot3}{101}</code>
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





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	<code>\Pisymbol{knot5}{66}</code>		<code>\Pisymbol{knot5}{82}</code>		<code>\Pisymbol{knot5}{105}</code>
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	<code>\Pisymbol{knot6}{60}</code>		<code>\Pisymbol{knot6}{76}</code>		<code>\Pisymbol{knot6}{99}</code>
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













































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See the knot package note on page 454.

TABLE 1003: dancers Dancing Men

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	<code>\Pisymbol{dancers}{3}</code>		<code>\Pisymbol{dancers}{89}</code>		<code>\Pisymbol{dancers}{175}</code>
	<code>\Pisymbol{dancers}{4}</code>		<code>\Pisymbol{dancers}{90}</code>		<code>\Pisymbol{dancers}{176}</code>
	<code>\Pisymbol{dancers}{5}</code>		<code>\Pisymbol{dancers}{91}</code>		<code>\Pisymbol{dancers}{177}</code>
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	<code>\Pisymbol{dancers}{9}</code>		<code>\Pisymbol{dancers}{95}</code>		<code>\Pisymbol{dancers}{181}</code>
	<code>\Pisymbol{dancers}{10}</code>		<code>\Pisymbol{dancers}{96}</code>		<code>\Pisymbol{dancers}{182}</code>
	<code>\Pisymbol{dancers}{11}</code>		<code>\Pisymbol{dancers}{97}</code>		<code>\Pisymbol{dancers}{183}</code>
	<code>\Pisymbol{dancers}{12}</code>		<code>\Pisymbol{dancers}{98}</code>		<code>\Pisymbol{dancers}{184}</code>
	<code>\Pisymbol{dancers}{13}</code>		<code>\Pisymbol{dancers}{99}</code>		<code>\Pisymbol{dancers}{185}</code>
	<code>\Pisymbol{dancers}{14}</code>		<code>\Pisymbol{dancers}{100}</code>		<code>\Pisymbol{dancers}{186}</code>
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	<code>\Pisymbol{dancers}{16}</code>		<code>\Pisymbol{dancers}{102}</code>		<code>\Pisymbol{dancers}{188}</code>
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	<code>\Pisymbol{dancers}{18}</code>		<code>\Pisymbol{dancers}{104}</code>		<code>\Pisymbol{dancers}{190}</code>
	<code>\Pisymbol{dancers}{19}</code>		<code>\Pisymbol{dancers}{105}</code>		<code>\Pisymbol{dancers}{191}</code>
	<code>\Pisymbol{dancers}{20}</code>		<code>\Pisymbol{dancers}{106}</code>		<code>\Pisymbol{dancers}{192}</code>
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	<code>\Pisymbol{dancers}{22}</code>		<code>\Pisymbol{dancers}{108}</code>		<code>\Pisymbol{dancers}{194}</code>
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	<code>\Pisymbol{dancers}{30}</code>		<code>\Pisymbol{dancers}{116}</code>		<code>\Pisymbol{dancers}{202}</code>
	<code>\Pisymbol{dancers}{31}</code>		<code>\Pisymbol{dancers}{117}</code>		<code>\Pisymbol{dancers}{203}</code>
	<code>\Pisymbol{dancers}{32}</code>		<code>\Pisymbol{dancers}{118}</code>		<code>\Pisymbol{dancers}{204}</code>
	<code>\Pisymbol{dancers}{33}</code>		<code>\Pisymbol{dancers}{119}</code>		<code>\Pisymbol{dancers}{205}</code>
	<code>\Pisymbol{dancers}{34}</code>		<code>\Pisymbol{dancers}{120}</code>		<code>\Pisymbol{dancers}{206}</code>
	<code>\Pisymbol{dancers}{35}</code>		<code>\Pisymbol{dancers}{121}</code>		<code>\Pisymbol{dancers}{207}</code>
	<code>\Pisymbol{dancers}{36}</code>		<code>\Pisymbol{dancers}{122}</code>		<code>\Pisymbol{dancers}{208}</code>
	<code>\Pisymbol{dancers}{37}</code>		<code>\Pisymbol{dancers}{123}</code>		<code>\Pisymbol{dancers}{209}</code>
	<code>\Pisymbol{dancers}{38}</code>		<code>\Pisymbol{dancers}{124}</code>		<code>\Pisymbol{dancers}{210}</code>
	<code>\Pisymbol{dancers}{39}</code>		<code>\Pisymbol{dancers}{125}</code>		<code>\Pisymbol{dancers}{211}</code>
	<code>\Pisymbol{dancers}{40}</code>		<code>\Pisymbol{dancers}{126}</code>		<code>\Pisymbol{dancers}{212}</code>
	<code>\Pisymbol{dancers}{41}</code>		<code>\Pisymbol{dancers}{127}</code>		<code>\Pisymbol{dancers}{213}</code>
	<code>\Pisymbol{dancers}{42}</code>		<code>\Pisymbol{dancers}{128}</code>		<code>\Pisymbol{dancers}{214}</code>
	<code>\Pisymbol{dancers}{43}</code>		<code>\Pisymbol{dancers}{129}</code>		<code>\Pisymbol{dancers}{215}</code>
	<code>\Pisymbol{dancers}{44}</code>		<code>\Pisymbol{dancers}{130}</code>		<code>\Pisymbol{dancers}{216}</code>
	<code>\Pisymbol{dancers}{45}</code>		<code>\Pisymbol{dancers}{131}</code>		<code>\Pisymbol{dancers}{217}</code>

*(continued on next page)*

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	<code>\Pisymbol{dancers}{46}</code>		<code>\Pisymbol{dancers}{132}</code>		<code>\Pisymbol{dancers}{218}</code>
	<code>\Pisymbol{dancers}{47}</code>		<code>\Pisymbol{dancers}{133}</code>		<code>\Pisymbol{dancers}{219}</code>
	<code>\Pisymbol{dancers}{48}</code>		<code>\Pisymbol{dancers}{134}</code>		<code>\Pisymbol{dancers}{220}</code>
	<code>\Pisymbol{dancers}{49}</code>		<code>\Pisymbol{dancers}{135}</code>		<code>\Pisymbol{dancers}{221}</code>
	<code>\Pisymbol{dancers}{50}</code>		<code>\Pisymbol{dancers}{136}</code>		<code>\Pisymbol{dancers}{222}</code>
	<code>\Pisymbol{dancers}{51}</code>		<code>\Pisymbol{dancers}{137}</code>		<code>\Pisymbol{dancers}{223}</code>
	<code>\Pisymbol{dancers}{52}</code>		<code>\Pisymbol{dancers}{138}</code>		<code>\Pisymbol{dancers}{224}</code>
	<code>\Pisymbol{dancers}{53}</code>		<code>\Pisymbol{dancers}{139}</code>		<code>\Pisymbol{dancers}{225}</code>
	<code>\Pisymbol{dancers}{54}</code>		<code>\Pisymbol{dancers}{140}</code>		<code>\Pisymbol{dancers}{226}</code>
	<code>\Pisymbol{dancers}{55}</code>		<code>\Pisymbol{dancers}{141}</code>		<code>\Pisymbol{dancers}{227}</code>
	<code>\Pisymbol{dancers}{56}</code>		<code>\Pisymbol{dancers}{142}</code>		<code>\Pisymbol{dancers}{228}</code>
	<code>\Pisymbol{dancers}{57}</code>		<code>\Pisymbol{dancers}{143}</code>		<code>\Pisymbol{dancers}{229}</code>
	<code>\Pisymbol{dancers}{58}</code>		<code>\Pisymbol{dancers}{144}</code>		<code>\Pisymbol{dancers}{230}</code>
	<code>\Pisymbol{dancers}{59}</code>		<code>\Pisymbol{dancers}{145}</code>		<code>\Pisymbol{dancers}{231}</code>
	<code>\Pisymbol{dancers}{60}</code>		<code>\Pisymbol{dancers}{146}</code>		<code>\Pisymbol{dancers}{232}</code>
	<code>\Pisymbol{dancers}{61}</code>		<code>\Pisymbol{dancers}{147}</code>		<code>\Pisymbol{dancers}{233}</code>
	<code>\Pisymbol{dancers}{62}</code>		<code>\Pisymbol{dancers}{148}</code>		<code>\Pisymbol{dancers}{234}</code>
	<code>\Pisymbol{dancers}{63}</code>		<code>\Pisymbol{dancers}{149}</code>		<code>\Pisymbol{dancers}{235}</code>
	<code>\Pisymbol{dancers}{64}</code>		<code>\Pisymbol{dancers}{150}</code>		<code>\Pisymbol{dancers}{236}</code>
	<code>\Pisymbol{dancers}{65}</code>		<code>\Pisymbol{dancers}{151}</code>		<code>\Pisymbol{dancers}{237}</code>
	<code>\Pisymbol{dancers}{66}</code>		<code>\Pisymbol{dancers}{152}</code>		<code>\Pisymbol{dancers}{238}</code>
	<code>\Pisymbol{dancers}{67}</code>		<code>\Pisymbol{dancers}{153}</code>		<code>\Pisymbol{dancers}{239}</code>
	<code>\Pisymbol{dancers}{68}</code>		<code>\Pisymbol{dancers}{154}</code>		<code>\Pisymbol{dancers}{240}</code>
	<code>\Pisymbol{dancers}{69}</code>		<code>\Pisymbol{dancers}{155}</code>		<code>\Pisymbol{dancers}{241}</code>
	<code>\Pisymbol{dancers}{70}</code>		<code>\Pisymbol{dancers}{156}</code>		<code>\Pisymbol{dancers}{242}</code>
	<code>\Pisymbol{dancers}{71}</code>		<code>\Pisymbol{dancers}{157}</code>		<code>\Pisymbol{dancers}{243}</code>
	<code>\Pisymbol{dancers}{72}</code>		<code>\Pisymbol{dancers}{158}</code>		<code>\Pisymbol{dancers}{244}</code>
	<code>\Pisymbol{dancers}{73}</code>		<code>\Pisymbol{dancers}{159}</code>		<code>\Pisymbol{dancers}{245}</code>
	<code>\Pisymbol{dancers}{74}</code>		<code>\Pisymbol{dancers}{160}</code>		<code>\Pisymbol{dancers}{246}</code>
	<code>\Pisymbol{dancers}{75}</code>		<code>\Pisymbol{dancers}{161}</code>		<code>\Pisymbol{dancers}{247}</code>

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	<code>\Pisymbol{dancers}{76}</code>		<code>\Pisymbol{dancers}{162}</code>		<code>\Pisymbol{dancers}{248}</code>
	<code>\Pisymbol{dancers}{77}</code>		<code>\Pisymbol{dancers}{163}</code>		<code>\Pisymbol{dancers}{249}</code>
	<code>\Pisymbol{dancers}{78}</code>		<code>\Pisymbol{dancers}{164}</code>		<code>\Pisymbol{dancers}{250}</code>
	<code>\Pisymbol{dancers}{79}</code>		<code>\Pisymbol{dancers}{165}</code>		<code>\Pisymbol{dancers}{251}</code>
	<code>\Pisymbol{dancers}{80}</code>		<code>\Pisymbol{dancers}{166}</code>		<code>\Pisymbol{dancers}{252}</code>
	<code>\Pisymbol{dancers}{81}</code>		<code>\Pisymbol{dancers}{167}</code>		<code>\Pisymbol{dancers}{253}</code>
	<code>\Pisymbol{dancers}{82}</code>		<code>\Pisymbol{dancers}{168}</code>		<code>\Pisymbol{dancers}{254}</code>
	<code>\Pisymbol{dancers}{83}</code>		<code>\Pisymbol{dancers}{169}</code>		<code>\Pisymbol{dancers}{255}</code>
	<code>\Pisymbol{dancers}{84}</code>		<code>\Pisymbol{dancers}{170}</code>		
	<code>\Pisymbol{dancers}{85}</code>		<code>\Pisymbol{dancers}{171}</code>		

See the dancers package note on page 451.

TABLE 1005: semaphor Semaphore Alphabet

	<code>\Pisymbol{smfpr10}{32}</code>		<code>\Pisymbol{smfpr10}{88}</code>		<code>\Pisymbol{smfpr10}{187}</code>
	<code>\Pisymbol{smfpr10}{35}</code>		<code>\Pisymbol{smfpr10}{89}</code>		<code>\Pisymbol{smfpr10}{192}</code>
	<code>\Pisymbol{smfpr10}{36}</code>		<code>\Pisymbol{smfpr10}{90}</code>		<code>\Pisymbol{smfpr10}{193}</code>
	<code>\Pisymbol{smfpr10}{42}</code>		<code>\Pisymbol{smfpr10}{97}</code>		<code>\Pisymbol{smfpr10}{196}</code>
	<code>\Pisymbol{smfpr10}{46}</code>		<code>\Pisymbol{smfpr10}{98}</code>		<code>\Pisymbol{smfpr10}{197}</code>
	<code>\Pisymbol{smfpr10}{48}</code>		<code>\Pisymbol{smfpr10}{99}</code>		<code>\Pisymbol{smfpr10}{200}</code>
	<code>\Pisymbol{smfpr10}{49}</code>		<code>\Pisymbol{smfpr10}{100}</code>		<code>\Pisymbol{smfpr10}{201}</code>
	<code>\Pisymbol{smfpr10}{50}</code>		<code>\Pisymbol{smfpr10}{101}</code>		<code>\Pisymbol{smfpr10}{204}</code>
	<code>\Pisymbol{smfpr10}{51}</code>		<code>\Pisymbol{smfpr10}{102}</code>		<code>\Pisymbol{smfpr10}{205}</code>
	<code>\Pisymbol{smfpr10}{52}</code>		<code>\Pisymbol{smfpr10}{103}</code>		<code>\Pisymbol{smfpr10}{207}</code>
	<code>\Pisymbol{smfpr10}{53}</code>		<code>\Pisymbol{smfpr10}{104}</code>		<code>\Pisymbol{smfpr10}{210}</code>
	<code>\Pisymbol{smfpr10}{54}</code>		<code>\Pisymbol{smfpr10}{105}</code>		<code>\Pisymbol{smfpr10}{211}</code>
	<code>\Pisymbol{smfpr10}{55}</code>		<code>\Pisymbol{smfpr10}{106}</code>		<code>\Pisymbol{smfpr10}{212}</code>
	<code>\Pisymbol{smfpr10}{56}</code>		<code>\Pisymbol{smfpr10}{107}</code>		<code>\Pisymbol{smfpr10}{214}</code>
	<code>\Pisymbol{smfpr10}{57}</code>		<code>\Pisymbol{smfpr10}{108}</code>		<code>\Pisymbol{smfpr10}{216}</code>
	<code>\Pisymbol{smfpr10}{65}</code>		<code>\Pisymbol{smfpr10}{109}</code>		<code>\Pisymbol{smfpr10}{217}</code>
	<code>\Pisymbol{smfpr10}{66}</code>		<code>\Pisymbol{smfpr10}{110}</code>		<code>\Pisymbol{smfpr10}{218}</code>

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	<code>\Pisymbol{smfpr10}{67}</code>		<code>\Pisymbol{smfpr10}{111}</code>		<code>\Pisymbol{smfpr10}{220}</code>
	<code>\Pisymbol{smfpr10}{68}</code>		<code>\Pisymbol{smfpr10}{112}</code>		<code>\Pisymbol{smfpr10}{221}</code>
	<code>\Pisymbol{smfpr10}{69}</code>		<code>\Pisymbol{smfpr10}{113}</code>		<code>\Pisymbol{smfpr10}{224}</code>
	<code>\Pisymbol{smfpr10}{70}</code>		<code>\Pisymbol{smfpr10}{114}</code>		<code>\Pisymbol{smfpr10}{225}</code>
	<code>\Pisymbol{smfpr10}{71}</code>		<code>\Pisymbol{smfpr10}{115}</code>		<code>\Pisymbol{smfpr10}{228}</code>
	<code>\Pisymbol{smfpr10}{72}</code>		<code>\Pisymbol{smfpr10}{116}</code>		<code>\Pisymbol{smfpr10}{229}</code>
	<code>\Pisymbol{smfpr10}{73}</code>		<code>\Pisymbol{smfpr10}{117}</code>		<code>\Pisymbol{smfpr10}{232}</code>
	<code>\Pisymbol{smfpr10}{74}</code>		<code>\Pisymbol{smfpr10}{118}</code>		<code>\Pisymbol{smfpr10}{233}</code>
	<code>\Pisymbol{smfpr10}{75}</code>		<code>\Pisymbol{smfpr10}{119}</code>		<code>\Pisymbol{smfpr10}{236}</code>
	<code>\Pisymbol{smfpr10}{76}</code>		<code>\Pisymbol{smfpr10}{120}</code>		<code>\Pisymbol{smfpr10}{237}</code>
	<code>\Pisymbol{smfpr10}{77}</code>		<code>\Pisymbol{smfpr10}{121}</code>		<code>\Pisymbol{smfpr10}{239}</code>
	<code>\Pisymbol{smfpr10}{78}</code>		<code>\Pisymbol{smfpr10}{122}</code>		<code>\Pisymbol{smfpr10}{242}</code>
	<code>\Pisymbol{smfpr10}{79}</code>		<code>\Pisymbol{smfpr10}{126}</code>		<code>\Pisymbol{smfpr10}{243}</code>
	<code>\Pisymbol{smfpr10}{80}</code>		<code>\Pisymbol{smfpr10}{152}</code>		<code>\Pisymbol{smfpr10}{244}</code>
	<code>\Pisymbol{smfpr10}{81}</code>		<code>\Pisymbol{smfpr10}{165}</code>		<code>\Pisymbol{smfpr10}{246}</code>
	<code>\Pisymbol{smfpr10}{82}</code>		<code>\Pisymbol{smfpr10}{169}</code>		<code>\Pisymbol{smfpr10}{248}</code>
	<code>\Pisymbol{smfpr10}{83}</code>		<code>\Pisymbol{smfpr10}{171}</code>		<code>\Pisymbol{smfpr10}{249}</code>
	<code>\Pisymbol{smfpr10}{84}</code>		<code>\Pisymbol{smfpr10}{174}</code>		<code>\Pisymbol{smfpr10}{250}</code>
	<code>\Pisymbol{smfpr10}{85}</code>		<code>\Pisymbol{smfpr10}{181}</code>		<code>\Pisymbol{smfpr10}{252}</code>
	<code>\Pisymbol{smfpr10}{86}</code>		<code>\Pisymbol{smfpr10}{184}</code>		<code>\Pisymbol{smfpr10}{253}</code>
	<code>\Pisymbol{smfpr10}{87}</code>		<code>\Pisymbol{smfpr10}{185}</code>		

See the `semaphor` package note on page 458.TABLE 1007: `lcircuit` Logic Gates and VLSI Symbols

	<code>\usebox{\ande}</code>		<code>\usebox{\nfete}</code>		<code>\usebox{\ots}</code>
	<code>\usebox{\andn}</code>		<code>\usebox{\nfetn}</code>		<code>\usebox{\otw}</code>
	<code>\usebox{\ands}</code>		<code>\usebox{\nfets}</code>		<code>\usebox{\pfete}</code>
	<code>\usebox{\andw}</code>		<code>\usebox{\nfetw}</code>		<code>\usebox{\pfetn}</code>
	<code>\usebox{\capew}</code>		<code>\usebox{\nore}</code>		<code>\usebox{\pfets}</code>
	<code>\usebox{\capns}</code>		<code>\usebox{\norn}</code>		<code>\usebox{\pfetw}</code>
	<code>\usebox{\exore}</code>		<code>\usebox{\nors}</code>		<code>\usebox{\resew}</code>
	<code>\usebox{\exorn}</code>		<code>\usebox{\norw}</code>		<code>\usebox{\resns}</code>
	<code>\usebox{\exors}</code>		<code>\usebox{\note}</code>		<code>\usebox{\tgateew}</code>

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	<code>\usebox{\exorw}</code>		<code>\usebox{\notn}</code>		<code>\usebox{\tgatens}</code>
	<code>\usebox{\nande}</code>		<code>\usebox{\nots}</code>		<code>\usebox{\tje}</code>
	<code>\usebox{\nandn}</code>		<code>\usebox{\notw}</code>		<code>\usebox{\tjn}</code>
	<code>\usebox{\nands}</code>		<code>\usebox{\ore}</code>		<code>\usebox{\tjs}</code>
	<code>\usebox{\nandw}</code>		<code>\usebox{\orn}</code>		<code>\usebox{\tjw}</code>
	<code>\usebox{\nexore}</code>		<code>\usebox{\ors}</code>		<code>\usebox{\vddpin}</code>
	<code>\usebox{\nexorn}</code>		<code>\usebox{\orw}</code>		<code>\usebox{\vsspin}</code>
	<code>\usebox{\nexors}</code>		<code>\usebox{\ote}</code>		
	<code>\usebox{\nexorw}</code>		<code>\usebox{\otn}</code>		

See the `lcircuit` package note on page 454.TABLE 1009: `cryst` Crystallography Symbols

	<code>\Pisymbol{cryst}{0}</code>		<code>\Pisymbol{cryst}{63}</code>		<code>\Pisymbol{cryst}{138}</code>
	<code>\Pisymbol{cryst}{2}</code>		<code>\Pisymbol{cryst}{64}</code>		<code>\Pisymbol{cryst}{139}</code>
	<code>\Pisymbol{cryst}{3}</code>		<code>\Pisymbol{cryst}{65}</code>		<code>\Pisymbol{cryst}{140}</code>
	<code>\Pisymbol{cryst}{4}</code>		<code>\Pisymbol{cryst}{66}</code>		<code>\Pisymbol{cryst}{141}</code>
	<code>\Pisymbol{cryst}{5}</code>		<code>\Pisymbol{cryst}{75}</code>		<code>\Pisymbol{cryst}{142}</code>
	<code>\Pisymbol{cryst}{6}</code>		<code>\Pisymbol{cryst}{77}</code>		<code>\Pisymbol{cryst}{143}</code>
	<code>\Pisymbol{cryst}{7}</code>		<code>\Pisymbol{cryst}{78}</code>		<code>\Pisymbol{cryst}{145}</code>
	<code>\Pisymbol{cryst}{8}</code>		<code>\Pisymbol{cryst}{79}</code>		<code>\Pisymbol{cryst}{147}</code>
	<code>\Pisymbol{cryst}{9}</code>		<code>\Pisymbol{cryst}{80}</code>		<code>\Pisymbol{cryst}{148}</code>
	<code>\Pisymbol{cryst}{10}</code>		<code>\Pisymbol{cryst}{81}</code>		<code>\Pisymbol{cryst}{149}</code>
	<code>\Pisymbol{cryst}{12}</code>		<code>\Pisymbol{cryst}{82}</code>		<code>\Pisymbol{cryst}{155}</code>
	<code>\Pisymbol{cryst}{15}</code>		<code>\Pisymbol{cryst}{83}</code>		<code>\Pisymbol{cryst}{157}</code>
	<code>\Pisymbol{cryst}{20}</code>		<code>\Pisymbol{cryst}{84}</code>		<code>\Pisymbol{cryst}{158}</code>
	<code>\Pisymbol{cryst}{21}</code>		<code>\Pisymbol{cryst}{85}</code>		<code>\Pisymbol{cryst}{159}</code>
	<code>\Pisymbol{cryst}{22}</code>		<code>\Pisymbol{cryst}{87}</code>		<code>\Pisymbol{cryst}{175}</code>
	<code>\Pisymbol{cryst}{24}</code>		<code>\Pisymbol{cryst}{88}</code>		<code>\Pisymbol{cryst}{177}</code>
	<code>\Pisymbol{cryst}{25}</code>		<code>\Pisymbol{cryst}{89}</code>		<code>\Pisymbol{cryst}{178}</code>
	<code>\Pisymbol{cryst}{27}</code>		<code>\Pisymbol{cryst}{95}</code>		<code>\Pisymbol{cryst}{179}</code>
	<code>\Pisymbol{cryst}{28}</code>		<code>\Pisymbol{cryst}{97}</code>		<code>\Pisymbol{cryst}{185}</code>
	<code>\Pisymbol{cryst}{29}</code>		<code>\Pisymbol{cryst}{98}</code>		<code>\Pisymbol{cryst}{187}</code>
	<code>\Pisymbol{cryst}{30}</code>		<code>\Pisymbol{cryst}{99}</code>		<code>\Pisymbol{cryst}{188}</code>
	<code>\Pisymbol{cryst}{31}</code>		<code>\Pisymbol{cryst}{102}</code>		<code>\Pisymbol{cryst}{189}</code>
	<code>\Pisymbol{cryst}{32}</code>		<code>\Pisymbol{cryst}{103}</code>		<code>\Pisymbol{cryst}{195}</code>

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





















































	<code>\Pisymbol{cryst}{35}</code>		<code>\Pisymbol{cryst}{104}</code>		<code>\Pisymbol{cryst}{197}</code>
	<code>\Pisymbol{cryst}{36}</code>		<code>\Pisymbol{cryst}{105}</code>		<code>\Pisymbol{cryst}{198}</code>
	<code>\Pisymbol{cryst}{37}</code>		<code>\Pisymbol{cryst}{107}</code>		<code>\Pisymbol{cryst}{199}</code>
	<code>\Pisymbol{cryst}{38}</code>		<code>\Pisymbol{cryst}{108}</code>		<code>\Pisymbol{cryst}{202}</code>
	<code>\Pisymbol{cryst}{39}</code>		<code>\Pisymbol{cryst}{109}</code>		<code>\Pisymbol{cryst}{203}</code>
	<code>\Pisymbol{cryst}{40}</code>		<code>\Pisymbol{cryst}{112}</code>		<code>\Pisymbol{cryst}{204}</code>
	<code>\Pisymbol{cryst}{41}</code>		<code>\Pisymbol{cryst}{113}</code>		<code>\Pisymbol{cryst}{210}</code>
	<code>\Pisymbol{cryst}{42}</code>		<code>\Pisymbol{cryst}{120}</code>		<code>\Pisymbol{cryst}{212}</code>
	<code>\Pisymbol{cryst}{43}</code>		<code>\Pisymbol{cryst}{121}</code>		<code>\Pisymbol{cryst}{213}</code>
	<code>\Pisymbol{cryst}{44}</code>		<code>\Pisymbol{cryst}{123}</code>		<code>\Pisymbol{cryst}{220}</code>
	<code>\Pisymbol{cryst}{45}</code>		<code>\Pisymbol{cryst}{124}</code>		<code>\Pisymbol{cryst}{221}</code>
	<code>\Pisymbol{cryst}{47}</code>		<code>\Pisymbol{cryst}{125}</code>		<code>\Pisymbol{cryst}{223}</code>
	<code>\Pisymbol{cryst}{48}</code>		<code>\Pisymbol{cryst}{127}</code>		<code>\Pisymbol{cryst}{224}</code>
	<code>\Pisymbol{cryst}{49}</code>		<code>\Pisymbol{cryst}{128}</code>		<code>\Pisymbol{cryst}{230}</code>
	<code>\Pisymbol{cryst}{50}</code>		<code>\Pisymbol{cryst}{129}</code>		<code>\Pisymbol{cryst}{231}</code>
	<code>\Pisymbol{cryst}{55}</code>		<code>\Pisymbol{cryst}{130}</code>		<code>\Pisymbol{cryst}{232}</code>
	<code>\Pisymbol{cryst}{57}</code>		<code>\Pisymbol{cryst}{131}</code>		<code>\Pisymbol{cryst}{233}</code>
	<code>\Pisymbol{cryst}{58}</code>		<code>\Pisymbol{cryst}{132}</code>		<code>\Pisymbol{cryst}{236}</code>
	<code>\Pisymbol{cryst}{59}</code>		<code>\Pisymbol{cryst}{133}</code>		<code>\Pisymbol{cryst}{240}</code>
	<code>\Pisymbol{cryst}{60}</code>		<code>\Pisymbol{cryst}{135}</code>		<code>\Pisymbol{cryst}{241}</code>
	<code>\Pisymbol{cryst}{61}</code>		<code>\Pisymbol{cryst}{136}</code>		<code>\Pisymbol{cryst}{242}</code>
	<code>\Pisymbol{cryst}{62}</code>		<code>\Pisymbol{cryst}{137}</code>		<code>\Pisymbol{cryst}{243}</code>

TABLE 1011: dice Dice

	<code>\Pisymbol{dice3d}{49}</code>		<code>\Pisymbol{dice3d}{101}</code>		<code>\Pisymbol{dice3d}{111}</code>
	<code>\Pisymbol{dice3d}{50}</code>		<code>\Pisymbol{dice3d}{102}</code>		<code>\Pisymbol{dice3d}{112}</code>
	<code>\Pisymbol{dice3d}{51}</code>		<code>\Pisymbol{dice3d}{103}</code>		<code>\Pisymbol{dice3d}{113}</code>
	<code>\Pisymbol{dice3d}{52}</code>		<code>\Pisymbol{dice3d}{104}</code>		<code>\Pisymbol{dice3d}{114}</code>
	<code>\Pisymbol{dice3d}{53}</code>		<code>\Pisymbol{dice3d}{105}</code>		<code>\Pisymbol{dice3d}{115}</code>
	<code>\Pisymbol{dice3d}{54}</code>		<code>\Pisymbol{dice3d}{106}</code>		<code>\Pisymbol{dice3d}{116}</code>
	<code>\Pisymbol{dice3d}{97}</code>		<code>\Pisymbol{dice3d}{107}</code>		<code>\Pisymbol{dice3d}{117}</code>
	<code>\Pisymbol{dice3d}{98}</code>		<code>\Pisymbol{dice3d}{108}</code>		<code>\Pisymbol{dice3d}{118}</code>
	<code>\Pisymbol{dice3d}{99}</code>		<code>\Pisymbol{dice3d}{109}</code>		<code>\Pisymbol{dice3d}{119}</code>
	<code>\Pisymbol{dice3d}{100}</code>		<code>\Pisymbol{dice3d}{110}</code>		<code>\Pisymbol{dice3d}{120}</code>

See the dice package note on page 451.

TABLE 1012: figbas Figured-Bass Ligatures

2	<code>\Pisymbol{figbas}{50}</code>	6	<code>\Pisymbol{figbas}{54}</code>
4	<code>\Pisymbol{figbas}{52}</code>	Q	<code>\Pisymbol{figbas}{57}</code>
5	<code>\Pisymbol{figbas}{53}</code>		

Shown here are the figured-bass ligatures based on Computer Modern. `figbas` additionally provides versions of these symbols based on Computer Modern Sans and Palatino/Palladio.

`{\usefont{U}{figbas}{m}{n}2 4 5 6 9}` is an equivalent means of producing these symbols.

TABLE 1013: magic Trading Card Symbols

①	<code>\Pisymbol{magic}{48}</code>	⑥	<code>\Pisymbol{magic}{54}</code>	☯	<code>\Pisymbol{magic}{82}</code>
①	<code>\Pisymbol{magic}{49}</code>	⑦	<code>\Pisymbol{magic}{55}</code>	☯	<code>\Pisymbol{magic}{84}</code>
②	<code>\Pisymbol{magic}{50}</code>	⑧	<code>\Pisymbol{magic}{56}</code>	☯	<code>\Pisymbol{magic}{85}</code>
③	<code>\Pisymbol{magic}{51}</code>	⑨	<code>\Pisymbol{magic}{57}</code>	☯	<code>\Pisymbol{magic}{87}</code>
④	<code>\Pisymbol{magic}{52}</code>	♣	<code>\Pisymbol{magic}{66}</code>	☯	<code>\Pisymbol{magic}{88}</code>
⑤	<code>\Pisymbol{magic}{53}</code>	♣	<code>\Pisymbol{magic}{71}</code>	⑩	<code>\Pisymbol{magic}{90}</code>
























































































































See the `magic` package note on page 454.

TABLE 1014: bartel-chess-fonts Chess Pieces and Chessboard Squares

	<code>\Pisymbol{fselch}{0}</code>		<code>\Pisymbol{fselch}{55}</code>		<code>\Pisymbol{fselch}{110}</code>
	<code>\Pisymbol{fselch}{1}</code>		<code>\Pisymbol{fselch}{56}</code>		<code>\Pisymbol{fselch}{111}</code>
	<code>\Pisymbol{fselch}{2}</code>		<code>\Pisymbol{fselch}{57}</code>		<code>\Pisymbol{fselch}{112}</code>
	<code>\Pisymbol{fselch}{3}</code>		<code>\Pisymbol{fselch}{58}</code>		<code>\Pisymbol{fselch}{113}</code>
	<code>\Pisymbol{fselch}{4}</code>		<code>\Pisymbol{fselch}{59}</code>		<code>\Pisymbol{fselch}{114}</code>
	<code>\Pisymbol{fselch}{5}</code>		<code>\Pisymbol{fselch}{60}</code>		<code>\Pisymbol{fselch}{115}</code>
	<code>\Pisymbol{fselch}{6}</code>		<code>\Pisymbol{fselch}{61}</code>		<code>\Pisymbol{fselch}{116}</code>
	<code>\Pisymbol{fselch}{7}</code>		<code>\Pisymbol{fselch}{62}</code>		<code>\Pisymbol{fselch}{117}</code>
	<code>\Pisymbol{fselch}{8}</code>		<code>\Pisymbol{fselch}{63}</code>		<code>\Pisymbol{fselch}{118}</code>
	<code>\Pisymbol{fselch}{9}</code>		<code>\Pisymbol{fselch}{64}</code>		<code>\Pisymbol{fselch}{119}</code>
	<code>\Pisymbol{fselch}{10}</code>		<code>\Pisymbol{fselch}{65}</code>		<code>\Pisymbol{fselch}{120}</code>
	<code>\Pisymbol{fselch}{11}</code>		<code>\Pisymbol{fselch}{66}</code>		<code>\Pisymbol{fselch}{121}</code>








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*(continued from previous page)*

	<code>\Pisymbol{fselch}{12}</code>		<code>\Pisymbol{fselch}{67}</code>		<code>\Pisymbol{fselch}{122}</code>
	<code>\Pisymbol{fselch}{13}</code>		<code>\Pisymbol{fselch}{68}</code>		<code>\Pisymbol{fselch}{123}</code>
	<code>\Pisymbol{fselch}{14}</code>		<code>\Pisymbol{fselch}{69}</code>		<code>\Pisymbol{fselch}{124}</code>
	<code>\Pisymbol{fselch}{15}</code>		<code>\Pisymbol{fselch}{70}</code>		<code>\Pisymbol{fselch}{125}</code>
	<code>\Pisymbol{fselch}{16}</code>		<code>\Pisymbol{fselch}{71}</code>		<code>\Pisymbol{fselch}{126}</code>
	<code>\Pisymbol{fselch}{17}</code>		<code>\Pisymbol{fselch}{72}</code>		<code>\Pisymbol{fselch}{127}</code>
	<code>\Pisymbol{fselch}{18}</code>		<code>\Pisymbol{fselch}{73}</code>		<code>\Pisymbol{fselch}{128}</code>
	<code>\Pisymbol{fselch}{19}</code>		<code>\Pisymbol{fselch}{74}</code>		<code>\Pisymbol{fselch}{129}</code>
	<code>\Pisymbol{fselch}{20}</code>		<code>\Pisymbol{fselch}{75}</code>		<code>\Pisymbol{fselch}{130}</code>
	<code>\Pisymbol{fselch}{21}</code>		<code>\Pisymbol{fselch}{76}</code>		<code>\Pisymbol{fselch}{131}</code>
	<code>\Pisymbol{fselch}{22}</code>		<code>\Pisymbol{fselch}{77}</code>		<code>\Pisymbol{fselch}{132}</code>
	<code>\Pisymbol{fselch}{23}</code>		<code>\Pisymbol{fselch}{78}</code>		<code>\Pisymbol{fselch}{133}</code>
	<code>\Pisymbol{fselch}{24}</code>		<code>\Pisymbol{fselch}{79}</code>		<code>\Pisymbol{fselch}{134}</code>
	<code>\Pisymbol{fselch}{25}</code>		<code>\Pisymbol{fselch}{80}</code>		<code>\Pisymbol{fselch}{135}</code>
	<code>\Pisymbol{fselch}{26}</code>		<code>\Pisymbol{fselch}{81}</code>		<code>\Pisymbol{fselch}{136}</code>
	<code>\Pisymbol{fselch}{27}</code>		<code>\Pisymbol{fselch}{82}</code>		<code>\Pisymbol{fselch}{137}</code>
	<code>\Pisymbol{fselch}{28}</code>		<code>\Pisymbol{fselch}{83}</code>		<code>\Pisymbol{fselch}{138}</code>
	<code>\Pisymbol{fselch}{29}</code>		<code>\Pisymbol{fselch}{84}</code>		<code>\Pisymbol{fselch}{139}</code>
	<code>\Pisymbol{fselch}{30}</code>		<code>\Pisymbol{fselch}{85}</code>		<code>\Pisymbol{fselch}{140}</code>
	<code>\Pisymbol{fselch}{31}</code>		<code>\Pisymbol{fselch}{86}</code>		<code>\Pisymbol{fselch}{141}</code>
	<code>\Pisymbol{fselch}{32}</code>		<code>\Pisymbol{fselch}{87}</code>		<code>\Pisymbol{fselch}{142}</code>
	<code>\Pisymbol{fselch}{33}</code>		<code>\Pisymbol{fselch}{88}</code>		<code>\Pisymbol{fselch}{143}</code>
	<code>\Pisymbol{fselch}{34}</code>		<code>\Pisymbol{fselch}{89}</code>		<code>\Pisymbol{fselch}{144}</code>
	<code>\Pisymbol{fselch}{35}</code>		<code>\Pisymbol{fselch}{90}</code>		<code>\Pisymbol{fselch}{145}</code>
	<code>\Pisymbol{fselch}{36}</code>		<code>\Pisymbol{fselch}{91}</code>		<code>\Pisymbol{fselch}{151}</code>
	<code>\Pisymbol{fselch}{37}</code>		<code>\Pisymbol{fselch}{92}</code>		<code>\Pisymbol{fselch}{157}</code>
	<code>\Pisymbol{fselch}{38}</code>		<code>\Pisymbol{fselch}{93}</code>		<code>\Pisymbol{fselch}{163}</code>
	<code>\Pisymbol{fselch}{39}</code>		<code>\Pisymbol{fselch}{94}</code>		<code>\Pisymbol{fselch}{169}</code>
	<code>\Pisymbol{fselch}{40}</code>		<code>\Pisymbol{fselch}{95}</code>		<code>\Pisymbol{fselch}{175}</code>
	<code>\Pisymbol{fselch}{41}</code>		<code>\Pisymbol{fselch}{96}</code>		<code>\Pisymbol{fselch}{180}</code>
	<code>\Pisymbol{fselch}{42}</code>		<code>\Pisymbol{fselch}{97}</code>		<code>\Pisymbol{fselch}{186}</code>
	<code>\Pisymbol{fselch}{43}</code>		<code>\Pisymbol{fselch}{98}</code>		<code>\Pisymbol{fselch}{192}</code>
	<code>\Pisymbol{fselch}{44}</code>		<code>\Pisymbol{fselch}{99}</code>		<code>\Pisymbol{fselch}{198}</code>
	<code>\Pisymbol{fselch}{45}</code>		<code>\Pisymbol{fselch}{100}</code>		<code>\Pisymbol{fselch}{204}</code>
	<code>\Pisymbol{fselch}{46}</code>		<code>\Pisymbol{fselch}{101}</code>		<code>\Pisymbol{fselch}{210}</code>
	<code>\Pisymbol{fselch}{47}</code>		<code>\Pisymbol{fselch}{102}</code>		<code>\Pisymbol{fselch}{216}</code>
	<code>\Pisymbol{fselch}{48}</code>		<code>\Pisymbol{fselch}{103}</code>		<code>\Pisymbol{fselch}{222}</code>
	<code>\Pisymbol{fselch}{49}</code>		<code>\Pisymbol{fselch}{104}</code>		<code>\Pisymbol{fselch}{228}</code>
	<code>\Pisymbol{fselch}{50}</code>		<code>\Pisymbol{fselch}{105}</code>		<code>\Pisymbol{fselch}{234}</code>
	<code>\Pisymbol{fselch}{51}</code>		<code>\Pisymbol{fselch}{106}</code>		<code>\Pisymbol{fselch}{240}</code>

*(continued on next page)*

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	<code>\Pisymbol{fselch}{52}</code>		<code>\Pisymbol{fselch}{107}</code>		<code>\Pisymbol{fselch}{246}</code>
	<code>\Pisymbol{fselch}{53}</code>		<code>\Pisymbol{fselch}{108}</code>		
	<code>\Pisymbol{fselch}{54}</code>		<code>\Pisymbol{fselch}{109}</code>		

See the `bartel-chess-fonts` package note on page 450.

## Chapter 13

# Additional Information

Unlike the previous chapters of this document, Chapter 13 does not contain new symbol tables. Rather, it provides additional help in using the Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List. First, it draws attention to symbol names used by multiple packages (Section 13.1). Next, it explains how variable-sized mathematical symbols operate (Section 13.2). Section 13.3 provides per-package information that may be helpful in using the package. The next section (Section 13.4) offers some guidelines for finding symbols and gives some examples regarding how to construct missing symbols out of existing ones. The following two sections relate to math mode: a discussion of the spacing surrounding symbols in math mode (Section 13.5) and a showcase of different ways to embolden mathematical symbols (Section 13.6). After that, the chapter presents an ASCII and Latin 1 quick-reference guide (Section 13.7), showing how to enter all of the standard ASCII/Latin 1 symbols in L<sup>A</sup>T<sub>E</sub>X. In a similar vein, direct input of Unicode characters is covered in Section 13.8. Finally, the chapter lists some statistics about this document itself (Section 13.9) and states in Section 13.10 the legal terms that apply to the document.

### 13.1 Symbol Name Clashes

Unfortunately, a number of symbol names are not unique; they appear in more than one package. Depending on how the symbols are defined in each package, L<sup>A</sup>T<sub>E</sub>X will either output an error message or replace an earlier-defined symbol with a later-defined symbol. Table 1016 on page 447 presents a small selection of name clashes that appear in this document.

Using multiple symbols with the same name in the same document—or even merely loading conflicting symbol packages—can be tricky but, as evidenced by the existence of Table 1016, not impossible. The general procedure is to load the first package, rename the conflicting symbols, and then load the second package. Examine the L<sup>A</sup>T<sub>E</sub>X source for this document (`symbols.tex`) for examples of this and other techniques for handling symbol conflicts. Note that `symbols.tex`’s `\savesymbol` and `\restoresymbol` macros have been extracted into the `savesym` package, which can be downloaded from CTAN.

`txfonts` and `pxfonts` redefine a huge number of symbols—essentially, all of the symbols defined by `latexsym`, `textcomp`, the various  $\mathcal{AMS}$  symbol sets, and L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> itself. Similarly, `mathabx` redefines a vast number of math symbols in an attempt to improve their look. The `txfonts`, `pxfonts`, and `mathabx` conflicts are not listed in Table 1016 because they are designed to be compatible with the symbols they replace. Table 1017 on page 448 illustrates what “compatible” means in this context.

To use the new `txfonts`/`pxfonts` symbols without altering the document’s main font, merely reset the default font families back to their original values after loading one of those packages:

```
\renewcommand\rmdefault{cmr}
\renewcommand\sfddefault{cmss}
\renewcommand\ttdefault{cmtt}
```

TABLE 1016: Symbol Name Clashes

Symbol	L <sup>A</sup> T <sub>E</sub> X 2 <sub>ε</sub>	A <sub>M</sub> S	stmaryrd	wasysym	mathabx	marvosym	bbding	ifsym	dingbat	wsuipa
<code>\baro</code>			ϕ							ϑ
<code>\bigtriangledown</code>	▽		▽							
<code>\bigtriangleup</code>	△		△							
<code>\checkmark</code>		✓							✓	
<code>\Circle</code>				○				○		
<code>\Cross</code>						†	†	×		
<code>\ggg</code>		»»			»					
<code>\Letter</code>						⊠		⊠		
<code>\lightning</code>			⚡	⚡						
<code>\Lightning</code>						⚡		⚡		
<code>\lll</code>		««			«					
<code>\Square</code>				□			□	□		
<code>\Sun</code>					☉	☉		☀		
<code>\TriangleDown</code>							▼	▽		
<code>\TriangleUp</code>							▲	△		

TABLE 1017: Example of a Benign Name Clash

Symbol	Default (Computer Modern)	txfonts (Times Roman)
$\mathbb{R}$	$\mathbb{R}$	$\mathbb{R}$
$\text{\texttt{\textbackslash textrecipe}}$	$\mathbb{R}$	$\mathbb{R}$

## 13.2 Resizing symbols

Mathematical symbols listed in this document as “variable-sized” are designed to stretch vertically. Each variable-sized symbol comes in one or more basic sizes plus a variation comprising both stretchable and nonstretchable segments. Table 1018 on page 448 presents the symbols  $\}$  and  $\uparrow$  in their default size, in their  $\text{\texttt{\textbackslash big}}$ ,  $\text{\texttt{\textbackslash Big}}$ ,  $\text{\texttt{\textbackslash bigg}}$ , and  $\text{\texttt{\textbackslash Bigg}}$  sizes, in an even larger size achieved using  $\text{\texttt{\textbackslash left}}/\text{\texttt{\textbackslash right}}$ , and—for contrast—in a large size achieved by changing the font size using L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>’s  $\text{\texttt{\textbackslash fontsize}}$  command. Because the symbols shown belong to the Computer Modern family, the `typelcm` package needs to be loaded to support font sizes larger than 24.88 pt.

TABLE 1018: Sample resized delimiters

Symbol	Default size	$\text{\texttt{\textbackslash big}}$	$\text{\texttt{\textbackslash Big}}$	$\text{\texttt{\textbackslash bigg}}$	$\text{\texttt{\textbackslash Bigg}}$	$\text{\texttt{\textbackslash left}}/\text{\texttt{\textbackslash right}}$	$\text{\texttt{\textbackslash fontsize}}$
$\}$	$\}$	$\}$	$\}$	$\}$	$\}$	$\}$	$\}$
$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$

Note how  $\text{\texttt{\textbackslash fontsize}}$  makes the symbol wider and thicker. (The `graphicx` package’s  $\text{\texttt{\textbackslash scalebox}}$  or  $\text{\texttt{\textbackslash resizebox}}$  commands would produce a similar effect.) Also, the  $\text{\texttt{\textbackslash fontsize}}$ -enlarged symbol is vertically centered relative to correspondingly large text, unlike the symbols enlarged using  $\text{\texttt{\textbackslash big}}$  et al. or  $\text{\texttt{\textbackslash left}}/\text{\texttt{\textbackslash right}}$ , which all use the same math axis regardless of symbol size. However,  $\text{\texttt{\textbackslash fontsize}}$  is not limited to mathematical delimiters. Also,  $\text{\texttt{\textbackslash scalebox}}$  and  $\text{\texttt{\textbackslash resizebox}}$  are more robust to poorly composed symbols (e.g., two symbols made to overlap by backspacing a fixed distance) but do not work with every T<sub>E</sub>X backend and will produce jagged symbols when scaling a bitmapped font.

All variable-sized delimiters are defined (by the corresponding `.tfm` file) in terms of up to five segments, as illustrated by Figure 13.1 on the next page. The top, middle, and bottom segments are of a fixed size.



The top-middle and middle-bottom segments (which are constrained to be the same character) are repeated as many times as necessary to achieve the desired height.

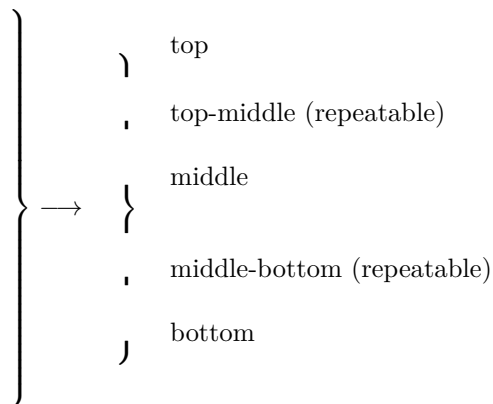


Figure 13.1: Implementation of variable-sized delimiters

### 13.3 Package-specific usage notes

abraces	<code>\aoverbrace</code> and <code>\aunderbrace</code> accept optional arguments that provide a great deal of control over the braces' appearance. For example, these commands can produce braces with asymmetric endpoints, braces that span lines, dashed braces, and multi-colored braces. See the <code>abraces</code> documentation for more information.
academicons	<code>academicons</code> requires either <code>Lua<sup>A</sup>TeX</code> or <code>X<sub>Y</sub>LaTeX</code> .
actuarialangle	The <code>actuarialangle</code> package additionally defines <code>\angl</code> as <code>\actuarialangle</code> with a small amount of extra space to the right of the accented expression under the <code>\</code> , <code>\angln</code> as <code>\angl{n}</code> , and <code>\anglr</code> as <code>\angl{r}</code> .
allrunes	<code>allrunes</code> symbols should appear within the argument to <code>\textarc</code> (for common Germanic runes), <code>\textara</code> (for Anglo-Frisian runes), <code>\textarn</code> (for normal runes), <code>\textart</code> (for short-twig runes), <code>\textarl</code> (for staveless runes), <code>\textarm</code> (for medieval runes), or within a scope that sets, respectively, <code>\arcfamily</code> , <code>\arafamily</code> , <code>\arnfamily</code> , <code>\artfamily</code> , <code>\arlfamily</code> , or <code>\armfamily</code> . Each family presents slightly different glyphs and/or slightly different subsets of the available runes. (The <code>allrunes</code> tables in this document present the common Germanic runes.) See the <code>allrunes</code> documentation for more information.
arcs	<p>The accents shown in Table 33 on page 35 scale only to a few characters wide. An optional macro argument alters the effective width of the accented characters. See the <code>arcs</code> documentation for more information.</p> <p>Circa 2013, an incompatibility arose between the <code>arcs</code> package and the <code>relsize</code> package, upon which <code>arcs</code> depends. As a workaround, one should apply the patch proposed by Michael Sharpe on the <code>X<sub>Y</sub>LaTeX</code> mailing list (Subject: “The arcs package”, dated 2013/08/25) to prevent spurious text from being added to the document (as in, “5.0pt<math>\widehat{A}</math>” when “<math>\widehat{A}</math>” is expected). Furthermore, <code>arcs</code> has been observed to hang when used with optically scaled fonts set at somewhat small sizes (e.g., Computer Modern 10pt.).</p>

asapsym	asapsym requires either Lua $\text{\LaTeX}$ or Xe $\text{\LaTeX}$ .								
ascii	Code Page 437 (CP437), which was first utilized by the original IBM PC, uses the symbols $\backslash\text{SOH}$ through $\backslash\text{US}$ to depict ASCII characters 1–31 and $\backslash\text{DEL}$ to depict ASCII character 127. The $\backslash\text{NUL}$ symbol, not part of CP437, represents ASCII character 0. $\backslash\text{NBSP}$ , also not part of CP437, represents a nonbreaking space. $\backslash\text{splitvert}$ is merely the “ ” character drawn as it was on the IBM PC.								
bartel-chess-fonts	<p>In addition to the <b>fselch</b> font showcased in Table 1014 on page 443, <b>bartel-chess-fonts</b> also provides a <b>pkelch</b> font which includes the same symbol set (minus some of the higher-numbered characters) but drawn in a slightly different style.</p> <p><b>bartel-chess-fonts</b> provides the <b>fselch</b> and <b>pkelch</b> fonts in various sizes (optically scaled). See “<math>\text{\LaTeX}</math> 2<math>\epsilon</math> Font Selection” [LT19] for advice on how to expose these sorts of fonts to <math>\text{\LaTeX}</math> using <math>\backslash\text{DeclareFontFamily}</math> and <math>\backslash\text{DeclareFontShape}</math>.</p>								
bclogo	All <b>bclogo</b> symbols are implemented with <i>TikZ</i> (or alternatively, <i>PSTricks</i> ) graphics, not with a font.								
begriff	The <b>begriff</b> package contains additional commands for typesetting Frege’s Begriffs-schrift notation for second-order logic. See the <b>begriff</b> documentation for more information.								
bullcntr	<p>The notation for <math>\backslash\text{bullcntr}</math> used in Table 814 on page 343 requires some explanation. <math>\backslash\text{bullcntr}</math> does not take a number as its argument but rather a <math>\text{\LaTeX}</math> counter, whose value it uses to typeset a tally marker. “<math>\backslash\text{bullcntr}\{3\}</math>”, for example, means to invoke <math>\backslash\text{bullcntr}</math> with a counter whose value is 3. <math>\backslash\text{bullcntr}</math> usage is therefore akin to that of <math>\text{\LaTeX}</math>’s <math>\backslash\text{fnsymbol}</math>. The intention is to use <math>\backslash\text{bullcntr}</math> indirectly via the <b>bulldenum</b> package’s <b>bulldenum</b> environment, which is a variation on the <b>enumerate</b> environment that uses <math>\backslash\text{bullcntr}</math> to typeset the labels.</p> <p>To typeset individual tally markers, one can define a helper command:</p> <pre>\newcounter{bull} \newcommand{\showbullcntr}[1]{%   \setcounter{bull}{#1}%   \bullcntr{bull}% }</pre> <p><b>bullcntr</b>’s package options <b>smallctrbull</b>, <b>largectrbull</b>, and <b>heartctrbull</b> and corresponding commands <math>\backslash\text{smallctrbull}</math>, <math>\backslash\text{largectrbull}</math>, and <math>\backslash\text{heartctrbull}</math> control the formatting of each tally marker:</p> <table><thead><tr><th></th><th>small</th><th>large</th><th>heart</th></tr></thead><tbody><tr><td><math>\backslash\text{bullcntr}\{5\}</math></td><td>⋮</td><td>⋮</td><td>♥♥♥</td></tr></tbody></table> <p>The default is <b>smartctrbull</b> (<math>\backslash\text{smartctrbull}</math>), which maps counter values 1–5 to large pips and 6–9 to small pips. It is also possible to use arbitrary symbols for <math>\backslash\text{bullcntr}</math>’s pips. See the <b>bullcntr</b> documentation for more information.</p>		small	large	heart	$\backslash\text{bullcntr}\{5\}$	⋮	⋮	♥♥♥
	small	large	heart						
$\backslash\text{bullcntr}\{5\}$	⋮	⋮	♥♥♥						
casiofont	All <b>casiofont</b> symbols are intended to be used in text mode, not math mode. The underlying CASIOClassWiz font is not distributed on CTAN and must be downloaded separately. See the <b>casiofont</b> documentation for more information, and be sure to download “ClassWiz EX Models” (as opposed to the other calculator models) from the Casio website.								

ccicons	In addition to the symbols shown in Table 55 on page 40, <code>ccicons</code> defines a set of commands for typesetting many complete Creative Commons licenses (i.e., juxtapositions of two or more of the Table 55 icons). For example, the <code>\ccbyncnd</code> command typesets the “Attribution–Noncommercial–No Derivative Works” license (“  ”). See the <code>ccicons</code> documentation for more information.
chemarrow	In addition to the symbols shown in Table 354 on page 151, <code>chemarrow</code> also provides <code>\larrowfill</code> , <code>\rarrowfill</code> , <code>\leftrightharpoonsfill</code> , and <code>\rightleftharpoonsfill</code> macros. Each of these takes a length argument and produces an arrow of the specified length.
cmupint	<code>cmupint</code> additionally provides <code>\longint</code> , <code>\longiint</code> , <code>\longoint</code> , and <code>\longointint</code> commands that stretch arbitrarily tall. See the <code>cmupint</code> documentation for more information.
countriofeurope	<p>The commands in Table 736 on page 294 work only when the <code>CountriesOfEurope</code> font family is active. For convenience, the package defines a <code>\countriofeuropefamily</code> command that switches to that font family.</p> <p>By default, countries are drawn in the current font size. Hence, “<code>{\countriofeuropefamily\France}</code>” draws a nearly unrecognizable “”. For clarity of presentation, Table 736 scales each glyph to 72pt. via an explicit <code>\fontsize{72}{72}</code>. An alternative is to specify the <code>scaled</code> package option to scale all country glyphs by a given factor of the font size.</p>
customdice	<p>All <code>customdice</code> symbols are implemented with <code>TikZ</code> graphics, not with a font.</p> <p>An arbitrary symbol can be placed on a face instead of pips, and colors for the pips/symbol, face, and border all can be specified. See the <code>customdice</code> documentation for more information.</p>
cyriot	<code>cyriot</code> symbols must appear either within the argument to <code>\textcypr</code> or following the <code>\cyprfamily</code> font-selection command within a scope. Single-character shortcuts are also supported: Both “ <code>\textcypr{\Cpa\Cki\Cna}</code> ” and “ <code>\textcypr{pcn}</code> ” produce “  ”, for example. See the <code>cyriot</code> documentation for more information.
dancers	Fans of Sherlock Holmes mysteries will recognize the <code>dancers</code> glyphs as forming the substitution cipher featured in Sir Arthur Conan Doyle’s <i>The Adventure of the Dancing Men</i> (1903).
dice	<p><code>dice</code> defines its symbols at a very small design size. The glyphs shown in Table 1011 on page 442 were scaled up by a factor of four using <code>\DeclareFontShape{U}{dice3d}{m}{n}{&lt;-&gt; s*[4] dice3d}{}</code>.</p> <p>An alternative to using <code>\Pisymbol</code> to select a die rotation is to rely on some cleverness in the kerning tables provided by the <code>dice</code> font. The individual digits “1” through “6” each produce the corresponding (2D) die face: <code>{\usefont{U}{dice3d}{m}{n}2 2 1}</code> produces “”, for example. When followed by a letter “a” through “d”, those pairs are kerned to produce a 3D die rotation with the digit specifying by the top face and the letter specifying one of the four possible front faces, sorted by increasing value. For example, <code>{\usefont{U}{dice3d}{m}{n}2a 2b 1d}</code> produces “”.</p>
DotArrow	The <code>DotArrow</code> package provides mechanisms for lengthening the arrow, adjusting the distance between the arrow and its symbol, and altering the arrowhead. See the <code>DotArrow</code> documentation for more information.

`endofproofwd` `\wasserdicht` is implemented as an external PDF graphic. The command in fact typesets the symbol flush right on the page to signify the end of proof. To use the command in inline text, simply load the underlying graphic file directly:

```
\includegraphics[width=10pt]{endofproofwd}
```

`esvect` `esvect` also defines a `\vv*` macro which is used to typeset arrows over vector variables with subscripts. See the `esvect` documentation for more information.

`extpfeil` The `extpfeil` package also provides a `\newextarrow` command to help you define your own extensible arrow symbols. See the `extpfeil` documentation for more information.

`feyn` All arguments to the `\feyn` command that are not listed in Table 514 on page 204 produce a “ $\circlearrowright$ ” symbol.

The `feyn` package provides various commands for composing the Table 514 symbols into complete Feynman diagrams. See the `feyn` documentation for examples and additional information.

`figchild` All `figchild` symbols are implemented with `TikZ` graphics, not with a font. Not shown in the `figchild` tables, each symbol takes an optional argument, which represents options to pass to `\begin{tikzpicture}`. See the `figchild` documentation for more information.

The `figchild` tables in this document omit symbols that are only subtly different. For example, Table 807 on page 338 includes `\fcSnail` but not `\fcSnailA`, which differs only in the eyes:



`\fcSnail`



`\fcSnailA`

`fontmizz` `fontmizz` requires either `Lua $\LaTeX$`  or `X $\LaTeX$` .

`fontawesome7` The `fontawesome` package underwent a major change from version 5 to version 6. In addition to observing a change in maintainers, the package (and underlying Font Awesome font) added, removed, and renamed a substantial number of symbols. This version of the Comprehensive  $\LaTeX$  Symbol List presents only `fontawesome7` symbols but provides table notes where appropriate to highlight changes from `fontawesome5`.

`frege` The `frege` package contains additional commands for typesetting Frege’s Begriffsschrift notation for second-order logic. See the `frege` documentation for more information.

`go` In addition to the board fragments and stones shown in Table 729 on page 291, `go`’s `\black` and `\white` commands accept numbers from 1 to 253 and display them circled as ❶, ❷, ❸, ..., ❷❸ and ❶, ❷, ❸, ..., ❷❸, respectively. `\black` and `\white` additionally accept `\square` and `\triangle` as arguments, producing  $\blacksquare$  and  $\blacktriangle$  for `\black` and  $\square$  and  $\triangle$  for `\white`.

The `go` package is intended to typeset complete Go boards (goban). See the `go` documentation for more information.

halloweenmath

The halloweenmath extensible-arrow commands (Table 359 on page 153) always typeset the arrow in script (small) style, hence the “**script**” in their names. Contrast the size of the arrowheads in the following examples (zoomed 3× for clarity):

$$\overrightarrow{abc} \quad \text{vs.} \quad \overscript{\rightarrow}{abc}$$

`\overrightarrow{abc}`                      `\overscriptrightarrow{abc}`

hamnosys

hamnosys requires either Lua $\text{\TeX}$  or X $\text{\TeX}$ .

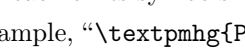
harmony

The MusiX $\text{\TeX}$  package must be installed to use harmony.

harpoon

All of the harpoon symbols are implemented using the **graphics** package (specifically, **graphics**’s `\resizebox` command). Consequently, only  $\text{\TeX}$  backends that support graphical transformations (e.g., *not* Xdvi) can properly display these symbols.

hieroglf

The hieroglf package defines alternative control sequences and single-letter shortcuts for each of its symbols for use within the argument to the `\textpmhg` command. For example, “`\textpmhg{Pakin}`” produces “”. See the hieroglf documentation for more information.

igo

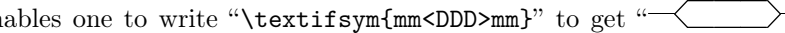
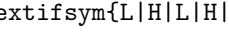
In addition to the uses shown in Table 728 on page 290, igo’s `\blackstone` and `\whitestone` commands accept numbers from 1 to 99 and display them circled as ❶, ❷, ❸, . . . , ❹❹ and ❶, ❷, ❸, . . . , ❹❹, respectively.

The igo package is intended to typeset complete Go boards (goban). See the igo documentation for more information.

ifsym

Table 419 on page 169 presents a variety of digital pulses. In addition, within `\textifsym{...}`, the following codes are valid:

_	l	_	m	_	h	_	d	<	<	>	>		
_	L	_	M	_	H	_	D	<	<<	>	>>		

This enables one to write “`\textifsym{mm<DDD>mm}`” to get “” or “`\textifsym{L|H|L|H|L}`” to get “”. See also the **timing** package, which provides a wide variety of pulse-diagram symbols within an environment designed specifically for typesetting pulse diagrams.

Finally, `\textifsym` supports the display of segmented digits, as would appear on an LCD: “`\textifsym{-123.456}`” produces “- 123.456”. “`\textifsym{b}`” outputs a blank with the same width as an “8”.






JeuxCartes

All JeuxCartes symbols are implemented with TikZ graphics, not with a font.

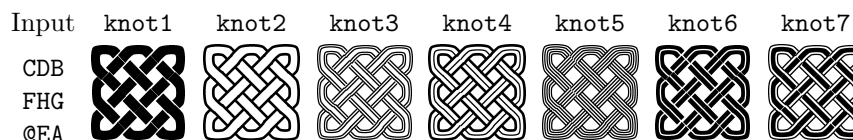
The package also provides commands for drawing complete hands. See the JeuxCartes documentation for more information.

knitting

The knitting package is intended to typeset complete knitting charts. See the knitting documentation for more information.

Some symbols behave differently when used as part of a sequence. For example, contrast `\textknit{1}` (“”), `\textknit{11}` (“”), and `\textknit{111}` (“”). Similarly, contrast `\textknit{}` (“”) and `\textknit{""}` (“”). Again, see the knitting documentation for more information.

**knot** The following is an example of a basic knot, using `\usefont{U}{knot<number>}{m}{n}` to change fonts for multiple characters instead of `\Pisymbol` to typeset one character at a time. Note that all of the characters in the knot fonts lie conveniently within the range of printable ASCII characters.



The `niceframe` package can be used to typeset decorative frames using fonts such as `knot`, especially using characters 48–63 of each font variant.

**L<sup>A</sup>T<sub>E</sub>X base** Calling log-like symbols “symbols” may be a bit misleading.<sup>1</sup> Each log-like symbol merely produces the eponymous textual equivalent, but with proper surrounding spacing. See Section 13.5 for more information about log-like symbols. As `\bmod` and `\pmod` arguably are not symbols the reader is referred to the Short Math Guide for L<sup>A</sup>T<sub>E</sub>X [Dow00] for samples.

**lcircuit** Each of the symbols shown in Table 1007 on page 440 first must be defined via an `\input` of the corresponding `.mac` file. For example, before a document can invoke `\usebox{\nande}` it first must `\input{nande.mac}`.

All `lcircuit` symbols are defined using a L<sup>A</sup>T<sub>E</sub>X `picture` environment, not with a font.

**linearb** `linearb` symbols must appear either within the argument to `\textlinb` or following the `\linbfamily` font-selection command within a scope. Single-character shortcuts are also supported for `linearb` letters (Table 628 on page 245): Both “`\textlinb{\Bpa\Bki\Bna}`” and “`\textlinb{pcn}`” produce “ $\nabla$ ”, for example. See the `linearb` documentation for more information.

**logic** The `logic` package implements the digital logic-gate symbols specified by the U.S. Department of Defense’s MIL-STD-806 standard. Note that on CTAN, the package is *called* `logic`, but the package is *loaded* using `\usepackage{milstd}`. (There was already a—completely unrelated—`milstd` package on CTAN at the time of `logic`’s release.) Consequently, package details are listed under `milstd` in Table 1028 and Table 1029 on page 483.

**logix** `logix` requires either LuaL<sup>A</sup>T<sub>E</sub>X or X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X.

**lucide-icons** All `lucide-icons` symbols are implemented with PDF graphics, not with a font. Options exist for adjusting symbol height and depth on a per-symbol basis. See the `lucide-icons` documentation for more information.

**magic** The symbols provided by the `magic` package resemble those from Wizards of the Coast’s *Magic: The Gathering* trading-card game. An alternative to entering symbols numerically using `\Pisymbol` is to switch to the `magic` font with `\usefont{U}{magic}{m}{n}` and employ the following mnemonic characters:

<sup>1</sup>Michael J. Downes prefers the more general term, “atomic math objects”.


①–⑨	0–9	Circled numerals 0–9
♠	B	Black magic symbol
♣	G	Green magic symbol
♥	R	Red magic symbol
♣	T	Tap symbol (tilted “T” in a circle)
♠	U	Blue magic symbol
♠	W	White magic symbol
⊗	X	Circled “X” (for mana cost, e.g., Fireball)
⑩	Z	Circled “10” (for mana cost, e.g., Aladdin’s Lamp)

**mahjong** All mahjong symbols are implemented with TikZ graphics, not with a font.

The package provides means of scaling, rotating, grouping, and stacking tiles. See the mahjong documentation for more information.

**maritime** All maritime symbols are implemented with TikZ graphics, not with a font. Symbols are drawn 15 x-heights tall:



Use the graphicx package’s `\resizebox` command to draw flags in different sizes. For example, `\resizebox{!}{2ex}{\flagZ}` produces “”.

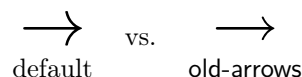
**musicography** The MusiXTeX package must be installed to use musicography.

**newcomputermodern** Because it is based on a Unicode font, newcomputermodern requires either LuaL<sup>A</sup>T<sub>E</sub>X or X<sub>L</sub>L<sup>A</sup>T<sub>E</sub>X.

newcomputermodern defines a rich set of mathematical symbols—covering a substantial number of those presented in Chapter 3—and relies on the unicode-math package to provide the associated L<sup>A</sup>T<sub>E</sub>X commands. newcomputermodern additionally provides Unicode characters from an extensive set of scripts (Latin, Greek, Cyrillic, Hebrew, Coptic, Cherokee, Canadian Aboriginal, and Devanagari), braille patterns, Aegean and E pact numbers, currency symbols, IPA symbols, and more. These are intended to be accessed via direct entry of Unicode characters into a document as opposed to via L<sup>A</sup>T<sub>E</sub>X commands. See the newcomputermodern documentation for more information about all the various symbols the package provides.

As a caveat, newcomputermodern changes the document font to New Computer Modern. Use the fontspec package instead of loading newcomputermodern for more precise control over where New Computer Modern is utilized. For example, “`{\fontspec{NewCM10-Book.otf}\char"2820\char"280F\char"2801\char"2805\char"280A\char"281D}`” produces the braille pattern “⠠⠠⠠⠠⠠⠠⠠⠠”.

**old-arrows** The arrows provided by old-arrows represent Donald Knuth’s pre-1992 Computer Modern glyphs, which feature smaller arrowheads. Contrast the following:



In addition to providing the arrows shown in Table 240 on page 118, `old-arrows` reduces the arrowhead size for  $\mathcal{AMS}$ 's `\overleftarrow`, `\overrightarrow`, `\overleftrightarrow`, `\underleftarrow`, `\underrightarrow`, `\underleftrightarrow`, `\xleftarrow`, `\xrightarrow`, `\varinjlim`, and `\varprojlim` symbols (Table 263 on page 125, Table 333 on page 145, and Table 351 on page 150) and `mathtools`'s `\xleftarrow`, `\xhookrightarrow`, `\xhookrightarrow`, and `\xmapsto` symbols (Table 352 on page 151).

With the new package option, `old-arrows` prefixes all of the Table 240 arrows with “`var`” (i.e., `\vardownarrow`, `\varhookrightarrow`, etc.) so both old and new glyphs can be used in the same document. In contrast, the new package option does not define a `\var_____` version of the harpoon symbols shown in Table 241 on page 118. Furthermore, harpoon arrowheads are not reduced in size (i.e., relative to the size of those shown in Table 200 on page 100).

**overarrows** `overarrows` is extremely customizable. Virtually all aspects of arrows—length, thickness, position, scale, arrowhead style, etc.—can be modified, and new extensible arrows can be constructed. See the `overarrows` documentation for more information. For example, the documentation shows how to create extensible arrows like the following:

$\overleftrightarrow{abc}$     `\overarchedleftarrow{abc}`     $\overrightarrow{abc}$     `\overbandedarrow{abc}`

**pdfMsym** `pdfMsym` symbols are implemented with PDF literals instead of (or sometimes in conjunction) with a font. All symbols can be rendered by `pdfLaTeX` and `LuaLaTeX`, some by `XYLaTeX`, and none by most other `TEX` backends.

**pgfornament** All `pgfornament` symbols are implemented with `TikZ` graphics, not with a font. The `\pgfornament` command supports resizing, coloring, and rotating symbols. See the `pgfornament` documentation for more information.


**phonetic** The `phonetic` package provides macros for linguistic accents in addition to those presented in Table 30 on page 34. `\acbar` and `\acarc` compose characters with multiple accents; for example, `\acbar{\'}{a}` produces “ $\acute{a}$ ” and `\acarc{\"}{e}` produces “ $\ddot{e}$ ”. `\labvel` joins two characters with an arc: `\labvel{mn}` → “ $\overline{mn}$ ”. `\upbar` is intended to go between characters as in “ $x\overline{y}$ ” → “ $x\overline{y}$ ”. Lastly, `\uplett` behaves like `\textsuperscript` but uses a smaller font. Contrast “ $p\overline{\text{h}}$ ” with “ $p\textsuperscript{h}$ ”.

**pmboxdraw** Code Page 437 (CP437), which was first utilized by the original IBM PC, contains the set of box-drawing symbols (sides, corners, and intersections of single- and double-ruled boxes) shown in Table 854 on page 355 in character positions 176–223. These symbols also appear in the Unicode Box Drawing and Block Element tables.

The `pmboxdraw` package draws the CP437 box-drawing symbols using `TEX` rules (specifically, `\vrule`) instead of with a font and thereby provides the ability to alter both rule width and the separation between rules. See the `pmboxdraw` documentation for more information.

**prodint** `prodint` currently requires the author manually to specify `\prodi` for inlined expressions ( $\dots$ ), `\Prodi` for displayed math ( $\left[ \dots \right]$ ), and `\PRODI` for displayed math involving tall integrands. The package does not define a product integral command that scales automatically akin to the symbols in Table 104.



protosem	The <code>protosem</code> package defines abbreviated control sequences for all of its symbols. In addition, single-letter shortcuts can be used within the argument to the <code>\textproto</code> command (e.g., “ <code>\textproto{Pakyn}</code> ” produces “ <code>ﻥ ﺏ ﺋ ﻟ ﻛ ﻥ</code> ”). See the <code>protosem</code> documentation for more information.
realhats	All hats are drawn by scaling a graphic image and placing it at an appropriate location.  If <code>\hat</code> is used with no argument, it selects a hat at random. Alternatively, a hat type can be passed as an option to <code>realhats</code> to specify the default hat. See the <code>realhats</code> documentation for more information.
recycle	The METAFONT code that implements the <code>recycle</code> recycling symbols is, in the words of its author, “awful code [that] doesn’t even put the logo in a box (properly)”. Expect to receive “ <code>Inconsistent equation (off by &lt;number&gt;)</code> ” errors from METAFONT. Fortunately, if you tell METAFONT to proceed past those errors (e.g., by pressing Enter after each one or by specifying “ <code>-interaction=nonstopmode</code> ” on the METAFONT command line) it should produce a valid font.  The commands listed in Table 866 on page 360 should be used within a group (e.g., “ <code>{\recycle}</code> ”) because they exhibit the side effect of <i>changing</i> the font to the <code>recycle</code> font.
rojud	The commands in Table 738 on page 296 work only when the <code>rojud</code> font family is active. Use the OT1 font encoding in pdfL <sup>A</sup> T <sub>E</sub> X and the TU font encoding in X <sub>Ǝ</sub> L <sup>A</sup> T <sub>E</sub> X. ( <code>rojud</code> requires one of those two T <sub>E</sub> X engines.) For example, “ <code>{\usefont{OT1}{rojud}{m}{n}\jBI}</code> ” draws Bucharest. <sup>2</sup>
rubikcube	All <code>rubikcube</code> symbols are implemented with TikZ graphics, not with a font. In addition to the symbols shown in Table 978 on page 413, the <code>rubikcube</code> package defines commands for combinations of textual and graphical representations of rotations (e.g., <code>\textRubikUa</code> produces “ <code>Ua</code>  ”) as well as commands that produce colored illustrations of Rubik’s Cube configurations and rotations. See the <code>rubikcube</code> documentation for more information.
sacsymb	All <code>sacsymb</code> symbols are implemented with TikZ graphics, not with a font.
sarabian	<code>sarabian</code> symbols must appear either within the argument to <code>\textsarab</code> or following the <code>\sarabfamily</code> font-selection command within a scope. Single-character shortcuts are also supported: Both “ <code>\textsarab{SAb\SAk\SAAn}</code> ” and “ <code>\textsarab{bkn}</code> ” produce “ <code>ﻥ ﺏ ﺋ</code> ”, for example. See the <code>sarabian</code> documentation for more information.
scsnowman	<code>\scsnowman</code> is drawn using TikZ. The command accepts a number of options for controlling the presence, appearance, and color of the snowman’s body, eyes, nose, mouth, arms, hat, and more. See the <code>scsnowman</code> documentation for more information, but the following examples showcase a subset of the possibilities (drawn large for clarity):




`\scsnowman`



`\scsnowman[eyes, mouth,  
nose, arms, hat, muffler,  
buttons, snow, broom]`

<sup>2</sup>technically a municipality, not a county

**semaphor** `semaphor` provides a `semaf.fd` font-definition file. Instead of using `pifont` and `\Pisymbol` to typeset a glyph, a document can select the `semaphor` fonts directly, although this does require putting `\input{semaf.fd}` in the document’s preamble. For example, `{\usefont{OT1}{smfp}{m}{n}Hello}` will typeset “”. This can be useful for typesetting complete messages. Roman, bold, monospace, slanted, and bold+slanted styles are all supported.


In addition, `semaphor` provides three variations of each font: a “person” version (`smfpr10`), which is what is illustrated in Table 1005 on page 439, a “pillar” version (`smfr10`), which shows the flags on a pillar rather than being held by a person, and an “empty” version (`smfer10`), which shows only the flags and no pillar or person. Contrast these variations of the letter “H”:



**sillypage** All `sillypage` symbols are implemented with PDF graphics, not with a font.

**simpsons** The location of the characters’ pupils can be controlled with the `\Goofy` command. See *A METAFONT of ‘Simpsons’ characters* [Che98] for more information. Also, each of the commands in Table 912 on page 380 can be prefixed with `\Left` to make the character face left instead of right:



**staves** The meanings of the symbols appearing in Table 855 on page 356 are described on the Web site for the Museum of Icelandic Sorcery and Witchcraft at <https://galdrasyning.is/en/galdrastafir/>. For example, the website indicates that `\staveL` (“”) is intended to ward off ghosts and evil spirits.

**steinmetz** `steinmetz` uses the `pict2e` package to draw a horizontally and vertically scalable Steinmetz phasor symbol. Consequently, `\phase` works only with those  $\TeX$  backends supported by `pict2e`. See the `pict2e` documentation for more information.

**stix** By default, `stix` draws slanted integrals, as shown in Table 101 on page 59 and Table 119 on page 67. The `upint` package option typesets each integral instead as an upright version, as shown respectively in Table 102 on page 60 and Table 121 on page 68. Use the explicitly upright integrals only when both upright and slanted versions of a symbol must appear in the same document. (This is rare.) Otherwise, favor the slanted integrals and use `upint` to typeset them consistently upright throughout the document.

**symbats3** `symbats3` requires either  $\text{Lua}\TeX$  or  $\text{X}\text{L}\TeX$ . The underlying Symbats font is not distributed on CTAN and must be downloaded separately. See the `symbats3` documentation for more information.

**t4phonet** The idea behind the `t4phonet` package’s phonetic symbols and text-mode accents is to provide an interface to some of the characters in the T4 font encoding (Table 7 on page 25) but using the same names as the `tipa` characters presented in Table 15 on page 27.

**teubner** The `teubner` package provides a `\newmetrics` command that helps users combine the symbols in Table 838 on page 351 as well as other `teubner` symbols. For example, the predefined `\pentam` symbol uses `\newmetrics` to juxtapose six `\longas`, two `\barbbrevises`, four `\brevises`, and a `\dBar` into “`—̣—̣—̣||—̣—̣—̣—̣`”. See the `teubner` documentation for more information.



**textgreek** `textgreek` tries to use a Greek font that matches the body text. As a result, the glyphs may appear slightly different from those shown in this document.

Unlike `upgreek` (Table 270 on page 127), `textgreek` works in text mode.

`textgreek` symbols are intended to be used sporadically throughout a document (e.g., in phrases such as “ $\beta$ -decay”). In contrast, Greek body text can be typeset using the `babel` package’s `greek` (or `polutonikogreek`) option—and, of course, a font that provides the glyphs for the Greek alphabet.

**tipa** `tipa` defines shortcuts for many of its symbols. It also defines a command `\tone` for denoting tone letters (pitches). See the `tipa` documentation for more information.

**tikz-cookingsymbols** All `tikz-cookingsymbols` symbols are implemented with TikZ graphics, not with a font. The starred form of each symbol produces a slightly larger version, for example,





 vs.   
`\Pizza` `\Pizza*`

In addition, symbols accept an optional argument that provides control over color and scale (beyond merely “default” and “large”). See the `tikz-cookingsymbols` documentation for more information.

**TikZlings** All `TikZlings` symbols are implemented with TikZ graphics, not with a font. Symbols must be typeset within the argument to a `\tikz` command or within a `\begin{tikzpicture}...\end{tikzpicture}` environment.

The symbols—primarily animals—provided by the package are extremely customizable. Colors of individual components (eyes, arms, legs, etc.) can be altered; hats, signs, speech bubbles, thought bubbles, food items, sports gear, and miscellaneous other items can be added; symbols can be scaled and rotated; feet can take steps; and the symbol as a whole can be drawn in a front view, back view, 3D view, or as a contour. See the `TikZlings` documentation for more information.

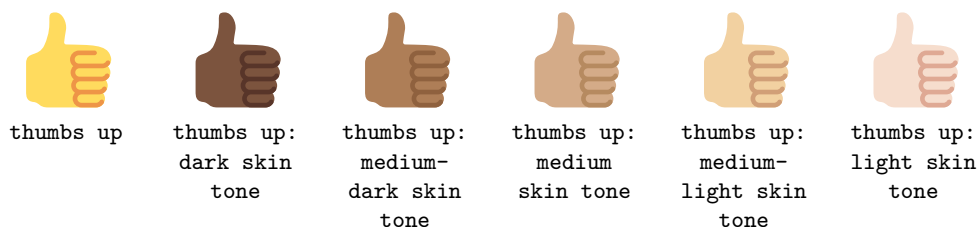
The following are a few examples, shown in their natural size. (To save space, they are presented at 30% of their natural size in symbol tables.)



  
`\tikz{\turkey}` `\tikz{\turkey[back]}` `\tikz{\turkey[3D]}`  
  
`\tikz{\turkey\thing[hat, scale=0.5, yshift=2cm]}`

<code>tikzsymbols</code>	All <code>tikzsymbols</code> symbols are implemented with TikZ graphics, not with a font. The package provides means of customizing the colors used in many of the symbols. See the <code>tikzsymbols</code> documentation for more information.
<code>turnstile</code>	Each <code>turnstile</code> relation symbol accepts an optional argument that controls the size of the upper and lower expressions. See the <code>turnstile</code> documentation for more information.
<code>twemojis</code>	Most <code>twemojis</code> symbols have multiple names. Only the most descriptive name for each symbol is shown in each table.

All `twemojis` symbols are implemented as PDF graphics, not with a font. See also the `hwemoji` package, which enables direct Unicode entry of emoji characters in pdfL<sup>A</sup>T<sub>E</sub>X; the `emoji` package, which provides a LuaL<sup>A</sup>T<sub>E</sub>X interface to different underlying emoji fonts; and the `emo` package, which uses a font if possible, otherwise PDF graphics.

The `twemojis` symbol tables show only a single variant of each symbol. However, many symbols—especially those of people and body parts—provide a number of alternative forms. For example, `twemojis` defines the following variants of “thumbs up”:



See the `twemojis` documentation for more information.

<code>typicons</code>	<code>typicons</code> requires either LuaL <sup>A</sup> T <sub>E</sub> X or X <sub>Y</sub> L <sup>A</sup> T <sub>E</sub> X.
<code>upgreek</code>	<code>upgreek</code> utilizes upright Greek characters from either Euler Roman (depicted in Table 270 on page 127) or the PostScript Symbol font. As a result, the glyphs may appear slightly different from those presented in this document. Contrast, for example, “ΓΔΘαβγ” (Euler) with “ΤΔΘαβγ” (Symbol). Also note that the <code>\var_____</code> forms do not always produce a distinct glyph.

Unlike `textgreek` (Table 6 on page 24), `upgreek` works in math mode.

`upgreek` symbols are intended to be used sporadically throughout a document (e.g., to represent mathematical units or numerical quantities: “ $\pi \approx 3.14159$ ”). In contrast, Greek body text can be typeset using the `babel` package’s `greek` (or `polu-tonikogreek`) option—and, of course, a font that provides the glyphs for the Greek alphabet.

<code>ushort</code>	<code>\ushortw</code> and <code>\ushortdw</code> are intended to be used with multi-character arguments (“words”) while <code>\ushort</code> and <code>\ushortd</code> are intended to be used with single-character arguments.
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The underlines produced by the `ushort` commands are shorter than those produced by the `\underline` command. Consider the output from the expression “`\$ushort{a} \ushort{a} \quad \underline{a}\underline{a}`”, which at size `\Huge` looks like this:

aa    aa

utfsym

For the reader’s convenience, the Unicode name of each symbol is listed in each `utfsym` table. Names are derived from <https://www.unicode.org/Public/16.0.0/ucd/UnicodeData.txt>.

All `utfsym` symbols are implemented with `TikZ` graphics, not with a font.

In addition to `\usym`, the `utfsym` package defines `\usymH`, which renders a symbol at a given height, and `\usymW`, which renders a symbol at a given width. For example, “`\usymH{1F409}{72pt}`” produces




See the `utfsym` documentation for more information.

undertilde

Because `\utilde` is based on `\widetilde` it is automatically made more extensible by the `yhmath` package (Table 335 on page 145).

vectorlogos


All `vectorlogos` symbols are implemented with `TikZ` graphics, not with a font.

Table 762 on page 312 excludes commands that draw textual logos (e.g., `\logoscratch` for “”) because these are wordmarks, not symbols.

vscodeicons

All `vscodeicons` symbols are implemented with PDF graphics, not with a font. Options exist for adjusting symbol height, depth, and alignment on a per-symbol basis. See the `vscodeicons` documentation for more information.

webomints

`webomints` provides a `uwebo.fd` font-definition file. Instead of using `pifont` and `\Pisymbol` to typeset a glyph, a document can select the `webomints` font directly. For example, `{\usefont{U}{webo}{x1}{n}\char73\char74}`—alternatively, `{\usefont{U}{webo}{x1}{n}IJ}`—will typeset “”. This can be useful for typesetting a number of `webomints` glyphs in a row.

The `niceframe` package can be used to typeset decorative frames using fonts such as `webomints`.

worldflags

All `worldflags` symbols are implemented with `TikZ` graphics, not with a font. The package provides a number of options for controlling flag size and style. See the `worldflags` documentation for more information.

## 13.4 Where can I find the symbol for ...?

If you can’t find some symbol you’re looking for in this document, there are a few possible explanations:

- The symbol isn’t intuitively named. As a few examples, the `ifsym` command to draw dice is “`\Cube`”; a plus sign with a circle around it (“exclusive or” to computer engineers) is “`\oplus`”; and lightning bolts in fonts designed by German speakers may have “blitz” in their names as in the `ulsy` package. The moral of the story is to be creative with synonyms when searching the index.

- The symbol is defined by some package that I overlooked (or deemed unimportant). If there’s some symbol package that you think should be included in the Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List, please send me e-mail at the address listed on the title page.
- The symbol isn’t defined in any package whatsoever.

Even in the last case, all is not lost. Sometimes, a symbol exists in a font, but there is no L<sup>A</sup>T<sub>E</sub>X binding for it. For example, the PostScript Symbol font contains a “↵” symbol, which may be useful for representing a carriage return, but there is no package (as far as I know) for accessing that symbol. To produce an unnamed symbol, you need to switch to the font explicitly with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>’s low-level font commands [L<sup>A</sup>T<sub>E</sub>X 19] and use T<sub>E</sub>X’s primitive `\char` command [Knu86a] to request a specific character number in the font. For example, one can define a command to typeset a long s (“f”) using character 115 from the Latin Modern fonts in the TS1 font encoding:<sup>3</sup>

```
\newcommand{\textlongsf}{%
  \fontencoding{TS1}\fontfamily{lmr}\selectfont\char115%
}
```

Then, “`\textlongsf ucce\textlongsf sful`” will produce “fuccesful”—in the current font style (roman, italic, bold, etc.)

In fact, `\char` is not strictly necessary in all cases; the character can often be entered symbolically. For example, the symbol for an impulse train or Tate-Shafarevich group (“III”) is actually an uppercase *sha* in the Cyrillic alphabet. (Cyrillic is supported by the OT2 font encoding, for instance). While a *sha* can be defined numerically as “`{\fontencoding{OT2}\selectfont\char88}`” it may be more intuitive to use the OT2 font encoding’s “SH” ligature: “`{\fontencoding{OT2}\selectfont SH}`”. Another possibility is to use the T2A font encoding’s `\CYRSH` command: “`{\fontencoding{T2A}\selectfont\CYRSH}`”.

For the specific case of the U font encoding, which is used for symbol or “pi” fonts, the `pifont` package defines a convenient `\Pisymbol` command. `\Pisymbol` typesets a specified character (by number) in a specified font family. For example, “`\Pisymbol{psy}{191}`” produces the aforementioned “↵” symbol by typesetting character number 191 in the `psy` (PostScript Symbol) font family.

### 13.4.1 Reflecting and rotating existing symbols

A common request on `comp.text.tex` is for a reversed or rotated version of an existing symbol. As a last resort, these effects can be achieved with the `graphicx` (or `graphics`) package’s `\reflectbox` and `\rotatebox` macros. For example, `\textsuperscript{\reflectbox{?}}` produces an irony mark (“<sup>?</sup>”), and `\rotatebox[origin=c]{180}{\mathfrak{i}}` produces the definite-description operator (“<sup>?</sup>”). As noted by Marc Olschok in a July 2011 post on `comp.text.tex`, Project Gutenberg uses `\reflectbox` to typeset the part (“3”) and whole (“ $\mathfrak{E}$ ”) relations used in Dedekind’s set notation:

```
\newcommand\partof{\mathrel{\raisebox{0.45ex}{\mathfrak{3}}}}
\newcommand\wholeof{\mathrel{\reflectbox{\mathfrak{3}}}}
```

The disadvantage of the `graphicx`/`graphics` approach is that not every T<sub>E</sub>X backend handles graphical transformations.<sup>4</sup> Far better is to find a suitable font that contains the desired symbol in the correct orientation. For instance, if the `phonetic` package is available, then `\textit{\riota}` will yield a backend-independent “<sup>?</sup>”. Similarly, `tipa`’s `\textrepsv` (“<sup>?</sup>”) or `wsuipa`’s `\repsv` (“<sup>?</sup>”) may be used to express the mathematical notion of “such that” in a cleaner manner than with `\reflectbox` or `\rotatebox`.<sup>5</sup>

<sup>3</sup>Since January 2020, the `wasysym` package provides a `\longsf` symbol. See Table 58.

<sup>4</sup>As an example, Xdvi ignores both `\reflectbox` and `\rotatebox`.

<sup>5</sup>More common symbols for representing “such that” include “|”, “:”, and “s.t.”.

### 13.4.2 Joining and overlapping existing symbols

Symbols that do not exist in any font can sometimes be fabricated out of existing symbols. The  $\text{\LaTeX}$  2 $\epsilon$  source file `fontdef.dtx` contains a number of such definitions. For example, `\models` (see Table 131 on page 73) is defined in that file with:

```
\def\models{\mathrel|\joinrel=}
```

where `\mathrel` and `\joinrel` are used to control the horizontal spacing. `\def` is the  $\text{\TeX}$  primitive upon which  $\text{\LaTeX}$ 's `\newcommand` is based. See The  $\text{\TeX}$ book [Knu86a] for more information on all three of those commands.

With some simple pattern-matching, one can easily define a backward `\models` sign (“ $\models$ ”):

```
\def\ismodeledby{=\joinrel\mathrel|}
```

In general, arrows/harpoons, horizontal lines (“ $=$ ”, “ $-$ ”, “ $\relbar$ ”, and “ $\Relbar$ ”), and the various math-extension characters can be combined creatively with miscellaneous other characters to produce a variety of new symbols. Of course, new symbols can be composed from *any* set of existing characters. For instance,  $\text{\LaTeX}$  defines `\hbar` (“ $\hbar$ ”) as a “ $-$ ” character (`\mathchar'26`) followed by a backspace of 9 math units (`\mkern-9mu`), followed by the letter “ $h$ ”:

```
\def\hbar{{\mathchar'26\mkern-9mu h}}
```

We can just as easily define other barred letters:

```
\def\bbar{{\mathchar'26\mkern-9mu b}}
\def\dbar{{\mathchar'26\mkern-12mu d}}
```

(The space after the “ $\mu$ ” is optional but is added for clarity.) `\bbar` and `\dbar` define “ $\bar{b}$ ” and “ $\bar{d}$ ”, respectively. Note that `\dbar` requires a greater backward math kern than `\bbar`; a  $-9\mu$  kern would have produced the less-attractive “ $\bar{d}$ ” glyph.

The `amsmath` package provides `\overset` and `\underset` commands for placing one symbol respectively above or below another. For example, `\overset{G}{\sim}`<sup>6</sup> produces “ $\overset{G}{\sim}$ ” (sometimes used for “equidecomposable with respect to  $G$ ”).

Sometimes an ordinary `tabular` environment can be co-opted into juxtaposing existing symbols into a new symbol. Consider the following definition of `\asterism` (“ $\ast$ ”) from a June 2007 post to `comp.text.tex` by Peter Flynn:

```
\newcommand{\asterism}{\smash{%
  \raisebox{-.5ex}{%
    \setlength{\tabcolsep}{-.5pt}%
    \begin{tabular}{@{}cc@{}}%
      \multicolumn{2}{\[-2ex\]&&}%
    \end{tabular}}}}
```

Note how the space between columns (`\tabcolsep`) and rows (`\[-2ex\]`) is made negative to squeeze the asterisks closer together.

There is a  $\text{\TeX}$  primitive called `\mathaccent` that centers one mathematical symbol atop another. For example, one can define `\dotcup` (“ $\dot{\cup}$ ”)—the composition of a `\cup` and a `\cdot`—as follows:

```
\newcommand{\dotcup}{\ensuremath{\mathaccent\cdot\cup}}
```

<sup>6</sup> $\text{\LaTeX}$ 's `\stackrel` command is similar but is limited to placing a symbol above a binary relation.

The catch is that `\mathaccent` requires the accent to be a “math character”. That is, it must be a character in a math font as opposed to a symbol defined in terms of other symbols. See *The T<sub>E</sub>Xbook* [Knu86a] for more information.

Another T<sub>E</sub>X primitive that is useful for composing symbols is `\vcenter`. `\vcenter` is conceptually similar to “`\begin{tabular}{l}`” in L<sup>A</sup>T<sub>E</sub>X but takes a list of vertical material instead of `\\`-separated rows. Also, it vertically centers the result on the math axis. (Many operators, such as “+” and “−” are also vertically centered on the math axis.) Enrico Gregorio posted the following symbol definition to `comp.text.tex` in March 2004 in response to a query about an alternate way to denote equivalence:

```
\newcommand*\threesim{%
  \mathrel{\vcenter{\offinterlineskip
    \hbox{$\sim$}\vskip-.35ex\hbox{$\sim$}\vskip-.35ex\hbox{$\sim$}}}
```

The `\threesim` symbol, which vertically centers three `\sim` (“~”) symbols with 0.35 *x*-heights of space between them, is rendered as “≈”. `\offinterlineskip` is a macro that disables implicit interline spacing. Without it, `\threesim` would have a full line of vertical spacing between each `\sim`. Because of `\vcenter`, `\threesim` aligns properly with other math operators:  $a \div b \approx c \times d$ .

A related L<sup>A</sup>T<sub>E</sub>X command, borrowed from Plain T<sub>E</sub>X, is `\ooalign`. `\ooalign` vertically overlaps symbols and works both within and outside of math mode. Essentially, it creates a single-column `tabular` environment with zero vertical distance between rows. However, because it is based directly on T<sub>E</sub>X’s `\ialign` primitive, `\ooalign` uses T<sub>E</sub>X’s `tabular` syntax instead of L<sup>A</sup>T<sub>E</sub>X’s (i.e., with `\cr` as the row terminator instead of `\\`). The following example of `\ooalign`, a macro that defines a standard-state symbol (`\stst`, “⊕”) as a superscripted Plimsoll line (`\barcirc`, “⊖”),<sup>7</sup> is due to an October 2007 `comp.text.tex` post by Donald Arseneau:

```
\makeatletter
\providecommand\barcirc{\mathpalette\@barred\circ}
\def\@barred#1#2{\ooalign{\hfil$#1-$\hfil\cr\hfil$#1#2$\hfil\cr}}
\newcommand\stst{\text{\protect\barcirc}}
\makeatother
```

In the preceding code, note the `\ooalign` call’s use of `\hfil` to horizontally center a minus sign (“−”) and a `\circ` (“o”).

As another example of `\ooalign`, consider the following code (due to Enrico Gregorio in a June 2007 post to `comp.text.tex`) that overlaps a `\ni` (“∋”) and two minus signs (“−”) to produce “⊃”, an obscure variation on the infrequently used “3” symbol for “such that” discussed on page 462:

```
\newcommand{\suchthat}{%
  \mathrel{\ooalign{$\ni$\cr\kern-1pt$-$\kern-6.5pt$-$\cr}}}
```

The `slashed` package, although originally designed for producing Feynman slashed-character notation, in fact facilitates the production of *arbitrary* overlapped symbols. The default behavior is to overwrite a given character with “/”. For example, `\slashed{D}` produces “ $\mathcal{D}$ ”. However, the `\declareslashed` command provides the flexibility to specify the mathematical context of the composite character (operator, relation, punctuation, etc., as will be discussed in Section 13.5), the overlapping symbol, horizontal and vertical adjustments in symbol-relative units, and the character to be overlapped. Consider, for example, the symbol for reduced quadrupole moment (“ $F$ ”). This can be declared as follows:

```
\newcommand{\rqm}{%
  \declareslashed{\text{-}}{0.04}{0}{I}\slashed{I}}
```

<sup>7</sup>While `\barcirc` illustrates how to combine symbols using `\ooalign`, the `plimsoll` package’s `\plimsoll` command (Table 421 on page 169) and the `stmaryrd` package’s `\minuso` command (Table 70 on page 45) provide a similar glyph (⊖) as a single, indivisible symbol.



`\declareslashed{.}{.}{.}{.}{I}` affects the meaning of all subsequent `\slashed{I}` commands in the same scope. The preceding definition of `\rqm` therefore uses an extra set of curly braces to limit that scope to a single `\slashed{I}`. In addition, `\rqm` uses `amstext`'s `\text` macro (described on page 467) to make `\declareslashed` use a text-mode hyphen (“-”) instead of a math-mode minus sign (“−”) and to ensure that the hyphen scales properly in size in subscripts and superscripts. See `slashed`'s documentation (located in `slashed.sty` itself) for a detailed usage description of the `\slashed` and `\declareslashed` commands.

Somewhat simpler than `slashed` is the `centernot` package. `centernot` provides a single command, `\centernot`, which, like `\not`, puts a slash over the subsequent mathematical symbol. However, instead of putting the slash at a fixed location, `\centernot` centers the slash over its argument. `\centernot` might be used, for example, to create a “does not imply” symbol:

$$\begin{array}{c} \not\Rightarrow \quad \backslash\text{not}\backslash\text{Longrightarrow} \\ \text{vs.} \\ \centernot\Rightarrow \quad \backslash\text{centernot}\backslash\text{Longrightarrow} \end{array}$$

See the `centernot` documentation for more information.

Creating a symbol by joining and overlapping symbols from the current font can provide a more consistent look than using a single symbol designed for a different body font. For example, `frenchmath` defines a `\paral` (“//”) symbol in terms of two slashes:

```
\newcommand\paral{\mathrel{\ooalign{$\mkern-1.75mu/\mkern1.75mu$\cr%
$\mkern1.75mu/\mkern-1.75mu$}}}
```

Table 1019 demonstrates how the `\paral` adapts to the surrounding font, in contrast to similar fixed-style symbols found in `stmaryrd` (`\sslash`), `txfonts`/`pxfonts` (`\varparallel`), and `fourier` (`\parallelslant`).

TABLE 1019: Contrasting `frenchmath`'s `\paral` with similar symbols

Font	<code>\paral</code>	<code>\sslash</code>	<code>\varparallel</code>	<code>\parallelslant</code>
Computer Modern	$a // b$	$a // b$	$a // b$	$a // b$
Nimbus Sans L	$\textbf{a} // \textbf{b}$	$\textbf{a} // \textbf{b}$	$\textbf{a} // \textbf{b}$	$\textbf{a} // \textbf{b}$

As a second example of composite symbols being font-aware, `mismath` defines an `\eqdef` (“ $\stackrel{\text{def}}{=}$ ”) symbol by stacking “def” atop “=”, both in the current font:

```
\newcommand\eqdef{\stackrel{\mathup{def}}{=}}
```

If a smaller “def” is desired, a custom version of `\eqdef` can be defined using `\stackrel`:

```
\newcommand{\eqdef}{\stackrel{\text{\smaller[3]def}}{=}}
```

Note the use of `relese`'s `\smaller` command to scale “def” relative to the current font size rather than hard-wiring its size to, say, `\tiny`. Table 1020 on the next page shows how the composite “def” and “=” symbols inherit the current font, unlike `stix`'s `\eqdef`.

TABLE 1020: Contrasting mismath’s `\eqdef` with stix’s

Font	mismath	custom	stix
Computer Modern	$\overset{\text{def}}{a} = b$	$\overset{\text{def}}{a} = b$	$a \overset{\text{def}}{=} b$
Nimbus Sans L	$\overset{\text{def}}{a} = b$	$\overset{\text{def}}{a} = b$	$a \overset{\text{def}}{=} b$

### 13.4.3 Making new symbols work in superscripts and subscripts

To make composite symbols work properly within subscripts and superscripts, you may need to use T<sub>E</sub>X’s `\mathchoice` primitive. `\mathchoice` evaluates one of four expressions, based on whether the current math style is display, text, script, or scriptscript. (See The T<sub>E</sub>Xbook [Knu86a] for a more complete description.) For example, the following L<sup>A</sup>T<sub>E</sub>X code—posted to `comp.text.tex` by Torsten Bronger—composes a sub/superscriptable “ $\top$ ” symbol out of `\top` and `\bot` (“ $\top$ ” and “ $\perp$ ”):

```
\def\topbotatom#1{\hbox{\hbox to 0pt{${#1}\bot$}\hss}${#1}\top$}}
\newcommand*\topbot{\mathrel{\mathchoice{\topbotatom\displaystyle}
{\topbotatom\textstyle}
{\topbotatom\scriptstyle}
{\topbotatom\scriptscriptstyle}}}
```

The following is another example that uses `\mathchoice` to construct symbols in different math modes. The code defines a principal value integral symbol, which is an integral sign with a line through it.

```
\def\Xint#1{\mathchoice
{\XXint\displaystyle\textstyle{#1}}%
{\XXint\textstyle\scriptstyle{#1}}%
{\XXint\scriptstyle\scriptscriptstyle{#1}}%
{\XXint\scriptscriptstyle\scriptscriptstyle{#1}}%
\!\int}
\def\XXint#1#2#3{\setbox0=\hbox{${#1}{#2#3}\int$}
\vcenter{\hbox{${#2#3}$}\kern-.5\wd0}}
\def\ddashint{\Xint=}
\def\dashint{\Xint-}
```

(The preceding code was taken verbatim from <https://www.texfaq.org/FAQ-prinvalint.html>.) `\dashint` produces a single-dashed integral sign (“ $\int$ ”), while `\ddashint` produces a double-dashed one (“ $\int$ ”). The `\Xint` macro defined above can also be used to generate a wealth of new integrals: “ $\oint$ ” (`\Xint\circlearrowright`), “ $\oint$ ” (`\Xint\circlearrowleft`), “ $\subset$ ” (`\Xint\subset`), “ $\infty$ ” (`\Xint\infty`), and so forth.

L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> provides a simple wrapper for `\mathchoice` that sometimes helps produce terser symbol definitions. The macro is called `\mathpalette` and it takes two arguments. `\mathpalette` invokes the first argument, passing it one of “`\displaystyle`”, “`\textstyle`”, “`\scriptstyle`”, or “`\scriptscriptstyle`”, followed by the second argument. `\mathpalette` is useful when a symbol macro must know which math style is currently in use (e.g., to set it explicitly within an `\mbox`). Donald Arseneau posted the following `\mathpalette`-based definition of a probabilistic-independence symbol (“ $\perp$ ”) to `comp.text.tex` in June 2000:

```
\newcommand\independent{\protect\mathpalette{\protect\independentT}\perp}
\def\independentT#1#2{\mathrel{\rlap{${#1}{#2}$}\mkern2mu{#1}{#2}}}
```

The `\independent` macro uses `\mathpalette` to pass the `\independentT` helper macro both the current math style and the `\perp` symbol. `\independentT` typesets `\perp` in the current math style, moves two math units

to the right, and finally typesets a second—overlapping—copy of `\perp`, again in the current math style. `\rlap`, which enables text overlap, is described on page 467.

Some people like their square-root signs with a trailing “hook” (i.e., “ $\sqrt{\phantom{x}}$ ”) as this helps visually distinguish expressions like “ $\sqrt{3x}$ ” from those like “ $\sqrt{3}x$ ”. In March 2002, Dan Luecking posted a `\mathpalette`-based definition of a hooked square-root symbol to `comp.text.tex`. This code was subsequently refined by Max Dohse and Scott Pakin into the version shown below, which accepts a root as an optional argument, for consistency with `\sqrt`.

```
\newcommand{\hksqrt}[2][\mathpalette\DHLhksqrt{#1}{#2\,}]{%
\def\DHLhksqrt#1#2{\setbox0=\hbox{#1\sqrt{#2}}\dimen0=\ht0
\advance\dimen0-0.2\ht0
\setbox2=\hbox{\vrule height\ht0 depth-\dimen0}%
{\box0\lower0.4pt\box2}}
```

Notice how `\hksqrt` uses `\mathpalette` to pass the current math style (`\displaystyle`, `\textstyle`, etc.) to `\DHLhksqrt` as argument #1. `\DHLhksqrt` subsequently uses that style within an `\hbox`. The rest of the code is simply using T<sub>E</sub>X primitives to position a hook of height 0.2 times the `\sqrt` height at the right of the `\sqrt`. See The T<sub>E</sub>Xbook [Knu86a] for more understanding of T<sub>E</sub>X “boxes” and “dimens”.

Sometimes, however, `amstex`’s `\text` macro is all that is necessary to make composite symbols appear correctly in subscripts and superscripts, as in the following definitions of `\neswarrow` (“ $\nearrow$ ”) and `\nwsearrow` (“ $\nwarrow$ ”):<sup>8</sup>

```
\newcommand{\neswarrow}{\mathrel{\text{$\nearrow$\llap{$\swarrow$}}}}
\newcommand{\nwsearrow}{\mathrel{\text{$\nwarrow$\llap{$\searrow$}}}}
```

`\text` resembles L<sup>A</sup>T<sub>E</sub>X’s `\mbox` command but shrinks its argument appropriately when used within a subscript or superscript. `\llap` (“left overlap”) and its counterpart, `\rlap` (“right overlap”), appear frequently when creating composite characters. `\llap` outputs its argument to the left of the current position, overlapping whatever text is already there. Similarly, `\rlap` overlaps whatever text would normally appear to the right of its argument. For example, “`A\llap{B}`” and “`\rlap{A}B`” each produce “**B**”. However, the result of the former is the width of “A”, and the result of the latter is the width of “B”—`\llap{...}` and `\rlap{...}` take up zero space.

In a June 2002 post to `comp.text.tex`, Donald Arseneau presented a general macro for aligning an arbitrary number of symbols on their horizontal centers and vertical baselines:

```
\makeatletter
\def\moverlay{\mathpalette\mov@rlay}
\def\mov@rlay#1#2{\leavevmode\vtop{%
\baselineskip\z@skip \lineskiplimit-\maxdimen
\ialign{\hfil$#1##$\hfil\cr#2\cr}}
\makeatother
```

The `\makeatletter` and `\makeatother` commands are needed to coerce L<sup>A</sup>T<sub>E</sub>X into accepting “@” as part of a macro name. `\moverlay` takes a list of symbols separated by `\cr` (T<sub>E</sub>X’s equivalent of L<sup>A</sup>T<sub>E</sub>X’s `\)`). For example, the `\topbot` command defined on the previous page could have been expressed as “`\moverlay{\top\cr\bot}`” and the `\neswarrow` command defined above could have been expressed as “`\moverlay{\nearrow\cr\swarrow}`”.

The basic concept behind `\moverlay`’s implementation is that `\moverlay` typesets the given symbols in a table that utilizes a zero `\baselineskip`. This causes every row to be typeset at the same vertical position. See The T<sub>E</sub>Xbook [Knu86a] for explanations of the T<sub>E</sub>X primitives used by `\moverlay`.

<sup>8</sup>Note that if your goal is to typeset commutative diagrams or pushout/pullback diagrams, then you should probably be using `XY-pic`.

Steven B. Segletes answered a question on TeX Stack Exchange, “AMS inequalities: a variant of `\gtrsim` and `\lesssim`” on typesetting `\gtrsim` (“ $\gtrsim$ ”) and `\lesssim` (“ $\lesssim$ ”) with the `\sim` symbol slanted to match the angle of the greater-than/less-than sign. His solution incorporates the `graphicx` package’s `\rotatebox` for rotating the “ $\sim$ ”, the `stackengine` package’s `\stackengine` command for stacking two symbols on top of each other, and the `scalerel` package’s `\ThisStyle`, `\SavedStyle`, and `\LMex` commands for scaling the symbol based on the surrounding context. The following code due to Segletes defines the `\gtrsimslant` (“ $\gtrsim$ ”) and `\lesssimslant` (“ $\lesssim$ ”) symbols:<sup>9</sup>

```
\newcommand\lesssimslant{\mathrel{\ensurestackMath{\ThisStyle{%
\stackengine{-0.4\LMex}{\SavedStyle<}{%
\rotatebox{-25}{\SavedStyle\sim}}{U}{r}{F}{T}{S}}}}}
\newcommand\gtrsimslant{\mathrel{\ensurestackMath{\ThisStyle{%
\stackengine{-0.4\LMex}{\SavedStyle>}{%
\rotatebox{25}{\SavedStyle\sim}}{U}{l}{F}{T}{S}}}}}
```

### 13.4.4 Modifying L<sup>A</sup>T<sub>E</sub>X-generated symbols

Oftentimes, symbols composed in the L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> source code can be modified with minimal effort to produce useful variations. For example, `fontdef.dtx` composes the `\ddots` symbol (see Table 369 on page 155) out of three periods, raised 7 pt., 4 pt., and 1 pt., respectively:

```
\def\ddots{\mathinner{\mkern1mu\raise7\p@
\vbox{\kern7\p@\hbox{.}}\mkern2mu
\raise4\p@\hbox{.}\mkern2mu\raise\p@\hbox{.}\mkern1mu}}
```

`\p@` is a L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> shortcut for “pt” or “1.0pt”. The remaining commands are defined in The TeXbook [Knu86a]. To draw a version of `\ddots` with the dots going along the opposite diagonal, we merely have to reorder the `\raise7\p@`, `\raise4\p@`, and `\raise\p@`:

```
\makeatletter
\def\revddots{\mathinner{\mkern1mu\raise\p@
\vbox{\kern7\p@\hbox{.}}\mkern2mu
\raise4\p@\hbox{.}\mkern2mu\raise7\p@\hbox{.}\mkern1mu}}
\makeatother
```

`\revddots` is essentially identical to the `mathdots` package’s `\iddots` command or the `yhmath` package’s `\adots` command.

### 13.4.5 Encircling symbols

A simple, special case of combining existing symbols is to overlay a circle atop a given symbol. L<sup>A</sup>T<sub>E</sub>X’s built-in `\textcircled` (Table 25 on page 32) does exactly that: `\textcircled{A}` produces “ $\textcircled{A}$ ”. The `circledsteps` package enhances this capability by using TikZ to draw circles—rather, ovals—that extend to fit their content, that can be colored, and that can align either the original symbol or the circled symbol on the baseline. As a simple example, `f\circled{ghi}j` produces “ $f\textcircled{ghi}j$ ”, in contrast with `f\textcircled{ghi}j`, which produces “ $f\textcircled{ghi}j$ ”.

<sup>9</sup>The code as posted on TeX Stack Exchange named these `\vargtrsim` and `\varlesssim`. They are renamed here for naming consistency with symbols such as `\geqslant` (“ $\geq$ ”).

### 13.4.6 Producing complex accents

Accents are another special case of combining existing symbols to make new symbols. While various tables in this document show how to add an accent to an existing symbol, some applications, such as transliterations from non-Latin alphabets, require *multiple* accents per character. For instance, the creator of pdfTeX writes his name as “Hàn Thê Thành”. The `dblacnt` package enables L<sup>A</sup>T<sub>E</sub>X to stack accents, as in “H\‘an Th\’{\^e} Th\‘anh” (albeit not in the OT1 font encoding). In addition, the `wsuipa` package defines `\diatop` and `\diaunder` macros for putting one or more diacritics or accents above or below a given character. For example, `\diaunder[\diatop[\’|\=]]\textsubdot{r}` produces “ $\ddot{r}$ ”. See the `wsuipa` documentation for more information.

The `accents` package facilitates the fabrication of accents in math mode. Its `\accentset` command enables *any* character to be used as an accent. For instance, `\accentset{\star}{f}` produces “ $\overset{\star}{f}$ ” and `\accentset{e}{X}` produces “ $\overset{e}{X}$ ”. `\underaccent` does the same thing, but places the accent beneath the character. This enables constructs like `\underaccent{\tilde}{V}`, which produces “ $\underset{\sim}{V}$ ”. `accents` provides other accent-related features as well; see the documentation for more information.

### 13.4.7 Creating extensible symbols

A relatively simple example of creating extensible symbols stems from a `comp.text.tex` post by Donald Arseneau (June 2003). The following code defines an equals sign that extends as far to the right as possible, just like L<sup>A</sup>T<sub>E</sub>X’s `\hrulefill` command:

```
\makeatletter
\def\equalsfill{\m@th\mathord=\mkern-7mu
  \cleaders\hbox{$\!\mathord=\!$}\hfill
  \mkern-7mu\mathord=$}
\makeatother
```

T<sub>E</sub>X’s `\cleaders` and `\hfill` primitives are the key to understanding `\equalsfill`’s extensibility. Essentially, `\equalsfill` repeats a box containing “=” plus some negative space until it fills the maximum available horizontal space. `\equalsfill` is intended to be used with L<sup>A</sup>T<sub>E</sub>X’s `\stackrel` command, which stacks one mathematical expression (slightly reduced in size) atop another. Hence, “`\stackrel{a}{\rightarrow}`” produces “ $\overset{a}{\rightarrow}$ ” and “`X\stackrel{\text{definition}}{\rel{\text{definition}}{\hbox{\equalsfill}}}Y`” produces “ $X \overset{\text{definition}}{\stackrel{\text{definition}}{=}} Y$ ”.

If all that needs to extend are horizontal and vertical lines—as opposed to repeated symbols such as the “=” in the previous example—L<sup>A</sup>T<sub>E</sub>X’s `array` or `tabular` environments may suffice. Consider the following code (due to a February 1999 `comp.text.tex` post by Donald Arseneau and subsequent modifications by Billy Yu and Scott Pakin) for typesetting annuity and life-insurance symbols:

```
\DeclareRobustCommand{\actuarial}[2][\%
  \def\arraystretch{0}%
  \setlength\arraycolsep{0.5pt}%
  \setlength\arrayrulewidth{0.5pt}%
  \setbox0=\hbox{$\scriptstyle\#1\#2$}%
  \begin{array}[b]{*2@{\>{\scriptstyle}c}}|}
    \cline{2-2}%
    \rule[1.25pt]{0pt}{\ht0}%
    \#1 & \#2%
  \end{array}%
}
```

Using the preceding definition, one can type, e.g., “`$a_{\actuarial{n}}$`” to produce “ $a_{\overline{n}}$ ” and “`$a_{\actuarial[x:]{n}}$`” to produce “ $a_{x:\overline{n}}$ ”. This is similar in concept to how the `actuarialangle` package

defines its `\actuarialangle` command (Table 350). For a more complete solution for typesetting actuarial symbols see the `actuarialsymbol` package.

A more complex example of composing accents is the following definition of extensible `\overbracket`, `\underbracket`, `\overparenthesis`, and `\underparenthesis` symbols, taken from a May 2002 `comp.text.tex` post by Donald Arseneau:

```
\makeatletter
\def\overbracket#1{\mathop{\vbox{\ialign{##\crcr\noalign{\kern3\p@}
\downbracketfill\crcr\noalign{\kern3\p@\nointerlineskip}
$\hfil\displaystyle{#1}\hfil$\crcr}}}\limits}
\def\underbracket#1{\mathop{\vtop{\ialign{##\crcr
$\hfil\displaystyle{#1}\hfil$\crcr\noalign{\kern3\p@\nointerlineskip}
\upbracketfill\crcr\noalign{\kern3\p@}}}\limits}
\def\overparenthesis#1{\mathop{\vbox{\ialign{##\crcr\noalign{\kern3\p@}
\downparenthfill\crcr\noalign{\kern3\p@\nointerlineskip}
$\hfil\displaystyle{#1}\hfil$\crcr}}}\limits}
\def\underparenthesis#1{\mathop{\vtop{\ialign{##\crcr
$\hfil\displaystyle{#1}\hfil$\crcr\noalign{\kern3\p@\nointerlineskip}
\upparenthfill\crcr\noalign{\kern3\p@}}}\limits}
\def\downparenthfill{$\m@th\braceld\leaders\vrule\hfill\bracerd$}
\def\upparenthfill{$\m@th\bracelu\leaders\vrule\hfill\braceru$}
\def\upbracketfill{$\m@th\makesm@sh{\llap{\vrule\@height3\p@\@width.7\p@}}%
\leaders\vrule\@height.7\p@\hfill
\makesm@sh{\rlap{\vrule\@height3\p@\@width.7\p@}}$}
\def\downbracketfill{$\m@th
\makesm@sh{\llap{\vrule\@height.7\p@\@depth2.3\p@\@width.7\p@}}%
\leaders\vrule\@height.7\p@\hfill
\makesm@sh{\rlap{\vrule\@height.7\p@\@depth2.3\p@\@width.7\p@}}$}
\makeatother
```

Table 1021 showcases these accents. The `TEXbook` [Knu86a] or another book on `TEX` primitives is indispensable for understanding how the preceding code works. The basic idea is that `\downparenthfill`, `\upparenthfill`, `\downbracketfill`, and `\upbracketfill` do all of the work; they output a left symbol (e.g., `\braceld` [`⌊`] for `\downparenthfill`), a horizontal rule that stretches as wide as possible, and a right symbol (e.g., `\bracerd` [`⌋`] for `\downparenthfill`). `\overbracket`, `\underbracket`, `\overparenthesis`, and `\underparenthesis` merely create a table whose width is determined by the given text, thereby constraining the width of the horizontal rules.

TABLE 1021: Manually Composed Extensible Accents

$\overbrace{abc}$	<code>\overbracket{abc}</code>	$\overparen{abc}$	<code>\overparenthesis{abc}</code>
$\underbrace{abc}$	<code>\underbracket{abc}</code>	$\underparen{abc}$	<code>\underparenthesis{abc}</code>

Note that the `simplewick` package provides mechanisms for typesetting Wick contractions, which utilize `\overbracket`- and `\underbracket`-like brackets of variable width *and* height (or depth). For example, “`\acontraction{}{A}{B}{C}\acontraction[2ex]{A}{B}{C}{D}\bcontraction{}{A}{BC}{D}ABCD`” produces

$$\overbrace{\overbrace{ABCD}}^{\quad}.$$

See the `simplewick` documentation for more information.

### 13.4.8 Developing new symbols from scratch

Sometimes it is simply not possible to define a new symbol in terms of existing symbols. Fortunately, most, if not all,  $\text{\TeX}$  distributions are shipped with a tool called METAFONT which is designed specifically for creating fonts to be used with  $\text{\TeX}$ . The METAFONTbook [Knu86b] is the authoritative text on METAFONT. If you plan to design your own symbols with METAFONT, The METAFONTbook is essential reading. You may also want to read the freely available METAFONT primer located at <http://metafont.tutorial.free.fr/>. The following is an extremely brief tutorial on how to create a new  $\text{\LaTeX}$  symbol using METAFONT. Its primary purpose is to cover the  $\text{\LaTeX}$ -specific operations not mentioned in The METAFONTbook and to demonstrate that symbol-font creation is not necessarily a difficult task.

Suppose we need a symbol to represent a light bulb (“ $\text{\textcircled{q}}$ ”).<sup>10</sup> The first step is to draw this in METAFONT. It is common to separate the font into two files: a size-dependent file, which specifies the design size and various font-specific parameters that are a function of the design size; and a size-independent file, which draws characters in the given size. Figure 13.2 shows the METAFONT code for `lightbulb10.mf`. `lightbulb10.mf` specifies various parameters that produce a 10 pt. light bulb then loads `lightbulb.mf`. Ideally, one should produce `lightbulb<size>.mf` files for a variety of  $\langle size \rangle$ s. This is called “optical scaling”. It enables, for example, the lines that make up the light bulb to retain the same thickness at different font sizes, which looks much nicer than the alternative—and default—“mechanical scaling”. When a `lightbulb<size>.mf` file does not exist for a given size  $\langle size \rangle$ , the computer mechanically produces a wider, taller, thicker symbol:

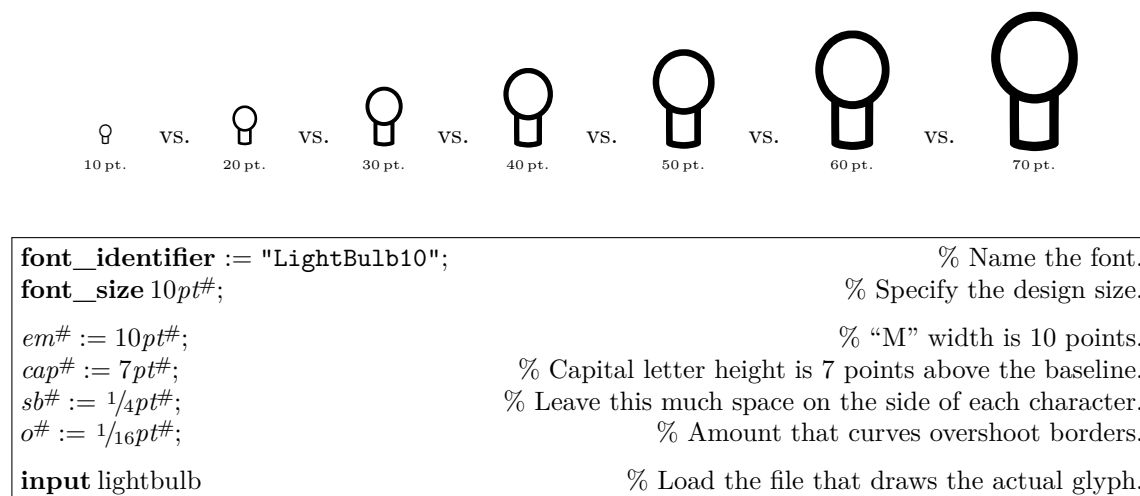


Figure 13.2: Sample METAFONT size-specific file (`lightbulb10.mf`)

`lightbulb.mf`, shown in Figure 13.3, draws a light bulb using the parameters defined in `lightbulb10.mf`. Note that the filenames “`lightbulb10.mf`” and “`lightbulb.mf`” do not follow the Berry font-naming scheme [Ber01]; the Berry font-naming scheme is largely irrelevant for symbol fonts, which generally lack bold, italic, small-caps, slanted, and other such variants.

The code in Figures Figure 13.2 and Figure 13.3 is heavily commented and should demonstrate some of the basic concepts behind METAFONT usage: declaring variables, defining points, drawing lines and curves, and preparing to debug or fine-tune the output. Again, The METAFONTbook [Knu86b] is the definitive reference on METAFONT programming.

METAFONT can produce “proofs” of fonts—large, labeled versions that showcase the logical structure of each character. In fact, proof mode is METAFONT’s default mode. To produce a proof of `lightbulb10.mf`, issue the following commands at the operating-system prompt:

<sup>10</sup>I’m not a very good artist; you’ll have to pretend that “ $\text{\textcircled{q}}$ ” looks like a light bulb.

```

mode_setup;                                     % Target a given printer.
define_pixels(em, cap, sb);                     % Convert to device-specific units.
define_corrected_pixels(o);                       % Same, but add a device-specific fudge factor.

%% Define a light bulb at the character position for "A"
%% with width  $\frac{1}{2}em\#$ , height cap#, and depth 1pt#.
beginchar("A",  $\frac{1}{2}em\#$ , cap#, 1pt#); "A light bulb";
    pickup pencircle scaled  $\frac{1}{2}pt$ ;                % Use a pen with a small, circular tip.

    %% Define the points we need.
    top z1 = (w/2, h + o);                    % z1 is at the top of a circle.
    rt z2 = (w + sb + o - x4, y4);          % z2 is at the same height as z4 but the opposite side.
    bot z3 = (z1 - (0, w - sb - o));          % z3 is at the bottom of the circle.
    lft z4 = (sb - o,  $\frac{1}{2}[y_1, y_3]$ );          % z4 is on the left of the circle.
    path bulb;                                     % Define a path for the bulb itself.
    bulb = z1 .. z2 .. z3 .. z4 .. cycle;      % The bulb is a closed path.

    z5 = point 2 -  $\frac{1}{3}$  of bulb;                % z5 lies on the bulb, a little to the right of z3.
    z6 = (x5, 0);                                % z6 is at the bottom, directly under z5.
    z7 = (x8, 0);                                % z7 is at the bottom, directly under z8.
    z8 = point 2 +  $\frac{1}{3}$  of bulb;                % z8 lies on the bulb, a little to the left of z3.
    bot z67 = ( $\frac{1}{2}[x_6, x_7]$ , pen_bot - o -  $\frac{1}{8}pt$ ); % z67 lies halfway between z6 and z7 but a jot lower.

    %% Draw the bulb and the base.
    draw bulb;                                     % Draw the bulb proper.
    draw z5 -- z6 .. z67 .. z7 -- z8;      % Draw the base of the bulb.

    %% Display key positions and points to help us debug.
    makegrid(0, sb, w/2, w - sb)(0, -1pt, y2, h); % Label "interesting" x and y coordinates.
    penlabels(1, 2, 3, 4, 5, 6, 67, 7, 8);          % Label control points for debugging.
endchar;
end

```

Figure 13.3: Sample METAFONT size-independent file (`lightbulb.mf`)

```

prompt> mf lightbulb10.mf                ⇐ Produces lightbulb10.2602gf
prompt> gftodvi lightbulb10.2602gf       ⇐ Produces lightbulb10.dvi

```

You can then view `lightbulb10.dvi` with any DVI viewer. The result is shown in Figure 13.4. Observe how the grid defined with `makegrid` at the bottom of Figure 13.3 draws vertical lines at positions 0, *sb*, *w*/2, and *w* - *sb* and horizontal lines at positions 0, -*1pt*, *y*<sub>2</sub>, and *h*. Similarly, observe how the `penlabels` command labels all of the important coordinates: *z*<sub>1</sub>, *z*<sub>2</sub>, ..., *z*<sub>8</sub> and *z*<sub>67</sub>, which `lightbulb.mf` defines to lie between *z*<sub>6</sub> and *z*<sub>7</sub>.

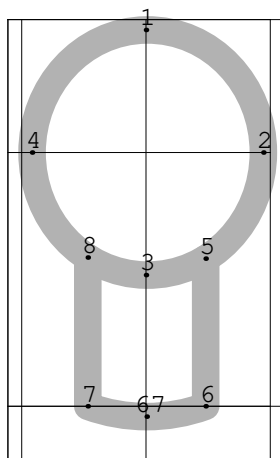
Most, if not all, T<sub>E</sub>X distributions include a Plain T<sub>E</sub>X file called `testfont.tex` that is useful for testing new fonts in a variety of ways. One useful routine produces a table of all of the characters in the font:

```

prompt> tex testfont
This is TeX, Version 3.14159 (Web2C 7.3.1)
(/usr/share/texmf/tex/plain/base/testfont.tex
Name of the font to test = lightbulb10
Now type a test command (\help for help):)

```



Figure 13.4: Proof diagram of `lightbulb10.mf`

`*\table`

`*\bye`

[1]

Output written on `testfont.dvi` (1 page, 1516 bytes).

Transcript written on `testfont.log`.

The resulting table, stored in `testfont.dvi` and illustrated in Figure 13.5, shows every character in the font. To understand how to read the table, note that the character code for “A”—the only character defined by `lightbulb10.mf`—is 41 in hexadecimal (base 16) and 101 in octal (base 8).

Test of lightbulb10 on March 11, 2003 at 1127									
	'0	'1	'2	'3	'4	'5	'6	'7	
'10x		8							"4x
'11x									
	"8	"9	"A	"B	"C	"D	"E	"F	

Figure 13.5: Font table produced by `testfont.tex`

The LightBulb10 font is now usable by  $\text{\TeX}$ .  $\text{\LaTeX 2}_{\epsilon}$ , however, needs more information before documents can use the font. First, we create a font-description file that tells  $\text{\LaTeX 2}_{\epsilon}$  how to map fonts in a given font family and encoding to a particular font in a particular font size. For symbol fonts, this mapping is fairly simple. Symbol fonts almost always use the “U” (“Unknown”) font encoding and frequently occur in only one variant: normal weight and non-italicized. The filename for a font-description file is important; it must be of the form “ $\langle encoding \rangle \langle family \rangle .fd$ ”, where  $\langle encoding \rangle$  is the lowercase version of the encoding name (typically “u” for symbol fonts) and  $\langle family \rangle$  is the name of the font family. For LightBulb10, let’s call this “bulb”. Figure 13.6 lists the contents of `ubulb.fd`. The document “ $\text{\LaTeX 2}_{\epsilon}$  Font Selection” [LAT19] describes `\DeclareFontFamily` and `\DeclareFontShape` in detail, but the gist of `ubulb.fd` is first to declare a U-encoded version of the bulb font family and then to specify that a  $\text{\LaTeX 2}_{\epsilon}$  request for a U-encoded version

of `bulb` with a (m)edium font series (as opposed to, e.g., (b)old) and a (n)ormal font shape (as opposed to, e.g., (it)alic) should translate into a  $\TeX$  request for `lightbulb10.tfm` mechanically scaled to the current font size.

```
\DeclareFontFamily{U}{bulb}{}
\DeclareFontShape{U}{bulb}{m}{n}{<-> lightbulb10}{}

```

Figure 13.6:  $\text{\LaTeX} 2_{\varepsilon}$  font-description file (`ubulb.fd`)

The final step is to write a  $\text{\LaTeX} 2_{\varepsilon}$  style file that defines a name for each symbol in the font. Because we have only one symbol our style file, `lightbulb.sty` (Figure 13.7), is rather trivial. Note that instead of typesetting “A” we could have had `\lightbulb typeset “\char65”`, `“\char"41”`, or `“\char'101”` (respectively, decimal, hexadecimal, and octal character offsets into the font). For a simple, one-character symbol font such as `LightBulb10` it would be reasonable to merge `ubulb.fd` into `lightbulb.sty` instead of maintaining two separate files. In either case, a document need only include `“\usepackage{lightbulb}”` to make the `\lightbulb` symbol available.

```
\newcommand{\lightbulb}{\usefont{U}{bulb}{m}{n}A}}

```

Figure 13.7:  $\text{\LaTeX} 2_{\varepsilon}$  style file (`lightbulb.sty`)

METAFONT normally produces bitmapped fonts. However, it is also possible, with the help of some external tools, to produce PostScript Type 1 fonts. These have the advantages of rendering better in Adobe<sup>®</sup> Acrobat<sup>®</sup> (at least in versions prior to 6.0) and of being more memory-efficient when handled by a PostScript interpreter. See <https://www.texfaq.org/FAQ-texttrace.html> for pointers to tools that can produce Type 1 fonts from METAFONT.

## 13.5 Math-mode spacing

Terms such as “binary operators”, “relations”, and “punctuation” in Chapter 3 primarily regard the surrounding spacing. (See the Short Math Guide for  $\text{\LaTeX}$  [Dow00] for a nice exposition on the subject.) To use a symbol for a different purpose, you can use the  $\TeX$  commands `\mathord`, `\mathop`, `\mathbin`, `\mathrel`, `\mathopen`, `\mathclose`, and `\mathpunct`. For example, if you want to use `\downarrow` as a variable (an “ordinary” symbol) instead of a delimiter, you can write `“$3 x + \mathord{\downarrow}$”` to get the properly spaced `“ $3x + \downarrow$ ”` rather than the awkward-looking `“ $3x + \downarrow$ ”`. Similarly, to create a dotted-union symbol (`“ $\dot{\cup}$ ”`) that spaces like the ordinary set-union symbol (`\cup`) it must be defined with `\mathbin`, just as `\cup` is. Contrast `“$A \dot{\cup} B$”` (“ $A \dot{\cup} B$ ”) with `“$A \mathbin{\dot{\cup}} B$”` (“ $A \dot{\cup} B$ ”). See The  $\TeX$ book [Knu86a] for the definitive description of math-mode spacing.

The purpose of the “log-like symbols” in Table 262 and Table 263 is to provide the correct amount of spacing around and within multiletter function names. Table 1022 on page 475 contrasts the output of the log-like symbols with various, naïve alternatives. In addition to spacing, the log-like symbols also handle subscripts properly. For example, `“\max_{p \in P}”` produces `“ $\max_{p \in P}$ ”` in text, but `“ $\max_{p \in P}$ ”` as part of a displayed formula.

The `amsmath` package makes it straightforward to define new log-like symbols:

```
\DeclareMathOperator{\atan}{atan}
\DeclareMathOperator*{\lcm}{lcm}

```

The difference between `\DeclareMathOperator` and `\DeclareMathOperator*` involves the handling of subscripts. With `\DeclareMathOperator*`, subscripts are written beneath log-like symbols in display style and

TABLE 1022: Spacing Around/Within Log-like Symbols

L <sup>A</sup> T <sub>E</sub> X expression	Output
<code>\$r \sin \theta\$</code>	$r \sin \theta$ (best)
<code>\$r \sin \theta\$</code>	$r \sin \theta$
<code>\$r \mbox{sin} \theta\$</code>	$r \sin \theta$
<code>\$r \mathrm{sin} \theta\$</code>	$r \sin \theta$

to the right in text style. This is useful for limit operators (e.g., `\lim`) and functions that tend to map over a set (e.g., `\min`). In contrast, `\DeclareMathOperator` tells T<sub>E</sub>X that subscripts should always be displayed to the right of the operator, as is common for functions that take a single parameter (e.g., `\log` and `\cos`). Table 1023 contrasts symbols declared with `\DeclareMathOperator` and `\DeclareMathOperator*` in both text style (`$...$`) and display style (`\[...\]`).<sup>11</sup>

TABLE 1023: Defining new log-like symbols

Declaration function	<code>\$\$\newlogsym_{\{p \in P\}}\$</code>	<code>\[ \newlogsym_{\{p \in P\}} \]</code>
<code>\DeclareMathOperator</code>	$\text{newlogsym}_{p \in P}$	$\text{newlogsym}_{p \in P}$
<code>\DeclareMathOperator*</code>	$\text{newlogsym}_{p \in P}$	$\text{newlogsym}_{p \in P}$

It is common to use a thin space (`\,`) between the words of a multiword operators, as in “`\DeclareMathOperator*{\argmax}{arg\,max}`”. `\liminf`, `\limsup`, and all of the log-like symbols shown in Table 263 utilize this spacing convention.

## 13.6 Bold mathematical symbols

L<sup>A</sup>T<sub>E</sub>X does not normally use bold symbols when typesetting mathematics. However, bold symbols are occasionally needed, for example when naming vectors. Any of the approaches described at <https://www.texfaq.org/FAQ-boldgreek.html> can be used to produce bold mathematical symbols. Table 1024 contrasts the output produced by these various techniques. As the table illustrates, these techniques exhibit variation in their formatting of Latin letters (upright vs. italic), formatting of Greek letters (bold vs. normal), formatting of operators and relations (bold vs. normal), and spacing. `xfakebold`’s `\setBold` command is unique in that it takes a thickness argument and supports arbitrary symbol thickness, although it works only with vector fonts, not bitmapped fonts.

## 13.7 ASCII and Latin 1 quick reference

Table 1025 on page 477 amalgamates data from various other tables in this document into a convenient reference for L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> typesetting of ASCII characters, i.e., the characters available on a typical U.S. computer keyboard. The first two columns list the character’s ASCII code in decimal and hexadecimal. The third column shows what the character looks like. The fourth column lists the L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> command to typeset the

<sup>11</sup>Note that `\displaystyle` can be used to force display style within `$...$` and `\textstyle` can be used to force text style within `\[...\]`.

TABLE 1024: Producing bold mathematical symbols

Package	Code	Output	
<i>none</i>	<code>\$\alpha + b = \Gamma \div D\$</code>	$\alpha + b = \Gamma \div D$	(no bold)
<i>none</i>	<code>\$\mathbf{\alpha + b = \Gamma \div D}\$</code>	$\alpha + \mathbf{b} = \mathbf{\Gamma \div D}$	
<i>none</i>	<code>\boldmath\$\alpha + b = \Gamma \div D\$</code>	$\boldsymbol{\alpha + b = \Gamma \div D}$	
amsbsy	<code>\$\pmb{\alpha + b = \Gamma \div D}\$</code>	$\boldsymbol{\alpha + b = \Gamma \div D}$	(faked bold)
amsbsy	<code>\$\boldsymbol{\alpha + b = \Gamma \div D}\$</code>	$\boldsymbol{\alpha + b = \Gamma \div D}$	
bm	<code>\$\bm{\alpha + b = \Gamma \div D}\$</code>	$\boldsymbol{\alpha + b = \Gamma \div D}$	
fixmath	<code>\$\mathbf{\alpha + b = \Gamma \div D}\$</code>	$\boldsymbol{\alpha + b = \Gamma \div D}$	
xfakebold	<code>\setBold[0.3]</code> <code>\$\alpha + b = \Gamma \div D\$</code> <code>\unsetBold</code>	$\boldsymbol{\alpha + b = \Gamma \div D}$	(faked bold)

character as a text character. And the fourth column lists the  $\text{\LaTeX} 2_{\epsilon}$  command to typeset the character within a `\texttt{...}` command (or, more generally, when `\ttfamily` is in effect).

The following are some additional notes about the contents of Table 1025:

- “” is not available in the OT1 font encoding.
- Table 1025 shows a close quote for character 39 for consistency with the open quote shown for character 96. A straight quote can be typeset using `\textquotesingle` (cf. Table 57).
- The characters “<”, “>”, and “|” do work as expected in math mode, although they produce, respectively, “l”, “i”, and “—” in text mode when using the OT1 font encoding.<sup>12</sup> The following are some alternatives for typesetting “<”, “>”, and “|”:
  - Specify a document font encoding other than OT1 (as described on page 20).
  - Use the appropriate symbol commands from Table 2 on page 23, viz. `\textless`, `\textgreater`, and `\textbar`.
  - Enter the symbols in math mode instead of text mode, i.e., `$<$`, `$>$`, and `$|`.

Note that for typesetting metavariables many people prefer `\texttriangle` and `\textrangle` to `\textless` and `\textgreater`; i.e., “`\triangle{filename}`” instead of “`<filename>`”.

- Although “/” does not require any special treatment,  $\text{\LaTeX}$  additionally defines a `\slash` command which outputs the same glyph but permits a line break afterwards. That is, “`increase/decrease`” is always typeset as a single entity while “`increase\slash{}decrease`” may be typeset with “`increase/`” on one line and “`decrease`” on the next.
- `\textasciicircum` can be used instead of `\~{}`, and `\textasciitilde` can be used instead of `\~{}`. Note that `\textasciitilde` and `\~{}` produce raised, diacritic tildes. “Text” (i.e., vertically centered) tildes can be generated with either the math-mode `\sim` command (shown in Table 131 on page 73), which produces a somewhat wide “`~`”, or the `textcomp` package’s `\texttildelow` (shown in Table 57 on page 40), which produces a vertically centered “`~`” in most fonts but a baseline-oriented “`~`” in Computer Modern, `txfonts`, `pxfonts`, and various other fonts originating from the  $\text{\TeX}$  world. If your goal is to typeset tildes in URLs or Unix filenames, your best bet is to use the `url` package, which has a number of nice features such as proper line-breaking of such names.

<sup>12</sup>Donald Knuth didn’t think such symbols were important outside of mathematics so he omitted them from his text fonts.

TABLE 1025: L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> ASCII Table

Dec	Hex	Char	Body text	\texttt	Dec	Hex	Char	Body text	\texttt
33	21	!	!	!	62	3E	>	\textgreater	>
34	22	"	\textquotedbl	"	63	3F	?	?	?
35	23	#	\#	\#	64	40	@	@	@
36	24	\$	\\$	\\$	65	41	A	A	A
37	25	%	\%	\%	66	42	B	B	B
38	26	&	\&	\&	67	43	C	C	C
39	27	,	,	,	⋮	⋮	⋮	⋮	⋮
40	28	(	(	(	90	5A	Z	Z	Z
41	29	)	)	)	91	5B	[	[	[
42	2A	*	*	*	92	5C	\	\textbackslash	\char‘\
43	2B	+	+	+	93	5D	]	]	]
44	2C	,	,	,	94	5E	^	\textasciicircum	\textasciicircum
45	2D	-	-	-	95	5F	_	\_	\char‘\_
46	2E	.	.	.	96	60	‘	‘	‘
47	2F	/	/	/	97	61	a	a	a
48	30	0	0	0	98	62	b	b	b
49	31	1	1	1	99	63	c	c	c
50	32	2	2	2	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	122	7A	z	z	z
57	39	9	9	9	123	7B	{	\{	\char‘\{
58	3A	:	:	:	124	7C		\textbar	
59	3B	;	;	;	125	7D	}	\}	\char‘\}
60	3C	<	\textless	<	126	7E	~	\textasciitilde	\textasciitilde
61	3D	=	=	=					

- The various `\char` commands within `\texttt` are necessary only in the OT1 font encoding. In other encodings (e.g., T1), commands such as `\{`, `\}`, `\_`, and `\textbackslash` all work properly.
- The code page 437 (IBM PC) version of ASCII characters 1 to 31 can be typeset using the `ascii` package. See Table 442 on page 176.
- To replace “`“`” and “`”`” with the more computer-like (and more visibly distinct) “`“`” and “`”`” within a `verbatim` environment, use the `upquote` package. Outside of `verbatim`, you can use `\char18` and `\char13` to get the modified quote characters. (The former is actually a grave accent.)

Similar to Table 1025, Table 1026 on the following page is an amalgamation of data from other tables in this document. While Table 1025 shows how to typeset the 7-bit ASCII character set, Table 1026 shows the Latin 1 (Western European) character set, also known as ISO-8859-1.

The following are some additional notes about the contents of Table 1026:

- A “(tc)” after a symbol name means that the `textcomp` package must be loaded to access that symbol. A “(T1)” means that the symbol requires the T1 font encoding. The `fontenc` package can change the font encoding document-wide.
- Many of the `\text...` accents can also be produced using the accent commands shown in Table 25 on page 32 plus an empty argument. For instance, `\={}` is essentially the same as `\textasciimacron`.

TABLE 1026: L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Latin 1 Table

Dec	Hex	Char	L <sup>A</sup> T <sub>E</sub> X 2 <sub>ε</sub>	Dec	Hex	Char	L <sup>A</sup> T <sub>E</sub> X 2 <sub>ε</sub>
161	A1	ı	ı	209	D1	Ñ	\~{N}
162	A2	¢	\textcent (tc)	210	D2	Ò	\`{O}
163	A3	£	\pounds	211	D3	Ó	\' {O}
164	A4	¤	\textcurrency (tc)	212	D4	Ô	\^{O}
165	A5	¥	\textyen (tc)	213	D5	Õ	\~{O}
166	A6	¦	\textbrokenbar (tc)	214	D6	Ö	\" {O}
167	A7	§	\S	215	D7	×	\texttimes (tc)
168	A8	¨	\textasciidieresis (tc)	216	D8	Ø	\O
169	A9	©	\textcopyright	217	D9	Ù	\` {U}
170	AA	ª	\textordfeminine	218	DA	Ú	\' {U}
171	AB	«	\guillemetleft (T1)	219	DB	Û	\^{U}
172	AC	¬	\textlnot (tc)	220	DC	Ü	\" {U}
173	AD	-	\-	221	DD	Ý	\' {Y}
174	AE	®	\textregistered	222	DE	Þ	\TH (T1)
175	AF	—	\textasciimacron (tc)	223	DF	ß	\ss
176	B0	°	\textdegree (tc)	224	E0	à	\` {a}
177	B1	±	\textpm (tc)	225	E1	á	\' {a}
178	B2	²	\texttwosuperior (tc)	226	E2	â	\^{a}
179	B3	³	\textthreesuperior (tc)	227	E3	ã	\~{a}
180	B4	´	\textasciiacute (tc)	228	E4	ä	\" {a}
181	B5	µ	\textmu (tc)	229	E5	å	\aa
182	B6	¶	\P	230	E6	æ	\ae
183	B7	·	\textperiodcentered	231	E7	ç	\c {c}
184	B8	¸	\c { }	232	E8	è	\` {e}
185	B9	¹	\textonesuperior (tc)	233	E9	é	\' {e}
186	BA	º	\textordmasculine	234	EA	ê	\^{e}
187	BB	»	\guillemetright (T1)	235	EB	ë	\" {e}
188	BC	¼	\textonequarter (tc)	236	EC	ì	\` {i}
189	BD	½	\textonehalf (tc)	237	ED	í	\' {i}
190	BE	¾	\textthreequarters (tc)	238	EE	î	\^{i}
191	BF	¿	¿	239	EF	ï	\" {i}
192	C0	À	\` {A}	240	F0	ð	\dh (T1)
193	C1	Á	\' {A}	241	F1	ñ	\~ {n}
194	C2	Â	\^{A}	242	F2	ò	\` {o}
195	C3	Ã	\~ {A}	243	F3	ó	\' {o}
196	C4	Ä	\" {A}	244	F4	ô	\^{o}
197	C5	Å	\AA	245	F5	õ	\~ {o}
198	C6	Æ	\AE	246	F6	ö	\" {o}
199	C7	Ç	\c {C}	247	F7	÷	\textdiv (tc)
200	C8	È	\` {E}	248	F8	ø	\o
201	C9	É	\' {E}	249	F9	ù	\` {u}
202	CA	Ê	\^{E}	250	FA	ú	\' {u}
203	CB	Ë	\" {E}	251	FB	û	\^{u}
204	CC	Ì	\` {I}	252	FC	ü	\" {u}
205	CD	Í	\' {I}	253	FD	ý	\' {y}
206	CE	Î	\^{I}	254	FE	þ	\th (T1)
207	CF	Ï	\" {I}	255	FF	ÿ	\" {y}
208	D0	Ð	\DH (T1)				

- The commands in the “ $\text{\LaTeX 2}_{\epsilon}$ ” columns work both in body text and within a `\texttt{...}` command (or, more generally, when `\ttfamily` is in effect).
- The “ $\text{\textit{L}}$ ” and “ $\text{\textit{S}}$ ” glyphs occupy the same slot (36) of the OT1 font encoding, with “ $\text{\textit{L}}$ ” appearing in italic fonts and “ $\text{\textit{S}}$ ” appearing in roman fonts. Until the 2020/02/02 release of  $\text{\LaTeX}$ , a problem with  $\text{\LaTeX}$ ’s default handling of this double-mapping was that “`\sffamily\slshape\pounds`” produced “ $\text{\textit{S}}$ ”, not “ $\text{\textit{L}}$ ”. Other font encodings use separate slots for the two characters and therefore always have been robust to the problem of “ $\text{\textit{L}}$ ”/“ $\text{\textit{S}}$ ” conflicts.
- Character 173, `\-`, is shown as “-” but is actually a discretionary hyphen; it appears only at the end of a line.

Microsoft<sup>®</sup> Windows<sup>®</sup> normally uses a superset of Latin 1 called “Code Page 1252” or “CP1252” for short. CP1252 introduces symbols in the Latin 1 “invalid” range (characters 128–159). Table 1027 presents the characters with which CP1252 augments the standard Latin 1 table.

TABLE 1027:  $\text{\LaTeX 2}_{\epsilon}$  Code Page 1252 Table

Dec	Hex	Char	$\text{\LaTeX 2}_{\epsilon}$	Dec	Hex	Char	$\text{\LaTeX 2}_{\epsilon}$
128	80	€	<code>\texteuro</code> (tc)	145	91	‘	‘
130	82	,	<code>\quotesinglbase</code> (T1)	146	92	,’	,’
131	83	<i>f</i>	<code>\textit{f}</code>	147	93	“	”
132	84	„	<code>\quotedblbase</code> (T1)	148	94	”	”
133	85	...	<code>\dots</code>	149	95	•	<code>\textbullet</code>
134	86	†	<code>\dag</code>	150	96	—	—
135	87	‡	<code>\ddag</code>	151	97	—	--
136	88	^	<code>\~{}</code>	152	98	~	<code>\~{}</code>
137	89	‰	<code>\textperthousand</code> (tc)	153	99	™	<code>\texttrademark</code>
138	8A	Š	<code>\v{S}</code>	154	9A	š	<code>\v{s}</code>
139	8B	‹	<code>\guilsinglleft</code> (T1)	155	9B	›	<code>\guilsinglright</code> (T1)
140	8C	Œ	<code>\OE</code>	156	9C	œ	<code>\oe</code>
142	8E	Ž	<code>\v{Z}</code>	158	9E	ž	<code>\v{z}</code>
				159	9F	Ÿ	<code>\"Y</code>

The following are some additional notes about the contents of Table 1027:

- As in Table 1026, a “(tc)” after a symbol name means that the `textcomp` package must be loaded to access that symbol. A “(T1)” means that the symbol requires the T1 font encoding. The `fontenc` package can change the font encoding document-wide.
- Not all characters in the 128–159 range are defined.
- Look up “euro” in the index for alternatives to `\texteuro`.

While too large to incorporate into this document, a listing of ISO 8879:1986 SGML/XML character entities and their  $\text{\LaTeX}$  equivalents is available from <https://www.bitjungle.com/isoent/>. Some of the characters presented there make use of `isoent`, a  $\text{\LaTeX 2}_{\epsilon}$  package (available from the same URL) that fakes certain missing ISO glyphs using the  $\text{\LaTeX}$  `picture` environment.<sup>13</sup>

<sup>13</sup>`isoent` is not featured in this document, because it is not available from CTAN and because the faked symbols are not “true” characters; they exist in only one size, regardless of the body text’s font size.

## 13.8 Unicode characters

Unicode is a “universal character set”—a standard for encoding (i.e., assigning unique numbers to) the symbols appearing in many of the world’s languages. While ASCII can represent 128 symbols and Latin 1 can represent 256 symbols, Unicode can represent an astonishing 1,114,112 symbols.

Because T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X predate the Unicode standard and Unicode fonts by almost a decade, support for Unicode has had to be added to the base T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X systems. Note that L<sup>A</sup>T<sub>E</sub>X distinguishes between *input* encoding—the characters that appear in the .tex source file—and *output* encoding—the characters that appear in the generated .dvi, .pdf, etc. file.

By way of terminology, a Unicode *code point* is a number that indexes into the list of all Unicode symbols to uniquely identify one. The convention is to notate code points as “U+*hexadecimal number*”, commonly padding the number to at least four hexits. For example, the code point U+0041 is the index for “A”, U+03C9 is the index for “ω”, and U+1F60E is the index for “😋”.

### 13.8.1 Inputting Unicode characters

The easiest way to include Unicode characters in a .tex file is to enter them directly and build your document using either LuaL<sup>A</sup>T<sub>E</sub>X or XeL<sup>A</sup>T<sub>E</sub>X.

The process is more involved for other L<sup>A</sup>T<sub>E</sub>X engines such as pdfL<sup>A</sup>T<sub>E</sub>X. Load the ucs package, and load the inputenc package with the utf8x (“UTF-8 extended”) option.<sup>14</sup> These packages enable L<sup>A</sup>T<sub>E</sub>X to translate UTF-8 sequences to L<sup>A</sup>T<sub>E</sub>X commands, which subsequently are processed as normal. For example, the UTF-8 text “Copyright © 2026”—“©” is not an ASCII character and therefore cannot be input directly without packages such as ucs/inputenc—is converted internally by inputenc to “Copyright \textcopyright{} 2026” and therefore typeset as “Copyright © 2026”.

The ucs/inputenc combination supports only a tiny subset of Unicode’s million-plus symbols. Additional symbols can be added manually using the \DeclareUnicodeCharacter command. \DeclareUnicodeCharacter takes two arguments: a Unicode code point and a L<sup>A</sup>T<sub>E</sub>X command to execute when the corresponding Unicode character is encountered in the input. For example, the Unicode character “degree celsius” (“°C”) appears at code point U+2103. However, “℃” is not one of the characters that ucs and inputenc recognize. The following document shows how to use \DeclareUnicodeCharacter to tell L<sup>A</sup>T<sub>E</sub>X that the “℃” character should be treated as a synonym for \textcelsius:

```
\documentclass{article}
\usepackage{ucs}
\usepackage[utf8x]{inputenc}
\usepackage{textcomp}

\DeclareUnicodeCharacter{"2103}{\textcelsius}    % Enable direct input of U+2103.

\begin{document}
It was a balmy 21℃.
\end{document}
```

which produces

It was a balmy 21°C.

See the ucs documentation for more information and for descriptions of the various options that control ucs’s behavior.

<sup>14</sup>UTF-8 is the 8-bit Unicode Transformation Format, a popular mechanism for representing Unicode code points as sequences of one to four bytes.



### 13.8.2 Outputting Unicode characters

Orthogonal to the ability to include Unicode characters in a  $\text{\LaTeX}$  input file is the ability to include a given Unicode character in the corresponding output file. By far the easiest approach is to use  $\text{\LuaTeX}$  or  $\text{\XeTeX}$  instead of  $\text{\pdfTeX}$  or ordinary  $\text{\LaTeX}$ .  $\text{\LuaTeX}$  and  $\text{\XeTeX}$  handle Unicode input and output natively and can utilize system fonts directly without having to expose them via `.tfm`, `.fd`, and other such files. To output a Unicode character, a  $\text{\LuaTeX}$  or  $\text{\XeTeX}$  document can either include that character directly as UTF-8 text or use  $\text{\TeX}$ ’s `\char` primitive, which  $\text{\LuaTeX}$ / $\text{\XeTeX}$  extends to accept numbers larger than 255.

Suppose we want to output the symbols for versicle (“ $\text{\text{V}}$ ”) and response (“ $\text{\text{R}}$ ”) in a document. The Unicode charts list “versicle” at code point U+2123 and “response” at position U+211F. We therefore need to install a font that contains those characters at their proper positions. One such font that is freely available from CTAN is Junicode (`Junicode.ttf`) from the `junicode` package. The `fontspec` package makes it easy for a  $\text{\LuaTeX}$ / $\text{\XeTeX}$  document to utilize a system font. The following example defines a `\textjuni` command that uses `fontspec` to typeset its argument in Junicode:

```
\documentclass{article}
\usepackage{fontspec}

\newcommand{\textjuni}[1]{\fontspec{Junicode}#1}

\begin{document}
We use ‘‘\textjuni{\char"2123}’’ for a versicle
and ‘‘\textjuni{\char"211F}’’ for a response.
\end{document}
```

which produces

We use “ $\text{\text{V}}$ ” for a versicle and “ $\text{\text{R}}$ ” for a response.

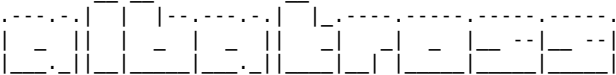
(Typesetting the entire document in Junicode would be even easier. See the `fontspec` documentation for more information regarding font selection.) Note how the preceding example uses `\char` to specify a Unicode character by code point. The double quotes before the number indicate that the number is represented in hexadecimal instead of decimal.

### 13.8.3 Finding fonts providing a Unicode character

Operating systems and  $\text{\TeX}$  distributions may provide a large number of fonts, but most fonts provide only a very small subset of the characters defined by the Unicode standard. The `albatross` command-line program, which is included in many  $\text{\TeX}$  distributions, takes a list of Unicode code points and outputs the names all installed fonts that include every character in that list. As an example, Figure 13.8 presents a list of installed fonts that include code point U+1F601 (“ $\text{\text{😊}}$ ”). Note that you likely will observe a different list on your computer.

## 13.9 About this document

**History** David Carlisle wrote the first version of this document in October, 1994. It originally contained all of the native  $\text{\LaTeX}$  symbols (Table 68, Table 104, Table 131, Table 199, Table 262, Table 267, Table 303, Table 304, Table 322, Table 333, Table 401, and a few tables that have since been reorganized) and was designed to be nearly identical to the tables in Chapter 3 of Leslie Lamport’s book [Lam86]. Even the table captions and the order of the symbols within each table matched! The  $\mathcal{A}\mathcal{M}\mathcal{S}$  symbols (Table 69, Table 132, Table 133, Table 202, Table 203, Table 268, Table 277, Table 297, and Table 402) and an initial Math



Unicode glyph with code points [1F601]  
mapping to [👉] (AND search)

Font name
DejaVu Sans
DejaVu Sans Bold
DejaVu Sans Bold Oblique
DejaVu Sans Condensed
DejaVu Sans Condensed Bold
DejaVu Sans Condensed Bold Oblique
DejaVu Sans Condensed Oblique
DejaVu Sans Condensed Regular
DejaVu Sans Oblique
DejaVu Sans Regular
Font Awesome 6 Free Regular
Font Awesome 6 Free Solid
Font Awesome 7 Free Regular
Font Awesome 7 Free Solid
Noto Color Emoji
Noto Emoji
Symbola
Twemoji Mozilla

Figure 13.8: Example output from `albatross --include-tex-fonts 0x1F601`

Alphabets table (Table 416) were added thereafter. Later, Alexander Holt provided the `stmaryrd` tables (Table 70, Table 106, Table 134, Table 205, Table 258, and Table 298).

In January, 2001, Scott Pakin took responsibility for maintaining the symbol list and has since implemented a complete overhaul of the document. The result, now called, “The Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List”, includes the following new features:

- the addition of a handful of new math alphabets, dozens of new font tables, and thousands of new symbols
- the categorization of the symbol tables into body-text symbols, mathematical symbols, science and technology symbols, dingbats, ancient languages, and other symbols, to provide a more user-friendly document structure
- an index, table of contents, hyperlinks, and a frequently-requested symbol list, to help users quickly locate symbols
- symbol tables rewritten to list the symbols in alphabetical order
- appendices providing additional information relevant to using symbols in L<sup>A</sup>T<sub>E</sub>X
- tables showing how to typeset all of the characters in the ASCII and Latin 1 font encodings

Furthermore, the internal structure of the document has been completely altered from David Carlisle’s original version. Most of the changes are geared towards making the document easier to extend, modify, and reformat.

**Build characteristics** Table 1028 on page 483 lists some of this document’s build characteristics. Most important is the list of packages that L<sup>A</sup>T<sub>E</sub>X couldn’t find, but that `symbols.tex` otherwise would have

been able to take advantage of. Complete, prebuilt versions of this document are available from CTAN via <https://www.ctan.org/pkg/comprehensive/>. Table 1029 shows the package date (specified in the `.sty` file with `\ProvidesPackage`) for each package that was used to build this document and that specifies a package date.

TABLE 1028: Document Characteristics

Characteristic	Value
Source file:	<code>symbols.tex</code>
Build date:	April 12, 2026
Symbols documented:	25731
Packages included:	abracas academicons accents actuarialangle adfarrows adfbullets adorn allrunes amssymb apl arcs arev ar asapsym ascii astrosym bahaistar bartel-chess-fonts bbding bbm bbold bclogo begriff bigints boisik bullcntr calligra casiofont ccicons cclicens chancery chemarrow chemarr chessfss <del>ChA2e</del> clock cml cmupint colonequals combelow cookingsymbols countriesofeuropa cryst customdice cypriot dancers dice dictsym dingbat DotArrow dozenal dsfont ds serif emf endofproofwd epiolmec epsdice esint esrelation esvect euflag eurosym euscript extarrows extpfeil extraipa fclfont FdSymbol feyn fge figbas figchild fontawesome7 fontmfizz fourier frege go greenpoint halloweenmath hamnosys hands harmony harpoon hhcount hieroglf holtpolt ifsym igo JeuxCartes junicode keystroke knitting knot latexsym lcircuit <del>lily</del> <del>lyphs</del> linearA linearb logix lucide-icons magic mahjong manfnt maritime marvosym mathabx mathdesign mathdots mathrsfs mathtools mbboard mdwmath metre metsymb milstd mismath MnSymbol moonphase musicography musixtex nath newcomputermodern nicefrac nkarta ogonek old-arrows oplotsymb1 overarrows overrightarrow pdfmsym pgfornament phaistos phonetic pifont pigpen plimsoll pmboxdraw prodint protosem quantikz realhats recycle resmes rojud rsfs rubikcube sacsymb sarabian scsnowman semaphor semtrans shuffle sillypage simpsons skull soyombo starfont staves steinmetz stix stmaryrd svrsymbols symbats3 t4phonet teubner textcomp textgreek tfrupet tikz-cookingsymbols TikZlings tikzsymbols tipa tipx trfsigns trsym turnstile twemojis txfonts typicons ulsy umranda umrandb undertilde universa upgreek urwchancal ushort utfsym vectorlogos vietnam vscodicons wasysym webomints worldflags wsuipa xfakebold yfonts yhmath
Packages omitted:	<i>none</i>

TABLE 1029: Package versions used in the preparation of this document

Name	Date	Name	Date	Name	Date
abraces	2024-08-02	fclfont	2004-06-01	phonetic	<i>no date</i>
academicons	2025-09-20	FdSymbol	2025-02-17	pifont	2020-03-25
accents	2006-05-12	feyn	2022-07-20	pigpen	2008-12-07
actuarialangle	2019-06-13	fge	2015-05-19	plimsoll	2020-10-09
adfarrows	2026-02-25	figbas	<i>no date</i>	pmboxdraw	2019-12-05
adfbullets	2026-02-25	figchild	2025-06-04	prodint	<i>no date</i>
adorn	2026-02-25	fontawesome7	2025-11-02	protosem	2005-03-18
allrunes	2004-01-06	fontmfizz	2017-03-19	quantikz	2023-05-24
amssymb	2013-01-14	fourier	2024-09-08	realhats	2022-06-13
apl	<i>no date</i>	frege	2012-08-04	recycle	<i>no date</i>
arcs	2004-05-09	go	<i>no date</i>	resmes	2022-12-27
arev	2005-06-14	greenpoint	<i>no date</i>	rojud	2020-10-25
ar	2012-01-23	halloweenmath	2019-11-01	rsfso	2013-11-02
asapsym	2016-03-20	hamnosys	2022-02-08	rubikcube	2018-02-25
ascii	2006-05-30	hands	<i>no date</i>	sacsymb	2023-02-06
astrosym	<i>no date</i>	harmony	2024-08-01	sarabian	2005-11-12
bahaistar	2025-09-17	harpoon	1994-11-02	scsnowman	2023-02-23
bartel-chess-fonts	<i>no date</i>	hhcount	1995-03-31	semaphor	<i>no date</i>
bbding	1999-04-15	hieroglf	2015-06-02	semtrans	1998-02-10
bbm	1999-03-15	holtpolt	<i>no date</i>	shuffle	2008-10-27
bbold	1994-04-06	ifsym	2000-04-18	sillypage	2024-07-23
bclogo	2024-01-23	igo	<i>no date</i>	simpsons	<i>no date</i>
begriff	<i>no date</i>	JeuxCartes	2025-11-27	skull	2002-01-23
bigints	2010-02-15	junicode	2024-06-06	soyombo	1996-09-01
boisik	2009-08-21	keystroke	2010-04-23	starfont	2010-09-29
bullcntr	2007-04-02	knitting	2019-04-03	staves	<i>no date</i>
calligra	2012-04-10	knot	<i>no date</i>	steinmetz	2009-06-14
casiofont	2018-10-22	latexsym	1998-08-17	stix	2018-04-17
ccicons	2017-10-30	lcircuit	<i>no date</i>	stmaryrd	1994-03-03
ccllicenses	2005-05-20	<del>lily&amp;lyp</del> lily&lyp	<i>no date</i>	svrsymbols	2019-02-12
chancery	2020-03-25	linearA	2006-03-13	symbats3	2022-06-21
chemarrow	<i>no date</i>	linearb	2005-06-22	t4phonet	2004-06-01
chemarr	2016-05-16	logix	2022-06-22	teubner	2023-08-25
chessfss	2006-06-14	lucide-icons	2025-12-26	textcomp	2024-04-24
ChFA2e	1997-06-01	magic	<i>no date</i>	textgreek	2011-10-09
clock	2001-04-10	mahjong	2025-01-06	tfrupee	2010-12-15
cmll	2010-04-20	manfnt	1999-07-01	tikz-cookingsymbols	2025-03-15
cmupint	2020-04-13	maritime	2025-02-15	TikZlings	2025-12-11
colonequals	2016-05-16	marvosym	2011-07-20	tikzsymbols	2021-12-14
combelow	2010-05-02	mathabx	2003-07-29	tipa	2002-08-08
cookingsymbols	2014-12-28	mathdesign	2013-08-29	tipx	2003-01-01
countriesofeurope	2018-12-29	mathdots	2014-06-11	trfsigns	<i>no date</i>
cryst	<i>no date</i>	mathrsfs	1996-01-01	trsym	2000-06-25
customdice	2022-07-31	mathtools	2024-10-04	turnstile	2007-06-23
cyriot	2009-05-22	mbboard	<i>no date</i>	twemojis	2022-03-30
dancers	<i>no date</i>	mdwmath	1996-04-11	txfonts	2008-01-22

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dice	<i>no date</i>	metre	2001-12-05	typicons	2015-05-20
dictsym	2004-07-26	metsymb	2022-09-10	ulsy	<i>no date</i>
dingbat	2001-04-27	milstd	2009-06-25	umranda	<i>no date</i>
DotArrow	2007-02-12	mismatch	2025-10-08	umrandb	<i>no date</i>
dozenal	2018-05-11	MnSymbol	2007-01-21	undertilde	2000-08-08
dsfont	1995-08-01	moonphase	<i>no date</i>	universa	2019-08-26
ds serif	2021-10-29	musicography	2023-09-08	upgreek	2003-02-12
emf	2016-09-09	musixtex	2001-07-08	urwchancal	2011-03-05
endofproofwd	2017-08-21	nath	<i>no date</i>	ushort	2001-06-13
epiomec	2003-11-05	newcomputermodern	2026-01-07	utfsym	2022-04-17
epsdice	2007-02-15	nicefrac	1998-08-04	vectorlogos	2024-03-30
esint	<i>no date</i>	nkarta	<i>no date</i>	vietnam	2009-07-12
esrelation	<i>no date</i>	ogonek	1995-07-17	vscodeicons	2025-11-23
esvect	<i>no date</i>	old-arrows	2017-01-05	wasysym	<i>no date</i>
euflag	2020-05-22	oplotsymb	2017-08-04	webomints	<i>no date</i>
eurosym	1998-08-06	overarrows	2025-10-19	worldflags	<i>no date</i>
euscript	2009-06-22	overrightarrow	<i>no date</i>	wsuipa	1994-07-16
extarrows	2020-03-12	pdfmsym	<i>no date</i>	xfakebold	2023-11-21
extpfeil	2009-10-31	pgfornament	<i>no date</i>	yfonts	2019-04-04
extraipa	<i>no date</i>	phaistos	2004-04-23	yhmath	2020-03-17

## 13.10 Copyright and license

The Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List

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- [LAT19]  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}3$  Project Team.  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}2_{\varepsilon}$  font selection, October 2019. Available from <https://mirrors.ctan.org/macros/latex/base/fntguide.pdf> and also included in many  $\text{T}_{\text{E}}\text{X}$  distributions.

# Index

Similar-looking glyphs are compressed into a single index entry with a superscript “+” indicating that glyph variations exist. For example, the entry “integral, contour ( $\oint$ )<sup>+</sup>” presents only “ $\oint$ ” but indicates that variations also are available. In this case, those variations are “ $\oint$ ”, “ $\oint$ ”, “ $\oint$ ”, “ $\oint$ ”, “ $\oint$ ”, and “ $\oint$ ”—essentially font differences along the lines of “A” vs. “A” vs. “A”. Substantially different glyphs with the same name are not merged. For example, both “ $\times$ ” and “ $\prod$ ” are presented for “product”.

Accents are shown over/under a gray box (e.g., “ $\acute{a}$ ” for “accents, acute”). Symbols appearing in a table that spans pages sometimes are associated with all of the pages that table covers. The author hopes to correct this issue in a future version of the Comprehensive L<sup>A</sup>T<sub>E</sub>X Symbol List.

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









































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






























































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























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








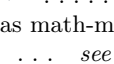




















































































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




































































































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




















































































































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












































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
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
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
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
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
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
















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











































## canoe






















































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




























































































































































































































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





























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

































































































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

























































































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














































    single dot






































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










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





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

































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- negative weak (⧻)<sup>+</sup> *see* precedes, or equal to, negated
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










































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






































































































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





















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


## extraterrestrial






































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










































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













































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














































































































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































































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








































































































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



















































































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























































































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






































































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



































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





































































































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
































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






















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








































































































































































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





















































































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
























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









































































## J







































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




























































































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











































































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

















































































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






























































































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































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





























































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













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
















































































































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

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
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
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
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
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
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
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
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
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
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
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
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
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

























































































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














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
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

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




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
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
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
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

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
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

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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

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
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
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
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













































































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






















































































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





















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




































































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367

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❧ . . . . .

26

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26

decorative double right,  
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27

decorative double right,  
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367

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♠ . . . . .

26

decorative left  
♠ . . . . .

27

decorative right  
♠ . . . . .

26

decorative right  
♠ . . . . .

27

decorative single left base  
(♠) . . . . .

27

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23

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23

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43

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23

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
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
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
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
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
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
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
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radio




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
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
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
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
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
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
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
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
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
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
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
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
















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











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































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








































































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




































































































































































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
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
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
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
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
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
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
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
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
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
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
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
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









































































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










































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












































































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
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
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
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

































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













































































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




















































































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












































































































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




















































































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
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


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negated ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . 78, 81

double bar, down ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> 77,  
79, 80, 83, 165

double bar, down, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . . . 78, 81

double bar, left ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . 76,  
79, 80, 82, 83

double bar, left and right  
( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 83

double bar, left, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . . . 76, 78, 80, 81

double bar, northeast ( $\overline{\overline{\mid}}^{\neg}$ ) .  
. . . . . 76

double bar, northeast,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double bar, northwest ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 77

double bar, northwest,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double bar, right ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . .  
74–77, 79, 80, 82, 84, 87

double bar, right, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . 75, 76, 78, 79, 81,  
82, 84, 87

double bar, southeast ( $\overline{\overline{\mid}}^{\neg}$ ) .  
. . . . . 76

double bar, southeast,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double bar, southwest ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 77

double bar, southwest,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double bar, triple dash, right  
( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 87

double bar, triple dash,  
right, negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . 87

double bar, up ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> 77, 80,  
84

double bar, up, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . . . 78, 81

double bar, wavy dash, right  
( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 87

double bar, wavy dash, right,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 87

double bar, wavy double  
dash, right ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 87

double bar, wavy double  
dash, right, negated ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 87

double dash, down ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> 77,  
80, 83

double dash, down, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . . . 78, 81

double dash, left ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> 75,  
76, 79, 80, 82, 83, 463

double dash, left, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . . . 76, 78, 80, 81

double dash, northeast ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 76

double dash, northeast,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double dash, northwest ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 77

double dash, northwest,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double dash, right ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . .  
. 73–75, 77, 79, 80, 82–84,  
87, 322–323, 463

double dash, right, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . 74, 76, 78, 79, 81,  
82, 84, 87

double dash, southeast ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 76

double dash, southeast,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double dash, southwest ( $\overline{\overline{\mid}}^{\neg}$ )  
. . . . . 77

double dash, southwest,  
negated ( $\overline{\overline{\mid}}^{\neg}$ ) . . . . . 78

double dash, up ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . 75,  
77, 80, 82, 84, 87, 131, 466

double dash, up, negated  
( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . . . . . 78, 81

down ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> . 44, 77, 80, 83,  
129–131, 165, 466



































down, negated ( $\overline{\overline{\mid}}^{\neg}$ )<sup>+</sup> 78, 81,  
129, 165


































































































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83









































































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











































































































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

























































































































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
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
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
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
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
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
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
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
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
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
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
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
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
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