FdSymbol: A Math Symbol Font

Michael Ummels

v0.6a – 2011/05/29

Contents

1 Introduction **1**

2 Interferences with other packages **2**

3 Font selection **2**

4 Symbols **3**
4.1 Ordinary symbols 3
4.2 Binary operators 4
4.3 Relations 6
4.4 Punctuation symbols 15
4.5 Large operators 15
4.6 Delimiters and accents 16
4.7 Faked symbols 17
4.8 Missing symbols 18

5 Implementation **18**

1 Introduction

FdSymbol is a font of mathematical symbols designed as a companion to Typotheque's Fedra family[1], but it might also fit well to other contemporary typefaces. To use this font in a LaTeX document, add the command

```
\usepackage[⟨options⟩]{fdsymbol}
```

to the preamble of your document. This redefines most of the standard mathematical symbols and makes available many new ones (see Section 4). For the available options see Section 3.

[1] `http://www.typotheque.com/fonts`

Acknowledgements

The FdSymbol font is derived from MnSymbol[2], another math symbol font, designed by Achim Blumensath.

2 Interferences with other packages

The fdsymbol package is incompatible with the amssymb and amsfonts packages. It automatically loads the amsmath and textcomp packages. If you want to pass options to these packages, you can either load these packages before fdsymbol or you can include the options in the `\documentclass` command.

3 Font selection

FdSymbol comes in four weights, which are (in increasing order) Book, Regular, Medium and Bold. Of these, Book and Regular are suitable for normal math typesetting, while Medium and Bold can be used for bold math typesetting. Using the options `normalweight` and `boldweight`, you can select which weights are used. For example, to use the Medium weight as the normal weight in math, add `normalweight=Medium` to the package options. Analogously, to use the Bold weight with `\boldmath` or `\boldsymbol`, add `boldweight=Bold` to the package options. By default, Book and Medium are used. Additionally, it is possible to use a suitable weight automatically depending on the font size by selecting `auto`. For example, if you use the option `normalweight=auto`, the Book weight will be used for normal and large sizes, but the Regular weight will be used for small sizes (e.g. in sub- and superscripts).

In order to use FdSymbol with different text fonts, it is possible to scale the fonts by an arbitrary factor. This can be achieved with the option `scale`. For example, to use the fonts at 90 % of their original size, you can add `scale=0.9` to the package options. Finally, it is possible to increase the height of delimiters slightly (by 20 % in text size and by 25 % in `\big` size). This can be achieved by activating the option `largedelims`. Use this option if you want to combine FdSymbol with a text font that has rather tall delimiters, such as Fedra Serif B. In fact, the height of normal delimiters will match the height of text delimiters in Fedra Serif B if you select this option.

The following table summarises all options (keys) that can be used with the fdsymbol package. Values that correspond to the default behaviour of the package are marked by an asterisk.

[2] `http://www.ctan.org/tex-archive/fonts/mnsymbol/`

Key	Values
normalweight	Book*, Regular, auto
boldweight	Medium*, Bold, auto
scale	⟨*factor*⟩
largedelims	true, false*

4 Symbols

The fdsymbol package provides the following symbols.

4.1 Ordinary symbols

⋯ \hdots
⋮ \vdots
⋰ \udots, \adots
⋱ \ddots
∶ \righttherefore
∴ \uptherefore, \therefore
∶ \lefttherefore
∵ \downtherefore, \because
:: \squaredots
¬ \neg, \lnot
⌐ \backneg, \invnot, \invneg
¬ \turnedneg, \turnednot
⌙ \turnedbackneg
△ \largetriangleup
▽ \largetriangledown
⌀ \emptyset, \diameter, \varnothing
⦸ \revemptyset
○ \largecircle, \lgwhtcircle
● \largeblackcircle
□ \largesquare, \lgwhtsquare
■ \largeblacksquare, \lgblksquare
◊ \smalllozenge, \smwhtlozenge
⧫ \smallblacklozenge, \smblklozenge
◊ \medlozenge, \lozenge, \mdlgwhtlozenge, \mdwhtlozenge
⧫ \medblacklozenge, \blacklozenge, \mdlgblklozenge, \mdblklozenge
⧫ \lozengeminus
☆ \largewhitestar
★ \largeblackstar, \bigstar
∞ \infty
⊥ \bot
⊤ \top
∠ \angle
⦣ \revangle
⦟ \measuredangle
⦡ \revmeasuredangle, \measuredangleleft
⧼ \sphericalangle
⧽ \sphericalangleup
⧾ \sphericalangleleft, \revsphericalangle, \gtlpar
⧿ \sphericalangledown
∟ \rightangle
⊾ \measuredrightangle
⊾ \rightanglesquare, \rightanglesqr
⊾ \measuredrightangledot, \rightanglemdot
′ \prime

‵	\backprime
✓	\checkmark
↯	\lightning, \downzigzagarrow
◇	\diamondsuit
◆	\vardiamondsuit
♡	\heartsuit
♥	\varheartsuit
♠	\spadesuit
♣	\clubsuit
✠	\maltese
✡	\starofdavid
▽	\sector
∀	\forall
∃	\exists
∄	\nexists
⅁	\Finv
⅁	\Game
∁	\complement
♭	\flat
♮	\natural
♯	\sharp
ℵ	\aleph
ℶ	\beth
ℷ	\gimel
ℸ	\daleth
℘	\wp
⁄	/, \mathslash
\	\backslash
|	|, \vert
‖	\Vert
⦀	\Vvert

4.2 Binary operators

⋅	\cdot
▪	\centerdot
‥	\hdotdot
⁚	\vdotdot
∴	\udotdot
∵	\ddotdot
−	-, \minus
⁄	\medslash, \smalldivslash
∖	\medbackslash, \smallsetminus
+	+, \plus
×	\times
±	\pm
∓	\mp
∸	\dotminus
⨪	\minusdot
⨫	\minusfdots
⨬	\minusrdots
⨲	\dotsminusdots
∔	\dotplus
÷	\div
⋇	\divideontimes
¬	\minushookdown
⌐	\hookdownminus
⨩	\intprod, \minushookup
⨪	\intprodr, \hookupminus
⋋	\leftthreetimes
⋌	\rightthreetimes
⨻	\dtimes, \btimes
⋊	\rtimes
⨼	\utimes, \ttimes
⋉	\ltimes
⋈	\lrtimes
⧖	\upbowtie, \hourglass
≻	\rightY
≽	\upY
≺	\leftY
≾	\downY
∧	\wedge, \land
∨	\vee, \lor
⩓	\wedgedot
⟇	\veedot
⩒	\veebar
⟑	\barwedge
⩔	\veedoublebar

⩒ \doublebarwedge
⩓ \doublewedge, \wedgeonwedge
⩔ \doublevee, \veeonwee
⋏ \curlywedge
⋎ \curlyvee
⋔ \curlywedgedot
⋟ \curlyveedot
⩛ \doublecurlywedge
⩝ \doublecurlyvee
∪ \cup
∩ \cap
⋓ \doublecup, \Cup
⋒ \doublecap, \Cap
⊍ \cupdot
⩀ \capdot
⊎ \cupplus, \uplus
⩁ \capplus
⊔ \sqcup
⊓ \sqcap
⩏ \doublesqcup, \Sqcup
⩎ \doublesqcap, \Sqcap
⊔ \sqcupdot
⊓ \sqcapdot
⊔ \sqcupplus
⊓ \sqcapplus
⌟ \pullback
⌜ \pushout
▷ \smalltriangleright
▵ \smalltriangleup
◁ \smalltriangleleft
▿ \smalltriangledown
▶ \smallblacktriangleright
▲ \smallblacktriangleup
◀ \smallblacktriangleleft
▼ \smallblacktriangledown
▷ \medtriangleright, \triangleright
△ \medtriangleup, \triangle, \vartriangle
◁ \medtriangleleft, \triangleleft
▽ \medtriangledown, \triangledown
▶ \medblacktriangleright, \blacktriangleright
▲ \medblacktriangleup, \blacktriangle
◀ \medblacktriangleleft, \blacktriangleleft
▼ \medblacktriangledown, \blacktriangledown
△ \bigtriangleup
▽ \bigtriangledown
∘ \smallcircle, \circ, \smwhtcircle
• \smallblackcircle, \bullet, \smblkcircle
○ \medcircle, \mdlgwhtcircle, \mdwhtcircle
● \medblackcircle, \mdlgblkcircle, \mdblkcircle
⊖ \ominus
⊘ \overt, \circledvert
⊘ \oslash
⦸ \obackslash, \obslash
⊕ \oplus
⊗ \otimes
⊙ \odot
⊚ \ocirc, \circledcirc
⊛ \oast, \circledast
⊝ \odash, \circleddash
⊜ \oequal, \circledequal
◯ \bigcirc
▫ \smallsquare, \smwhtsquare
▪ \smallblacksquare, \smblksquare
□ \medsquare, \square, \Box, \mdlgwhtsquare, \mdwhtsquare
■ \medblacksquare, \mdlgblksquare, \mdblksquare
⊟ \boxminus
⧈ \boxvert, \boxbar

⧄ \boxslash, \boxdiag
⧅ \boxbackslash, \boxbslash
⊞ \boxplus
⊠ \boxtimes
⊡ \boxdot
⧈ \boxbox
⋄ \smalldiamond, \diamond, \smwhtdiamond
⬥ \smallblackdiamond, \blackdiamond, \smblkdiamond
◇ \meddiamond, \Diamond, \mdlgwhtdiamond, \mdwhtdiamond
◆ \medblackdiamond, \mdlgblkdiamond, \mdblkdiamond
⨪ \diamondminus
⟡ \diamondvert
⟐ \diamondslash
⧫ \diamondbackslash, \diamondbslash
⨣ \diamondplus
⨰ \diamondtimes
⨀ \diamonddot, \diamondcdot
⟐ \diamonddiamond
☆ \smallwhitestar, \smwhitestar
★ \smallblackstar, \star
☆ \medwhitestar
★ \medblackstar, \medstar
∗ *, \ast
⊺ \intercal
≀ \wreath, \wr
⨿ \amalg
◁ \lhd
▷ \rhd
⊴ \unlhd
⊵ \unrhd
/ \divslash
\ \setminus

4.3 Relations

= =, \equal, \Relbar
:= \coloneq, \coloneqq
≡ \equiv
∼ \sim
∽ \backsim
≈ \approx
≋ \triplesim, \approxident
≃ \simeq
⋍ \backsimeq
≂ \eqsim
≅ \cong
≌ \backcong
≐̇ \dotcong
≊ \approxeq
≎ \bumpeq
≏ \bumpeqq
≑ \Bumpeq
≐ \doteq
≒ \eqdot
≑ \Doteq
≒ \fallingdotseq
≓ \risingdotseq
⌣ \smile, \smallsmile
⌢ \frown, \smallfrown
⋈ \smilefrown, \asymp
⊂ \frownsmile, \closure
≌ \smileeq
≙ \frowneq, \arceq
≗ \eqcirc
≗ \circeq
≜ \wedgeq, \hateq
≚ \veeeq
≛ \stareq
≜ \triangleeq, \triangleq
∈ \in
∋ \owns, \ni

$<$	<, \less
$>$	>, \gtr
$\leq$	\leq, \le
$\geq$	\geq, \ge
$\leqslant$	\leqslant
$\geqslant$	\geqslant
$\leqq$	\leqq
$\geqq$	\geqq
$\lesssim$	\lesssim
$\gtrsim$	\gtrsim
$\lessapprox$	\lessapprox
$\gtrapprox$	\gtrapprox
$\lessgtr$	\lessgtr
$\gtrless$	\gtrless
$\lesseqgtr$	\lesseqgtr
$\gtreqless$	\gtreqless
$\lesseqqgtr$	\lesseqqgtr
$\gtreqqless$	\gtreqqless
$\lesseqgtrslant$	\lesseqgtrslant
$\gtreqlessslant$	\gtreqlessslant
$\ll$	\ll
$\gg$	\gg
$\lll$	\lll, \llless
$\ggg$	\ggg, \gggtr
$\lessclosed$	\lessclosed, \vartriangleleft
$\gtrclosed$	\gtrclosed, \vartriangleright
$\leqclosed$	\leqclosed, \trianglelefteq
$\geqclosed$	\geqclosed, \trianglerighteq
$\lessdot$	\lessdot, \ltcc
$\gtrdot$	\gtrdot, \gtcc
$\leqslantdot$	\leqslantdot, \lescc
$\geqslantdot$	\geqslantdot, \gescc
$\sqsubset$	\sqsubset
$\sqsupset$	\sqsupset
$\sqsubseteq$	\sqsubseteq
$\sqsupseteq$	\sqsupseteq
$\sqsubseteqq$	\sqsubseteqq
$\sqsupseteqq$	\sqsupseteqq
$\Sqsubset$	\Sqsubset
$\Sqsupset$	\Sqsupset
$\subset$	\subset
$\supset$	\supset
$\subseteq$	\subseteq
$\supseteq$	\supseteq
$\subseteqq$	\subseteqq
$\supseteqq$	\supseteqq
$\Subset$	\Subset
$\Supset$	\Supset
$\prec$	\prec
$\succ$	\succ
$\preceq$	\preceq
$\succeq$	\succeq
$\preccurlyeq$	\preccurlyeq
$\succcurlyeq$	\succcurlyeq
$\preceqq$	\preceqq
$\succeqq$	\succeqq
$\precsim$	\precsim
$\succsim$	\succsim
$\precapprox$	\precapprox
$\succapprox$	\succapprox
$\lessdot$	\lessdot
$\gtrdot$	\gtrdot
$\leqdot$	\leqdot
$\geqdot$	\geqdot
$\leqslantdot$	\leqslantdot, \lesdot
$\geqslantdot$	\geqslantdot, \gesdot
$\eqslantless$	\eqslantless
$\eqslantgtr$	\eqslantgtr
$\curlyeqprec$	\curlyeqprec
$\curlyeqsucc$	\curlyeqsucc
$\sim$	\thicksim
$\approx$	\thickapprox
$\rightarrow$	\rightarrow, \to
$\uparrow$	\uparrow
$\leftarrow$	\leftarrow, \gets
$\downarrow$	\downarrow
$\nearrow$	\nearrow
$\nwarrow$	\nwarrow
$\swarrow$	\swarrow
$\searrow$	\searrow
$\Rightarrow$	\Rightarrow
$\Uparrow$	\Uparrow

⇐ \Leftarrow
⇓ \Downarrow
⇗ \Nearrow
⇖ \Nwarrow
⇙ \Swarrow
⇘ \Searrow
↔ \leftrightarrow
↕ \updownarrow
⤢ \neswarrow
⤡ \nwsearrow
⇔ \Leftrightarrow
⇕ \Updownarrow
⇗ \Neswarrow
⇖ \Nwsearrow
↠ \twoheadrightarrow
↟ \twoheaduparrow
↞ \twoheadleftarrow
↡ \twoheaddownarrow
↗ \twoheadnearrow
↖ \twoheadnwarrow
↙ \twoheadswarrow
↘ \twoheadsearrow
↣ \rightarrowtail
↕ \uparrowtail
↢ \leftarrowtail
↕ \downarrowtail
↗ \nearrowtail
↖ \nwarrowtail
↙ \swarrowtail
↘ \searrowtail
↦ \rightmapsto, \mapsto
↕ \upmapsto, \mapsup
↤ \leftmapsto, \mapsfrom
↕ \downmapsto, \mapsdown
⤢ \nemapsto
⤡ \nwmapsto
⤢ \swmapsto
⤡ \semapsto
↪ \lhookrightarrow, \hookrightarrow
↱ \lhookuparrow
↩ \lhookleftarrow
↳ \lhookdownarrow
↗ \lhooknearrow
↖ \lhooknwarrow, \hknwarrow
↙ \lhookswarrow
↘ \lhooksearrow, \hksearrow
↦ \rhookrightarrow
↰ \rhookuparrow
↩ \rhookleftarrow, \hookleftarrow
↴ \rhookdownarrow
↗ \rhooknearrow, \hknearrow
↖ \rhooknwarrow
↙ \rhookswarrow, \hkswarrow
↘ \rhooksearrow
⇁ \rightharpoonup
↿ \upharpoonleft
↼ \leftharpoondown
⇂ \downharpoonright
↗ \neharpoonnw
↖ \nwharpoonsw
↙ \swharpoonse
↘ \seharpoonne
⇁ \rightharpoondown
↾ \upharpoonright, \restriction
↼ \leftharpoonup
⇃ \downharpoonleft
↗ \neharpoonse
↖ \nwharpoonne
↙ \swharpoonnw
↘ \seharpoonsw
⇋ \leftrightharpoonupdown
↕ \updownharpoonleftright
⤢ \neswharpoonnwse
⤡ \nwseharpoonnesw
⇋ \leftrightharpoondownup
↕ \updownharpoonrightleft
⤢ \neswharpoonsenw
⤡ \nwseharpoonswne
⇌ \rightleftharpoons

⥮ \updownharpoons, \updownharpoonsleftright
⥊ \neswharpoons
⥋ \senwharpoons
⥋ \leftrightharpoons
⥯ \downupharpoons, \downupharpoonsleftright
⥌ \swneharpoons
⥋ \nwseharpoons
⇢ \rightbkarrow, \dashrightarrow, \dasharrow
⇡ \upbkarrow
⇠ \leftbkarrow, \dashleftarrow
⇣ \downbkarrow
↗ \nebkarrow
↖ \nwbkarrow
↙ \swbkarrow
↘ \sebkarrow
⊸ \rightspoon, \multimap
⍮ \upspoon, \cirmid
⟜ \leftspoon, \multimapinv
⍮ \downspoon, \midcir
⇻ \rightblackspoon
⍐ \upblackspoon
⇺ \leftblackspoon
⍗ \downblackspoon
⪬ \rightpitchfork
⫛ \uppitchfork, \pitchfork
⋔ \leftpitchfork
⊥ \downpitchfork
⇉ \rightrightarrows
⇈ \upuparrows
⇇ \leftleftarrows
⇊ \downdownarrows
↗ \nenearrows
↖ \nwnwarrows
↙ \swswarrows
↘ \sesearrows
⇄ \rightleftarrows
⇅ \updownarrows
⤢ \neswarrows
⤡ \nwsearrows
⇆ \leftrightarrows
⇵ \downuparrows
⤢ \swnearrows
⤡ \senwarrows
⇝ \rightlsquigarrow, \leadsto, \rightsquigarrow
⍣ \uplsquigarrow
↜ \leftlsquigarrow
⍥ \downlsquigarrow
⇝ \rightrsquigarrow,
⍣ \uprsquigarrow
↜ \leftrsquigarrow, \leftsquigarrow
⍥ \downrsquigarrow
↭ \leftrightsquigarrow
⍢ \updownsquigarrow
↭ \rightleftsquigarrow
⍢ \downupsquigarrow
↷ \rightlcurvearrow, \curvearrowright
↱ \uplcurvearrow
↶ \leftlcurvearrow
⤶ \downlcurvearrow, \cwrightarcarrow
↷ \nelcurvearrow
↰ \nwlcurvearrow
↶ \swlcurvearrow, \cwundercurvearrow
↷ \selcurvearrow
↷ \rightrcurvearrow, \acwunderarcarrow
↰ \uprcurvearrow
↶ \leftrcurvearrow, \curvearrowleft, \acwoverarcarrow
⤷ \downrcurvearrow, \acwleftarcarrow
↷ \nercurvearrow
↰ \nwrcurvearrow
↶ \swrcurvearrow

↳ \sercurvearrow, \ccwundercurvearrow
↜ \leftrightcurvearrow
↰ \updowncurvearrow
↝ \rightleftcurvearrow
↱ \downupcurvearrow
↷ \neswcurvearrow
↶ \nwsecurvearrow
↷ \swnecurvearrow
↶ \senwcurvearrow
⊢ \leftfootline, \vlongdash
⊣ \rightfootline, \longdashv
↻ \acwcirclearrowup
↺ \acwcirclearrowleft, \circlearrowleft, \acwopencirclearrow
↺ \acwcirclearrowdown, \acwgapcirclearrow
↺ \acwcirclearrowright
↻ \cwcirclearrowdown, \cwgapcirclearrow
↻ \cwcirclearrowright, \circlearrowright, \cwopencirclearrow
↻ \cwcirclearrowup
↺ \cwcirclearrowleft
⇛ \Rrightarrow
⇑ \Uuparrow
⇐ \Lleftarrow
⇓ \Ddownarrow
↰ \Lsh
↱ \Rsh
↲ \Ldsh
↳ \Rdsh
↬ \looparrowright
↫ \looparrowleft
⟶ \longrightarrow
⟵ \longleftarrow
⟷ \longleftrightarrow
⟹ \Longrightarrow
⟸ \Longleftarrow
⟺ \Longleftrightarrow
⟼ \longmapsto
⧟ \emptyblackspoon, \origof
⧟ \filledemptyspoon, \imageof
⧟ \leftrightspoon, \dualmap
⧟ \leftrightblackspoon
⊢ \rightvdash, \vdash, \assert
⊥ \upvdash, \perp
⊣ \leftvdash, \dashv
⊤ \downvdash
⊨ \rightvDash, \vDash, \models
⫫ \upvDash, \Vbar
⫤ \leftvDash, \Dashv
⫪ \downvDash, \barV
⊩ \rightVdash, \Vdash
⫠ \upVdash
⫣ \leftVdash, \dashV
⫧ \downVdash
⊫ \rightVDash, \VDash
⫫ \upVDash
⫤ \leftVDash, \DashV
⫪ \downVDash
⊪ \Vvdash
≠ \nequal, \neq, \ne
≢ \nequiv
≁ \nsim
≁ \nbacksim
≉ \napprox
≉ \ntriplesim, \napproxident
≠ \nsimeq, \nsime
≠ \nbacksimeq
≠ \neqsim
≇ \ncong
≇ \nbackcong
≇ \napproxeq
≠ \nbumpeq
≇ \nbumpeqq
≠ \nBumpeq
≠ \ndoteq
≠ \neqdot
≠ \nDoteq

≒	\nfallingdotseq
≓	\nrisingdotseq
⌢	\nsmile
⌢	\nfrown
≺	\nsmilefrown, \nasymp
≻	\nfrownsmile, \nclosure
≋	\nsmileeq
≌	\nfrowneq, \narceq
≠	\neqcirc
≗	\ncirceq
≜	\nwedgeq, \nhateq
≛	\nveeeq
≟	\nstareq
≜	\ntriangleeq
∉	\nin, \notin
∌	\nowns, \nni
≮	\nless
≯	\ngtr
≰	\nleq
≱	\ngeq
≴	\nleqslant
≵	\ngeqslant
≦	\nleqq
≧	\ngeqq
≨	\nlesssim
≩	\ngtrsim
≶	\nlessapprox
≷	\ngtrapprox
≸	\nlessgtr
≹	\ngtrless
≸	\nlesseqgtr
≹	\ngtreqless
≸	\nlesseqqgtr
≹	\ngtreqqless
≸	\nlesseqgtrslant
≹	\ngtreqlessslant
≪	\nll
≫	\ngg
⋘	\nlll
⋙	\nggg
⋪	\nlessclosed, \ntriangleleft
⋫	\ngtrclosed, \ntriangleright
⋬	\nleqclosed, \ntrianglelefteq
⋭	\ngeqclosed, \ntrianglerighteq
⋦	\nlesscc, \nltcc
⋧	\ngtrcc, \ngtcc
⋦	\nleqslcc, \nlescc
⋧	\ngeqslcc, \ngescc
⊄	\nsqsubset
⊅	\nsqsupset
⋢	\nsqsubseteq
⋣	\nsqsupseteq
⋤	\nsqsubseteqq
⋥	\nsqsupseteqq
⊈	\nSqsubset
⊉	\nSqsupset
⊄	\nsubset
⊅	\nsupset
⊈	\nsubseteq
⊉	\nsupseteq
⊈	\nsubseteqq
⊉	\nsupseteqq
⋐	\nSubset
⋑	\nSupset
⊀	\nprec
⊁	\nsucc
⋠	\npreceq
⋡	\nsucceq
⋨	\npreccurlyeq
⋩	\nsucccurlyeq
⋨	\npreceqq
⋩	\nsucceqq
⋨	\nprecsim
⋩	\nsuccsim
⋨	\nprecapprox
⋩	\nsuccapprox
⋖	\nlessdot
⋗	\ngtrdot
⋖	\nleqdot
⋗	\ngeqdot
⋖	\nleqslantdot, \nlesdot
⋗	\ngeqslantdot, \ngesdot

$\nleqslant$ \neqslantless
$\ngeqslant$ \neqslantgtr
$\npreccurlyeq$ \ncurlyeqprec
$\nsucccurlyeq$ \ncurlyeqsucc
$\nsim$ \simneqq
$\nbacksim$ \backsimneqq
$\lneq$ \lneq
$\gneq$ \gneq
$\lneqq$ \lneqq, \lvertneqq
$\gneqq$ \gneqq, \gvertneqq
$\lnsim$ \lnsim
$\gnsim$ \gnsim
$\lnapprox$ \lnapprox
$\gnapprox$ \gnapprox
$\lessneqqgtr$ \lessneqqgtr
$\gtrneqqless$ \gtrneqqless
$\nsqsubseteq$ \sqsubsetneq
$\nsqsupseteq$ \sqsupsetneq
$\nsqsubseteqq$ \sqsubsetneqq
$\nsqsupseteqq$ \sqsupsetneqq
$\subsetneq$ \subsetneq, \varsubsetneq
$\supsetneq$ \supsetneq, \varsupsetneq
$\subsetneqq$ \subsetneqq, \varsubsetneqq
$\supsetneqq$ \supsetneqq, \varsupsetneqq
$\precneq$ \precneq
$\succneq$ \succneq
$\precneqq$ \precneqq
$\succneqq$ \succneqq
$\precnsim$ \precnsim
$\succnsim$ \succnsim
$\precnapprox$ \precnapprox
$\succnapprox$ \succnapprox
$\nrightarrow$ \nrightarrow, \nto
$\nuparrow$ \nuparrow
$\nleftarrow$ \nleftarrow, \ngets
$\ndownarrow$ \ndownarrow
$\nnearrow$ \nnearrow
$\nnwarrow$ \nnwarrow
$\nswarrow$ \nswarrow
$\nsearrow$ \nsearrow
$\nRightarrow$ \nRightarrow
$\nUparrow$ \nUparrow
$\nLeftarrow$ \nLeftarrow
$\nDownarrow$ \nDownarrow
$\nnearrow$ \nNearrow
$\nnwarrow$ \nNwarrow
$\nswarrow$ \nSwarrow
$\nsearrow$ \nSearrow
$\nleftrightarrow$ \nleftrightarrow
$\nupdownarrow$ \nupdownarrow
$\nneswarrow$ \nneswarrow
$\nnwsearrow$ \nnwsearrow
$\nLeftrightarrow$ \nLeftrightarrow
$\nUpdownarrow$ \nUpdownarrow
$\nneswarrow$ \nNeswarrow
$\nnwsearrow$ \nNwsearrow
$\ntwoheadrightarrow$ \ntwoheadrightarrow
$\ntwoheaduparrow$ \ntwoheaduparrow
$\ntwoheadleftarrow$ \ntwoheadleftarrow
$\ntwoheaddownarrow$ \ntwoheaddownarrow
$\ntwoheadnearrow$ \ntwoheadnearrow
$\ntwoheadnwarrow$ \ntwoheadnwarrow
$\ntwoheadswarrow$ \ntwoheadswarrow
$\ntwoheadsearrow$ \ntwoheadsearrow
$\nrightarrowtail$ \nrightarrowtail
$\nuparrowtail$ \nuparrowtail
$\nleftarrowtail$ \nleftarrowtail
$\ndownarrowtail$ \ndownarrowtail
$\nnearrowtail$ \nnearrowtail
$\nnwarrowtail$ \nnwarrowtail
$\nswarrowtail$ \nswarrowtail
$\nsearrowtail$ \nsearrowtail
$\nrightmapsto$ \nrightmapsto, \nmapsto
$\nupmapsto$ \nupmapsto, \nmapsup
$\nleftmapsto$ \nleftmapsto, \nmapsfrom
$\ndownmapsto$ \ndownmapsto, \nmapsdown
$\nnemapsto$ \nnemapsto
$\nnwmapsto$ \nnwmapsto
$\nswmapsto$ \nswmapsto
$\nsemapsto$ \nsemapsto
$\nlhookrightarrow$ \nlhookrightarrow, \nhookrightarrow

↧ \nlhookuparrow
↚ \nlhookleftarrow
↧ \nlhookdownarrow
↗ \nlhooknearrow
↖ \nlhooknwarrow, \nhknwarrow
↙ \nlhookswarrow
↘ \nlhooksearrow, \nhksearrow
↛ \nrhookrightarrow
↥ \nrhookuparrow
↛ \nrhookleftarrow, \nhookleftarrow
↧ \nrhookdownarrow
↗ \nrhooknearrow, \nhknearrow
↖ \nrhooknwarrow
↙ \nrhookswarrow, \nhkswarrow
↘ \nrhooksearrow
⇀ \nrightharpoonup
↿ \nupharpoonleft
⇁ \nleftharpoondown
↾ \ndownharpoonright
↗ \nneharpoonnw
↖ \nnwharpoonsw
↗ \nswharpoonse
↖ \nseharpoonne
⇁ \nrightharpoondown
↾ \nupharpoonright, \nrestriction
↼ \nleftharpoonup
↿ \ndownharpoonleft
↗ \nneharpoonse
↖ \nnwharpoonne
↙ \nswharpoonnw
↙ \nseharpoonsw
↮ \nleftrightharpoonupdown
↿ \nupdownharpoonleftright
↗ \nneswharpoonnwse
↖ \nnwseharpoonnesw
↮ \nleftrightharpoondownup
↿ \nupdownharpoonrightleft
↙ \nneswharpoonsenw
↖ \nnwseharpoonswne
⇌ \nrightleftharpoons
↿ \nupdownharpoons, \nupdownharpoonsleftright
↗ \nneswharpoons
↖ \nsenwharpoons
⇌ \nleftrightharpoons
↿ \ndownupharpoons, \ndownupharpoonsleftright
↗ \nswneharpoons
↖ \nnwseharpoons
⇢ \nrightbkarrow, \ndasharrow, \ndashrightarrow
↥ \nupbkarrow
⇠ \nleftbkarrow, \ndashleftarrow
↧ \ndownbkarrow
↗ \nnebkarrow
↖ \nnwbkarrow
↙ \nswbkarrow
↘ \nsebkarrow
⇻ \nrightspoon, \nmultimap
↥ \nupspoon, \ncirmid
⇺ \nleftspoon, \nmultimapinv
↧ \ndownspoon, \nmidcir
⇻ \nrightblackspoon
↥ \nupblackspoon
⇺ \nleftblackspoon
↧ \ndownblackspoon
⇾ \nrightpitchfork
⇂ \nuppitchfork, \npitchfork
⇽ \nleftpitchfork
↡ \ndownpitchfork
⇉ \nrightrightarrows
⇈ \nupuparrows
⇇ \nleftleftarrows
⇊ \ndowndownarrows
↗ \nnenearrows
↖ \nnwnwarrows
↙ \nswswarrows
↘ \nsesearrows
⇄ \nrightleftarrows
⇅ \nupdownarrows

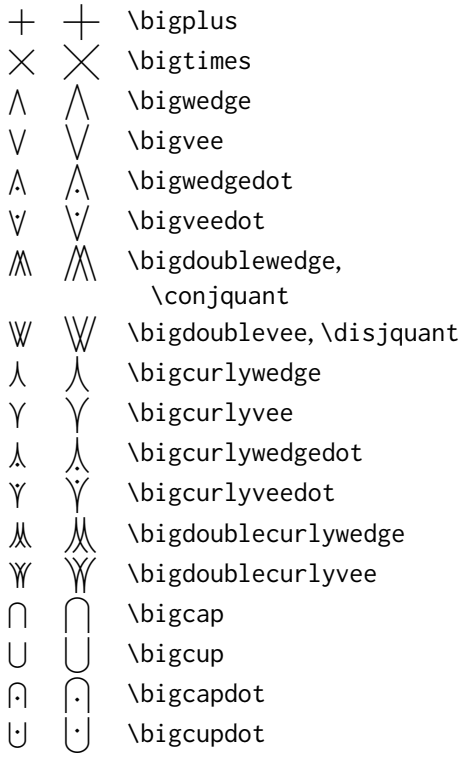
$\nneswarrows$ \nneswarrows
$\nnwsearrows$ \nnwsearrows
$\nleftrightarrows$ \nleftrightarrows
$\ndownuparrows$ \ndownuparrows
$\nswnearrows$ \nswnearrows
$\nsenwarrows$ \nsenwarrows
$\nrightlsquigarrow$ \nrightlsquigarrow, \nleadsto, \nrightsquigarrow
$\nuplsquigarrow$ \nuplsquigarrow
$\nleftlsquigarrow$ \nleftlsquigarrow
$\ndownlsquigarrow$ \ndownlsquigarrow
$\nrightrsquigarrow$ \nrightrsquigarrow
$\nuprsquigarrow$ \nuprsquigarrow
$\nleftrsquigarrow$ \nleftrsquigarrow, \nleftsquigarrow
$\ndownrsquigarrow$ \ndownrsquigarrow
$\nleftrightsquigarrow$ \nleftrightsquigarrow
$\nupdownsquigarrow$ \nupdownsquigarrow
$\nrightleftsquigarrow$ \nrightleftsquigarrow
$\ndownupsquigarrow$ \ndownupsquigarrow
$\nrightlcurvearrow$ \nrightlcurvearrow, \ncurvearrowright
$\nuplcurvearrow$ \nuplcurvearrow
$\nleftlcurvearrow$ \nleftlcurvearrow
$\ndownlcurvearrow$ \ndownlcurvearrow, \ncwrightarcarrow
$\nnelcurvearrow$ \nnelcurvearrow
$\nnwlcurvearrow$ \nnwlcurvearrow
$\nswlcurvearrow$ \nswlcurvearrow, \ncwundercurvearrow
$\nselcurvearrow$ \nselcurvearrow
$\nrightrcurvearrow$ \nrightrcurvearrow, \nacwunderarcarrow
$\nuprcurvearrow$ \nuprcurvearrow
$\nleftrcurvearrow$ \nleftrcurvearrow, \ncurvearrowleft, \nacwoverarcarrow
$\ndownrcurvearrow$ \ndownrcurvearrow, \nacwleftarcarrow
$\nnercurvearrow$ \nnercurvearrow
$\nnwrcurvearrow$ \nnwrcurvearrow
$\nswrcurvearrow$ \nswrcurvearrow
$\nsercurvearrow$ \nsercurvearrow, \nccwundercurvearrow
$\nleftrightcurvearrow$ \nleftrightcurvearrow
$\nupdowncurvearrow$ \nupdowncurvearrow
$\nrightleftcurvearrow$ \nrightleftcurvearrow
$\ndownupcurvearrow$ \ndownupcurvearrow
$\nneswcurvearrow$ \nneswcurvearrow
$\nnwsecurvearrow$ \nnwsecurvearrow
$\nswnecurvearrow$ \nswnecurvearrow
$\nsenwcurvearrow$ \nsenwcurvearrow
$\nleftfootline$ \nleftfootline, \nvlongdash
$\nrightfootline$ \nrightfootline, \nlongdashv
$\nacwcirclearrowup$ \nacwcirclearrowup
$\nacwcirclearrowleft$ \nacwcirclearrowleft, \ncirclearrowleft, \nacwopencirclearrow
$\nacwcirclearrowdown$ \nacwcirclearrowdown, \nacwgapcirclearrow
$\nacwcirclearrowright$ \nacwcirclearrowright
$\ncwcirclearrowdown$ \ncwcirclearrowdown, \ncwgapcirclearrow
$\ncwcirclearrowright$ \ncwcirclearrowright, \ncirclearrowright, \ncwopencirclearrow
$\ncwcirclearrowup$ \ncwcirclearrowup
$\ncwcirclearrowleft$ \ncwcirclearrowleft
$\nRrightarrow$ \nRrightarrow
$\nUuparrow$ \nUuparrow
$\nLleftarrow$ \nLleftarrow
$\nDdownarrow$ \nDdownarrow
$\nrightvdash$ \nrightvdash, \nvdash, \nassert
$\nupvdash$ \nupvdash, \nperp
$\nleftvdash$ \nleftvdash, \ndashv
$\ndownvdash$ \ndownvdash
$\nrightvDash$ \nrightvDash, \nvDash, \nmodels
$\nupvDash$ \nupvDash, \nVbar
$\nleftvDash$ \nleftvDash, \nDashv
$\ndownvDash$ \ndownvDash, \nbarV
$\nrightVdash$ \nrightVdash, \nVdash
$\nupVdash$ \nupVdash

⊬	\nleftVdash, \ndashV
⊭	\ndownVdash
⊮	\nrightVDash, \nVDash
⊯	\nupVDash
⊬	\nleftVDash, \nDashV
⊭	\ndownVDash
:	:, \mathratio
::	\Colon
–	\relbar
⋊	\rJoin
⋉	\lJoin
⋈	\bowtie, \Join
∝	\propto, \varpropto
∞	\backpropto, \propfrom
≍	\crossing
≬	\between
)(	\separated
ı	\shortmid
|	\mid, \divides
∤	\nshortmid
∤	\nmid, \ndivides
ıı	\shortparallel
||	\parallel
∦	\nshortparallel
∦	\nparallel

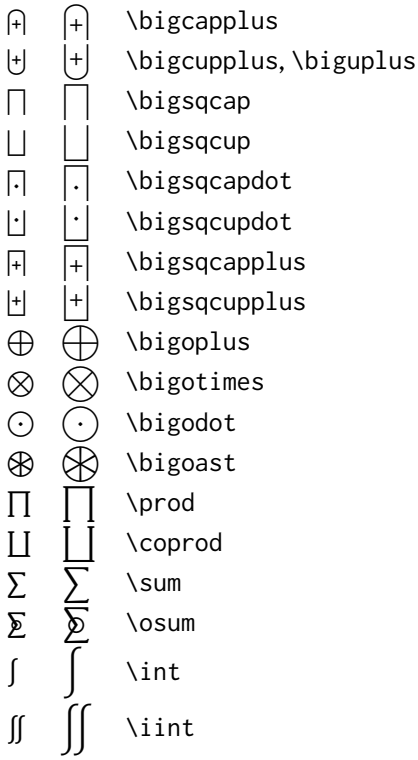
4.4 Punctuation symbols

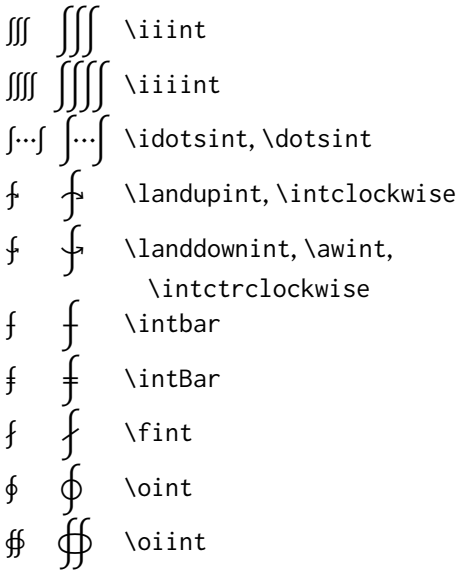
·	\cdotp
:	\colon, \mathcolon

4.5 Large operators

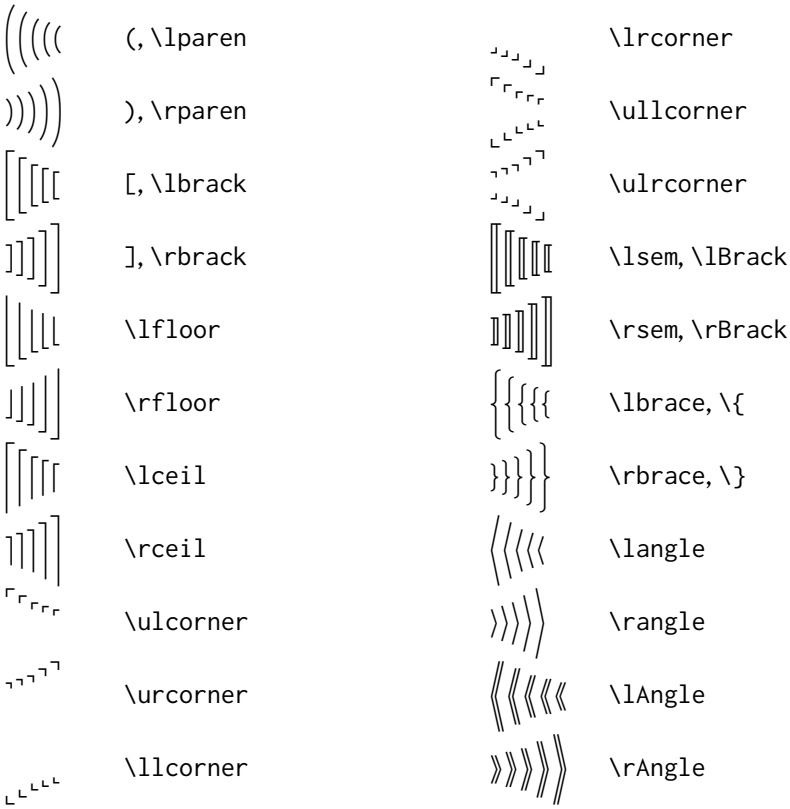


+	+	\bigplus
×	×	\bigtimes
∧	∧	\bigwedge
∨	∨	\bigvee
⋀	⋀	\bigwedgedot
⋁	⋁	\bigveedot
⋀⋀	⋀⋀	\bigdoublewedge, \conjquant
⋁⋁	⋁⋁	\bigdoublevee, \disjquant
⋏	⋏	\bigcurlywedge
⋎	⋎	\bigcurlyvee
⋏	⋏	\bigcurlywedgedot
⋎	⋎	\bigcurlyveedot
⋏⋏	⋏⋏	\bigdoublecurlywedge
⋎⋎	⋎⋎	\bigdoublecurlyvee
∩	∩	\bigcap
∪	∪	\bigcup
⋂	⋂	\bigcapdot
⋃	⋃	\bigcupdot
⋂	⋂	\bigcapplus
⋃	⋃	\bigcupplus, \biguplus
⊓	⊓	\bigsqcap
⊔	⊔	\bigsqcup
⋂	⋂	\bigsqcapdot
⋃	⋃	\bigsqcupdot
⋂	⋂	\bigsqcapplus
⋃	⋃	\bigsqcupplus
⊕	⊕	\bigoplus
⊗	⊗	\bigotimes
⊙	⊙	\bigodot
⊛	⊛	\bigoast
∏	∏	\prod
∐	∐	\coprod
∑	∑	\sum
⊱	⊱	\osum
∫	∫	\int
∬	∬	\iint





4.6 Delimiters and accents



\langledot

\rangledot

/, \mathslash

\backslash

|, \vert

\lvert

\rvert

\Vert, \|

\lVert

\rVert

\Vvert

\lVvert

\rVvert

\arrowvert

\Arrowvert

\lgroup

\rgroup

\lmoustache

\rmoustache

\bracevert

\uparrow

\downarrow

\updownarrow

\Uparrow

\Downarrow

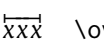
\Updownarrow

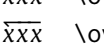
\overbrace

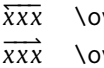
\underbrace

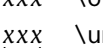
\overgroup

\undergroup


\overlinesegment


\overleftharpoon


\overrightharpoon


\underlinesegment

\sqrt

\widehat

\widetilde

\wideparen

\vec

\middlebar

\middleslash

\strokethrough

4.7 Faked symbols

The following symbols are taken from the text font or another math font (in case of `\Re` and `\Im`).

†	\dagger	ℜ	\Re
‡	\ddagger	ℑ	\Im
¶	\mathparagraph	ℏ	\hbar
§	\mathsection	ℏ	\hslash
$	\mathdollar	®	\circledR
£	\mathsterling	Ⓢ	\circledS
¥	\yen		

4.8 Missing symbols

The following symbols from Computer Modern or the AMS fonts are missing in FdSymbol. If available, they should be taken from the text font.

\mho	\varkappa	\lhook
\nabla	\Bbbk	\rhook
\eth	\backepsilon	\diagup
\digamma	\mapstochar	\diagdown

5 Implementation

```
⟨*style⟩
\RequirePackage{xkeyval}
```

We use xkeyval's key mechanism to declare all options. The first options determines the size of delimiters.

```
\define@boolkey{fdsymbol.sty}[fdsy@]{largedelims}[true]{}
```

The next option allows to scale the fonts by an arbitrary factor.

```
\newcommand{\fdsy@scale}{1.0}
\define@key{fdsymbol.sty}{scale}{\renewcommand\fdsy@scale{#1}}
```

The following two options control which weights are used for which math version and font size.

```
\newcommand\fdsy@mweight{Book}
\newcommand\fdsy@msweight{Book}
\newcommand\fdsy@bweight{Medium}
\newcommand\fdsy@bsweight{Medium}
\define@choicekey*{fdsymbol.sty}{normalweight}[\@tempa\@tempb]{book,regular,auto}{%
  \ifcase\@tempb\relax
    \renewcommand\fdsy@mweight{Book}
    \renewcommand\fdsy@msweight{Book}
  \or
    \renewcommand\fdsy@mweight{Regular}
    \renewcommand\fdsy@msweight{Regular}
  \or
```

```
    \renewcommand\fdsy@mweight{Book}
    \renewcommand\fdsy@msweight{Regular}
  \fi
}
\define@choicekey*{fdsymbol.sty}{boldweight}[\@tempa\@tempb]{medium,bold,auto}{%
  \ifcase\@tempb\relax
    \renewcommand\fdsy@bweight{Medium}
    \renewcommand\fdsy@bsweight{Medium}
  \or
    \renewcommand\fdsy@bweight{Bold}
    \renewcommand\fdsy@bsweight{Bold}
  \or
    \renewcommand\fdsy@bweight{Medium}
    \renewcommand\fdsy@bsweight{Bold}
  \fi
}

\ExecuteOptionsX{largedelims=false}
\ProcessOptionsX
```

Load external packages, but only if they are not already loaded in order to avoid warning messages about loading a package twice with different options.

```
\@ifpackageloaded{amsmath}{}{\RequirePackage{amsmath}}
\@ifpackageloaded{textcomp}{}{\RequirePackage{textcomp}}
\@ifundefined{mathfrak}{\RequirePackage{eufrak}}{}
```

If the option largedelims has been selected, we readjust the scaling factors of big delimiters, so that \Big, \bigg and \Bigg do not change their size.

```
\iffdsy@largedelims
  \renewcommand{\Big}{\bBigg@{1.25}}
  \renewcommand{\bigg}{\bBigg@{1.66}}
  \renewcommand{\Bigg}{\bBigg@{2.08}}
\fi
```

Some symbols missing from FdSymbol can be obtained from other fonts or by combining several other symbols.

```
\DeclareRobustCommand{\dagger}{\fdsy@text{\textdagger}}
\DeclareRobustCommand{\ddagger}{\fdsy@text{\textdaggerdbl}}
\DeclareRobustCommand{\mathparagraph}{\fdsy@text{\textparagraph}}
\DeclareRobustCommand{\mathsection}{\fdsy@text{\textsection}}
\DeclareRobustCommand{\mathdollar}{\fdsy@text{\textdollar}}
\DeclareRobustCommand{\mathsterling}{\fdsy@text{\textsterling}}
\DeclareRobustCommand{\yen}{\fdsy@text{\textyen}}
\DeclareRobustCommand{\circledR}{\fdsy@text{\textcircled{%
  \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont R}}}
\DeclareRobustCommand{\circledS}{\fdsy@text{\textcircled{%
  \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont S}}}
```

```
\DeclareRobustCommand{\Re}{\mathfrak{R}}
\DeclareRobustCommand{\Im}{\mathfrak{I}}
\DeclareRobustCommand{\dotplus}{\mathbin{\dot{+}}}
\DeclareRobustCommand{\dotcong}{\mathrel{\dot{\cong}}}
\DeclareRobustCommand{\thicksim}{\mathrel{\text{\boldmath$\m@th\sim$}}}
\DeclareRobustCommand{\thickapprox}{\mathrel{\text{\boldmath$\m@th\approx$}}}
\let\hbar\undefined
\let\hslash\undefined
\DeclareRobustCommand{\hbar}{\middlebar h}
\DeclareRobustCommand{\hslash}{\middleslash h}
\DeclareRobustCommand{\veebar}{\mathbin{\underline{\vee}}}
\DeclareRobustCommand{\barwedge}{\mathbin{\overline{\wedge}}}
\DeclareRobustCommand{\veedoublebar}{\mathbin{\underline{\underline{\vee}}}}
\DeclareRobustCommand{\doublebarwedge}{\mathbin{\overline{\overline{\wedge}}}}
\DeclareRobustCommand{\centerdot}{\mathbin{\rule{0.15em}{0.15em}}}
\DeclareRobustCommand{\divideontimes}{\mathbin{\ooalign{$\div$\crcr$\times$}}}
```

Unneeded partial symbols.

```
\let\mapstochar\undefined
\let\lhook\undefined
\let\rhook\undefined
```

Shorthands to simplify the definitions below.

```
\newcommand\fdsy@setslot[1]{\@tempcnta #1\relax}
\newcommand\fdsy@nextslot{\advance\@tempcnta 1\relax}
\newcommand\fdsy@prevslot{\advance\@tempcnta-1\relax}

\newcommand\fdsy@@DeclareSymbol[4]{\DeclareMathSymbol{#2}{#3}{#4}{#1}}
\newcommand\fdsy@DeclareSymbol[3]{%
  \if\relax\noexpand#1\let#1\undefined\fi
  \expandafter\fdsy@@DeclareSymbol\expandafter{\the\@tempcnta}{#1}{#3}{#2}%
  \fdsy@nextslot
}
\newcommand\fdsy@DeclareAlias[3]{\fdsy@prevslot\fdsy@DeclareSymbol{#1}{#2}{#3}}
\newcommand\fdsy@DeclareOperator[3]{\def#1{\DOTSB#3\slimits@}}
\newcommand\fdsy@DeclareIntegral[3]{\def#1{\DOTSI#3\ilimits@}}
\newcommand\fdsy@DeclareDelimiter[4]{%
  \if\relax\noexpand#1\let#1\undefined\fi
  \DeclareMathDelimiter{#1}{#2}{#3}{#4}{#3}{#4}%
}
\newcommand\fdsy@DeclareOpen[3]{\fdsy@DeclareDelimiter{#1}{\mathopen}{#2}{#3}}
\newcommand\fdsy@DeclareClose[3]{\fdsy@DeclareDelimiter{#1}{\mathclose}{#2}{#3}}
```

Font definitions.

```
\DeclareFontFamily{U}{FdSymbolA}{}
\DeclareFontFamily{U}{FdSymbolB}{}
\DeclareFontFamily{U}{FdSymbolC}{}
```

```
\DeclareFontFamily{U}{FdSymbolD}{}
\DeclareFontFamily{U}{FdSymbolE}{}
\DeclareFontFamily{U}{FdSymbolF}{}

\DeclareFontShape{U}{FdSymbolA}{m}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolA-\fdsy@msweight
    <7.1-> s * [\fdsy@scale] FdSymbolA-\fdsy@mweight
}{}
\DeclareFontShape{U}{FdSymbolA}{b}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolA-\fdsy@bsweight
    <7.1-> s * [\fdsy@scale] FdSymbolA-\fdsy@bweight
}{}
\DeclareFontShape{U}{FdSymbolB}{m}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolB-\fdsy@msweight
    <7.1-> s * [\fdsy@scale] FdSymbolB-\fdsy@mweight
}{}
\DeclareFontShape{U}{FdSymbolB}{b}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolB-\fdsy@bsweight
    <7.1-> s * [\fdsy@scale] FdSymbolB-\fdsy@bweight
}{}
\DeclareFontShape{U}{FdSymbolC}{m}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolC-\fdsy@msweight
    <7.1-> s * [\fdsy@scale] FdSymbolC-\fdsy@mweight
}{}
\DeclareFontShape{U}{FdSymbolC}{b}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolC-\fdsy@bsweight
    <7.1-> s * [\fdsy@scale] FdSymbolC-\fdsy@bweight
}{}
\DeclareFontShape{U}{FdSymbolD}{m}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolD-\fdsy@msweight
    <7.1-> s * [\fdsy@scale] FdSymbolD-\fdsy@mweight
}{}
\DeclareFontShape{U}{FdSymbolD}{b}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolD-\fdsy@bsweight
    <7.1-> s * [\fdsy@scale] FdSymbolD-\fdsy@bweight
}{}
\DeclareFontShape{U}{FdSymbolE}{m}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolE-\fdsy@msweight
    <7.1-> s * [\fdsy@scale] FdSymbolE-\fdsy@mweight
}{}
\DeclareFontShape{U}{FdSymbolE}{b}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolE-\fdsy@bsweight
    <7.1-> s * [\fdsy@scale] FdSymbolE-\fdsy@bweight
}{}
\DeclareFontShape{U}{FdSymbolF}{m}{n}{
```

```
    <-7.1> s * [\fdsy@scale] FdSymbolF-\fdsy@msweight
    <7.1-> s * [\fdsy@scale] FdSymbolF-\fdsy@mweight
}{}
\DeclareFontShape{U}{FdSymbolF}{b}{n}{
    <-7.1> s * [\fdsy@scale] FdSymbolF-\fdsy@bsweight
    <7.1-> s * [\fdsy@scale] FdSymbolF-\fdsy@bweight
}{}

\DeclareSymbolFont{symbols}{U}{FdSymbolA}{m}{n}
\DeclareSymbolFont{relations}{U}{FdSymbolB}{m}{n}
\DeclareSymbolFont{arrows}{U}{FdSymbolC}{m}{n}
\DeclareSymbolFont{narrows}{U}{FdSymbolD}{m}{n}
\DeclareSymbolFont{largesymbols}{U}{FdSymbolE}{m}{n}
\DeclareSymbolFont{delimiters}{U}{FdSymbolF}{m}{n}
\SetSymbolFont{symbols}{bold}{U}{FdSymbolA}{b}{n}
\SetSymbolFont{relations}{bold}{U}{FdSymbolB}{b}{n}
\SetSymbolFont{arrows}{bold}{U}{FdSymbolC}{b}{n}
\SetSymbolFont{narrows}{bold}{U}{FdSymbolD}{b}{n}
\SetSymbolFont{largesymbols}{bold}{U}{FdSymbolE}{b}{n}
\SetSymbolFont{delimiters}{bold}{U}{FdSymbolF}{b}{n}
```

At the moment, we still use cmsy for the calligraphic alphabet.

```
\DeclareMathAlphabet{\mathcal}{OMS}{cmsy}{m}{n}
\SetMathAlphabet{\mathcal}{bold}{OMS}{cmsy}{b}{n}
```

A command to take math symbols from text fonts.

```
\newcommand\fdsy@bold{bold}
\newcommand\fdsy@text[1]{%
  \ifx\fdsy@bold\math@version
    \text{\bfseries#1}%
  \else
    \text{\mdseries#1}%
  \fi
}
```

FdSymbolA: binary operators and ordinary symbols

```
\fdsy@setslot{0}
\fdsy@DeclareSymbol{\cdot}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\cdotp}{symbols}{\mathpunct}
\fdsy@DeclareSymbol{\hdotdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\vdotdot}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\colon}{symbols}{\mathpunct}
  \fdsy@DeclareAlias{\mathcolon}{symbols}{\mathpunct}
  \fdsy@DeclareAlias{\mathratio}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\udotdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\ddotdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\hdots}{symbols}{\mathord}
```

```
  \fdsy@DeclareAlias{\@cdots}{symbols}{\mathinner}
  \let\cdots\@cdots
\fdsy@DeclareSymbol{\@vdots}{symbols}{\mathord}
\DeclareRobustCommand{\vdots}{\ifmmode\@vdots\else\hbox{$\@vdots$}\fi}
\fdsy@DeclareSymbol{\udots}{symbols}{\mathord}
  \fdsy@DeclareAlias{\adots}{symbols}{\mathord}
\fdsy@DeclareSymbol{\ddots}{symbols}{\mathord}
\fdsy@DeclareSymbol{\righttherefore}{symbols}{\mathord}
\fdsy@DeclareSymbol{\uptherefore}{symbols}{\mathord}
  \fdsy@DeclareAlias{\therefore}{symbols}{\mathord}
\fdsy@DeclareSymbol{\leftthere fore}{symbols}{\mathord}
\fdsy@DeclareSymbol{\downtherefore}{symbols}{\mathord}
  \fdsy@DeclareAlias{\because}{symbols}{\mathord}
\fdsy@DeclareSymbol{\squaredots}{symbols}{\mathord}
  \fdsy@DeclareAlias{\Colon}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\minus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medslash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smalldivslash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medbackslash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smallsetminus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\plus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\times}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\pm}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\mp}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\dotminus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\minusdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\minusfdots}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\minusrdots}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\dotsminusdots}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\div}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\neg}{symbols}{\mathord}
  \fdsy@DeclareAlias{\lnot}{symbols}{\mathord}
  \fdsy@DeclareAlias{\minushookdown}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\backneg}{symbols}{\mathord}
  \fdsy@DeclareAlias{\hookdownminus}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\invneg}{symbols}{\mathord}
  \fdsy@DeclareAlias{\invnot}{symbols}{\mathord}
\fdsy@DeclareSymbol{\intprod}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\minushookup}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\turnedneg}{symbols}{\mathord}
  \fdsy@DeclareAlias{\turnednot}{symbols}{\mathord}
\fdsy@DeclareSymbol{\intprodr}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\hookupminus}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\turnedbackneg}{symbols}{\mathord}
\fdsy@DeclareSymbol{\leftthreetimes}{symbols}{\mathbin}
```

```
\fdsy@DeclareSymbol{\rightthreetimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\dtimes}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\btimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\rtimes}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\rJoin}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\utimes}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\ttimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\ltimes}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\lJoin}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\bowtie}{symbols}{\mathrel}
  \fdsy@DeclareAlias{\Join}{symbols}{\mathrel}
  \fdsy@DeclareAlias{\lrtimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\upbowtie}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\hourglass}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\rightY}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\upY}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\leftY}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\downY}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\wedge}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\land}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\vee}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\lor}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\wedgedot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\veedot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublewedge}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\wedgeonwedge}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublevee}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\veeonvee}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\curlywedge}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\curlyvee}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\curlywedgedot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\curlyveedot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublecurlywedge}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublecurlyvee}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\cup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\cap}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublecup}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\Cup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublecap}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\Cap}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\cupdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\capdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\cupplus}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\uplus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\capplus}{symbols}{\mathbin}
```

```
\fdsy@DeclareSymbol{\sqcup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\sqcap}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublesqcup}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\Sqcup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\doublesqcap}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\Sqcap}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\sqcupdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\sqcapdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\sqcupplus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\sqcapplus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\pullback}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\pushout}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smalltriangleright}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smalltriangleup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smalltriangleleft}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smalltriangledown}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblacktriangleright}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblacktriangleup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblacktriangleleft}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblacktriangledown}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medtriangleright}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\triangleright}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medtriangleup}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\triangle}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\vartriangle}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medtriangleleft}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\triangleleft}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medtriangledown}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\triangledown}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblacktriangleright}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\blacktriangleright}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblacktriangleup}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\blacktriangle}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblacktriangleleft}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\blacktriangleleft}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblacktriangledown}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\blacktriangledown}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\largetriangleup}{symbols}{\mathord}
  \fdsy@DeclareAlias{\bigtriangleup}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\largetriangledown}{symbols}{\mathord}
  \fdsy@DeclareAlias{\bigtriangledown}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallcircle}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\circ}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smwhtcircle}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblackcircle}{symbols}{\mathbin}
```

```
  \fdsy@DeclareAlias{\bullet}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smblkcircle}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medcircle}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdlgwhtcircle}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblackcircle}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdlgblkcircle}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\ominus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\overt}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\circledvert}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\oslash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\obackslash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\obslash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\oplus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\otimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\odot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\ocirc}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\circledcirc}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\oast}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\circledast}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\odash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\circleddash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\oequal}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\circledequal}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\emptyset}{symbols}{\mathord}
  \fdsy@DeclareAlias{\diameter}{symbols}{\mathord}
  \fdsy@DeclareAlias{\varnothing}{symbols}{\mathord}
\fdsy@DeclareSymbol{\revemptyset}{symbols}{\mathord}
\fdsy@DeclareSymbol{\largecircle}{symbols}{\mathord}
  \fdsy@DeclareAlias{\bigcirc}{symbols}{\mathord}
  \fdsy@DeclareAlias{\lgwhtcircle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\largeblackcircle}{symbols}{\mathord}
  \fdsy@DeclareAlias{\lgblkcircle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\smallsquare}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smwhtsquare}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblacksquare}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smblksquare}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medsquare}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\square}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\Box}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdlgwhtsquare}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdwhtsquare}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblacksquare}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdlgblksquare}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdblksquare}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxminus}{symbols}{\mathbin}
```

```
\fdsy@DeclareSymbol{\boxvert}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\boxbar}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxslash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\boxdiag}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxbackslash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\boxbslash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxplus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxtimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\boxbox}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\largesquare}{symbols}{\mathord}
  \fdsy@DeclareAlias{\lgwhtsquare}{symbols}{\mathord}
\fdsy@DeclareSymbol{\largeblacksquare}{symbols}{\mathord}
  \fdsy@DeclareAlias{\lgblksquare}{symbols}{\mathord}
\fdsy@DeclareSymbol{\smalldiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\diamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smwhtdiamond}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblackdiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\blackdiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smblkdiamond}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\meddiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\Diamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdlgwhtdiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdwhtdiamond}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblackdiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdlgblkdiamond}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\mdblkdiamond}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamondminus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamondvert}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamondslash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamondbackslash}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\diamondbslash}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamondplus}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamondtimes}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamonddot}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\diamondcdot}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\diamonddiamond}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smalllozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\smwhtlozenge}{symbols}{\mathord}
\fdsy@DeclareSymbol{\smallblacklozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\smblklozenge}{symbols}{\mathord}
\fdsy@DeclareSymbol{\medlozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\lozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\mdlgwhtlozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\mdwhtlozenge}{symbols}{\mathord}
```

```
\fdsy@DeclareSymbol{\medblacklozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\blacklozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\mdlgblklozenge}{symbols}{\mathord}
  \fdsy@DeclareAlias{\mdblklozenge}{symbols}{\mathord}
\fdsy@DeclareSymbol{\lozengeminus}{symbols}{\mathord}
\fdsy@DeclareSymbol{\smallwhitestar}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\smwhitestar}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallblackstar}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\star}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medwhitestar}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\medblackstar}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\medstar}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\largewhitestar}{symbols}{\mathord}
\fdsy@DeclareSymbol{\largeblackstar}{symbols}{\mathord}
  \fdsy@DeclareAlias{\bigstar}{symbols}{\mathord}
\fdsy@DeclareSymbol{\ast}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\infty}{symbols}{\mathord}
\fdsy@DeclareSymbol{\propto}{symbols}{\mathrel}
  \fdsy@DeclareAlias{\varpropto}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\backpropto}{symbols}{\mathrel}
  \fdsy@DeclareAlias{\propfrom}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\crossing}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\between}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\separated}{symbols}{\mathrel}
\fdsy@DeclareSymbol{\bot}{symbols}{\mathord}
\fdsy@DeclareSymbol{\top}{symbols}{\mathord}
  \fdsy@DeclareAlias{\intercal}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\wreath}{symbols}{\mathbin}
  \fdsy@DeclareAlias{\wr}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\angle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\revangle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\measuredangle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\revmeasuredangle}{symbols}{\mathord}
  \fdsy@DeclareAlias{\measuredangleleft}{symbols}{\mathord}
\fdsy@DeclareSymbol{\sphericalangle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\sphericalangleup}{symbols}{\mathord}
\fdsy@DeclareSymbol{\sphericalangleleft}{symbols}{\mathord}
  \fdsy@DeclareAlias{\revsphericalangle}{symbols}{\mathord}
  \fdsy@DeclareAlias{\gtlpar}{symbols}{\mathord}
\fdsy@DeclareSymbol{\sphericalangledown}{symbols}{\mathord}
\fdsy@DeclareSymbol{\rightangle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\measuredrightangle}{symbols}{\mathord}
\fdsy@DeclareSymbol{\rightanglesquare}{symbols}{\mathord}
  \fdsy@DeclareAlias{\rightanglesqr}{symbols}{\mathord}
\fdsy@DeclareSymbol{\measuredrightangledot}{symbols}{\mathord}
```

```
  \fdsy@DeclareAlias{\rightanglemdot}{symbols}{\mathord}
\fdsy@DeclareSymbol{\prime}{symbols}{\mathord}
\fdsy@DeclareSymbol{\backprime}{symbols}{\mathord}
\fdsy@DeclareSymbol{\smallprod}{symbols}{\mathop}
\fdsy@DeclareSymbol{\smallcoprod}{symbols}{\mathop}
  \fdsy@DeclareAlias{\amalg}{symbols}{\mathbin}
\fdsy@DeclareSymbol{\smallint}{symbols}{\mathop}
\fdsy@DeclareSymbol{\checkmark}{symbols}{\mathord}
\fdsy@DeclareSymbol{\lightning}{symbols}{\mathord}
  \fdsy@DeclareAlias{\downzigzagarrow}{symbols}{\mathord}
\fdsy@DeclareSymbol{\diamondsuit}{symbols}{\mathord}
\fdsy@DeclareSymbol{\vardiamondsuit}{symbols}{\mathord}
\fdsy@DeclareSymbol{\heartsuit}{symbols}{\mathord}
\fdsy@DeclareSymbol{\varheartsuit}{symbols}{\mathord}
\fdsy@DeclareSymbol{\spadesuit}{symbols}{\mathord}
\fdsy@DeclareSymbol{\clubsuit}{symbols}{\mathord}
\fdsy@DeclareSymbol{\maltese}{symbols}{\mathord}
\fdsy@DeclareSymbol{\starofdavid}{symbols}{\mathord}
\fdsy@DeclareSymbol{\sector}{symbols}{\mathord}
\fdsy@DeclareSymbol{\forall}{symbols}{\mathord}
\fdsy@DeclareSymbol{\exists}{symbols}{\mathord}
\fdsy@DeclareSymbol{\nexists}{symbols}{\mathord}
\fdsy@DeclareSymbol{\Finv}{symbols}{\mathord}
\fdsy@DeclareSymbol{\Game}{symbols}{\mathord}
\fdsy@DeclareSymbol{\complement}{symbols}{\mathord}
\fdsy@DeclareSymbol{\flat}{symbols}{\mathord}
\fdsy@DeclareSymbol{\natural}{symbols}{\mathord}
\fdsy@DeclareSymbol{\sharp}{symbols}{\mathord}
\fdsy@DeclareSymbol{\aleph}{symbols}{\mathord}
\fdsy@DeclareSymbol{\beth}{symbols}{\mathord}
\fdsy@DeclareSymbol{\gimel}{symbols}{\mathord}
\fdsy@DeclareSymbol{\daleth}{symbols}{\mathord}
\fdsy@DeclareSymbol{\wp}{symbols}{\mathord}
```

FdSymbolB: relations

```
\fdsy@setslot{0}
\fdsy@DeclareSymbol{\equal}{relations}{\mathrel}
\fdsy@DeclareSymbol{\equiv}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\backsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\approx}{relations}{\mathrel}
\fdsy@DeclareSymbol{\triplesim}{relations}{\mathrel}
  \fdsy@DeclareAlias{\approxident}{relations}{\mathrel}
\fdsy@DeclareSymbol{\simeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\backsimeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\eqsim}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\cong}{relations}{\mathrel}
\fdsy@DeclareSymbol{\backcong}{relations}{\mathrel}
\fdsy@DeclareSymbol{\approxeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\bumpeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\bumpeqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\Bumpeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\doteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\eqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\Doteq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\doteqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\fallingdotseq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\risingdotseq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\smile}{relations}{\mathrel}
  \fdsy@DeclareAlias{\smallsmile}{relations}{\mathrel}
\fdsy@DeclareSymbol{\frown}{relations}{\mathrel}
  \fdsy@DeclareAlias{\smallfrown}{relations}{\mathrel}
\fdsy@DeclareSymbol{\smilefrown}{relations}{\mathrel}
  \fdsy@DeclareAlias{\asymp}{relations}{\mathrel}
\fdsy@DeclareSymbol{\frownsmile}{relations}{\mathrel}
  \fdsy@DeclareAlias{\closure}{relations}{\mathrel}
\fdsy@DeclareSymbol{\smileeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\frowneq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\arceq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\eqcirc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\circeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\wedgeq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\hateq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\veeeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\stareq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\triangleeq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\triangleq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\in}{relations}{\mathrel}
\fdsy@DeclareSymbol{\owns}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ni}{relations}{\mathrel}
\fdsy@DeclareSymbol{\less}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\le}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ge}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leqslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geqslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lesssim}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\gtrsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lessapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtrapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lessgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtrless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lesseqgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtreqless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lesseqqgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtreqqless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lesseqgtrslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtreqlessslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ll}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gg}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lll}{relations}{\mathrel}
  \fdsy@DeclareAlias{\llless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ggg}{relations}{\mathrel}
  \fdsy@DeclareAlias{\gggtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lessclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\lhd}{relations}{\mathbin}
  \fdsy@DeclareAlias{\vartriangleleft}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtrclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\rhd}{relations}{\mathbin}
  \fdsy@DeclareAlias{\vartriangleright}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leqclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\unlhd}{relations}{\mathbin}
  \fdsy@DeclareAlias{\trianglelefteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geqclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\unrhd}{relations}{\mathbin}
  \fdsy@DeclareAlias{\trianglerighteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lesscc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ltcc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtrcc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\gtcc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leqslcc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\lescc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geqslcc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\gescc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsubset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsupset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsubseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsupseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsubseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsupseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\Sqsubset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\Sqsupset}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\subset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\supset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\subseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\supseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\subseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\supseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\Subset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\Supset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\prec}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succ}{relations}{\mathrel}
\fdsy@DeclareSymbol{\preceq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\preccurlyeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succcurlyeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\preceqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succeqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\precsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\precapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lessdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtrdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\leqslantdot}{relations}{\mathrel}
  \fdsy@DeclareAlias{\lesdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\geqslantdot}{relations}{\mathrel}
  \fdsy@DeclareAlias{\gesdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\eqslantless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\eqslantgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\curlyeqprec}{relations}{\mathrel}
\fdsy@DeclareSymbol{\curlyeqsucc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nequal}{relations}{\mathrel}
  \fdsy@DeclareAlias{\neq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ne}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nequiv}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nbacksim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\napprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ntriplesim}{relations}{\mathrel}
  \fdsy@DeclareAlias{\napproxident}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsimeq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nsime}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nbacksimeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\neqsim}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\ncong}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nbackcong}{relations}{\mathrel}
\fdsy@DeclareSymbol{\napproxeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nbumpeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nbumpeqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nBumpeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ndoteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\neqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nDoteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nfallingdotseq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nrisingdotseq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsmile}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nfrown}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsmilefrown}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nasymp}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nfrownsmile}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nclosure}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsmileeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nfrowneq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\narceq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\neqcirc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ncirceq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nwedgeq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nhateq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nveeeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nstareq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ntriangleeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nin}{relations}{\mathrel}
  \fdsy@DeclareAlias{\notin}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nowns}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nni}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleqslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeqslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlesssim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtrsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlessapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtrapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlessgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtrless}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\nlesseqgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtreqless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlesseqqgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtreqqless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlesseqgtrslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtreqlessslant}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nll}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngg}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlll}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nggg}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlessclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ntriangleleft}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtrclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ntriangleright}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleqclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ntrianglelefteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeqclosed}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ntrianglerighteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlesscc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nltcc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtrcc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ngtcc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleqslcc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nlescc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeqslcc}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ngescc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsqsubset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsqsupset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsqsubseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsqsupseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsqsubseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsqsupseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nSqsubset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nSqsupset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsubset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsupset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsubseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsupseteq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsubseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsupseteqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nSubset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nSupset}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nprec}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsucc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\npreceq}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\nsucceq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\npreccurlyeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsucccurlyeq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\npreceqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsucceqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nprecsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsuccsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nprecapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nsuccapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nlessdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngtrdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeqdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\nleqslantdot}{relations}{\mathrel}
  \fdsy@DeclareAlias{\nlesdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ngeqslantdot}{relations}{\mathrel}
  \fdsy@DeclareAlias{\ngesdot}{relations}{\mathrel}
\fdsy@DeclareSymbol{\neqslantless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\neqslantgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ncurlyeqprec}{relations}{\mathrel}
\fdsy@DeclareSymbol{\ncurlyeqsucc}{relations}{\mathrel}
\fdsy@DeclareSymbol{\simneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\backsimneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lneqq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\lvertneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gneqq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\gvertneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lnsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gnsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lnapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gnapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\lessneqqgtr}{relations}{\mathrel}
\fdsy@DeclareSymbol{\gtrneqqless}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsubsetneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsupsetneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsubsetneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\sqsupsetneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\subsetneq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\varsubsetneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\supsetneq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\varsupsetneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\subsetneqq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\varsubsetneqq}{relations}{\mathrel}
```

```
\fdsy@DeclareSymbol{\supsetneqq}{relations}{\mathrel}
  \fdsy@DeclareAlias{\varsupsetneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\precneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succneq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\precneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succneqq}{relations}{\mathrel}
\fdsy@DeclareSymbol{\precnsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succnsim}{relations}{\mathrel}
\fdsy@DeclareSymbol{\precnapprox}{relations}{\mathrel}
\fdsy@DeclareSymbol{\succnapprox}{relations}{\mathrel}

\DeclareRobustCommand{\coloneq}{\mathrel{{\vdotdot}{\equal}}}
\let\coloneqq\coloneq
```

FdSymbolC: arrows

```
\fdsy@setslot{0}
\fdsy@DeclareSymbol{\rightarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\to}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uparrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftarrow}{arrows}{\mathrel}
\fdsy@DeclareAlias{\gets}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\searrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Rightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Uparrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Leftarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Downarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Nearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Nwarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Swarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Searrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updownarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neswarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwsearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Leftrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Updownarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Neswarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Nwsearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheadrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheaduparrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheadleftarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheaddownarrow}{arrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\twoheadnearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheadnwarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheadswarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\twoheadsearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightarrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uparrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftarrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downarrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nearrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwarrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swarrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\searrowtail}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightmapsto}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\mapsto}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upmapsto}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\mapsup}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftmapsto}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\mapsfrom}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downmapsto}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\mapsdown}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nemapsto}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwmapsto}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swmapsto}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\semapsto}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhookrightarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\hookrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhookuparrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhookleftarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhookdownarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhooknearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhooknwarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\hknwarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhookswarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\lhooksearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\hksearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhookrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhookuparrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhookleftarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\hookleftarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhookdownarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhooknearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\hknearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhooknwarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rhookswarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\hkswarrow}{arrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\rhooksearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightharpoonup}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upharpoonleft}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftharpoondown}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downharpoonright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neharpoonnw}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwharpoonsw}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swharpoonse}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\seharpoonne}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightharpoondown}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upharpoonright}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\restriction}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftharpoonup}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downharpoonleft}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neharpoonse}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwharpoonne}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swharpoonnw}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\seharpoonsw}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightharpoonupdown}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updownharpoonleftright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neswharpoonnwse}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwseharpoonnesw}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightharpoondownup}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updownharpoonrightleft}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neswharpoonsenw}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwseharpoonswne}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightleftharpoons}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updownharpoons}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\updownharpoonsleftright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neswharpoons}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\senwharpoons}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightharpoons}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downupharpoons}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\downupharpoonsleftright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swneharpoons}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwseharpoons}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightbkarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\dasharrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\dashrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upbkarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftbkarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\dashleftarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downbkarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nebkarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwbkarrow}{arrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\swbkarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\sebkarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightspoon}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\multimap}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upspoon}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\cirmid}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftspoon}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\multimapinv}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downspoon}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\midcir}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightblackspoon}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upblackspoon}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftblackspoon}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downblackspoon}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightpitchfork}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uppitchfork}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\pitchfork}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftpitchfork}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downpitchfork}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightrightarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upuparrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftleftarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downdownarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nenearrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwnwarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swswarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\sesearrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightleftarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updownarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neswarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwsearrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downuparrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swnearrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\senwarrows}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightlsquigarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\leadsto}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\rightsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uplsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftlsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downlsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightrsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uprsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrsquigarrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\leftsquigarrow}{arrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\downrsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updownsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightleftsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downupsquigarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightlcurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\curvearrowright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uplcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftlcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downlcurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\cwrightarcarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nelcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwlcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swlcurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\cwundercurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\selcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightrcurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\acwunderarcarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\uprcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrcurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\curvearrowleft}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\acwoverarcarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downrcurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\acwleftarcarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nercurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwrcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swrcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\sercurvearrow}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\ccwundercurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftrightcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\updowncurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightleftcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downupcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\neswcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\nwsecurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\swnecurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\senwcurvearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftfootline}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\vlongdash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightfootline}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\longdashv}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\acwcirclearrowup}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\acwcirclearrowleft}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\circlearrowleft}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\acwopencirclearrow}{arrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\acwcirclearrowdown}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\acwgapcirclearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\acwcirclearrowright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\cwcirclearrowdown}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\cwgapcirclearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\cwcirclearrowright}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\circlearrowright}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\cwopencirclearrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\cwcirclearrowup}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\cwcirclearrowleft}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Rrightarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Uuparrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Lleftarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Ddownarrow}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Lsh}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Rsh}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Ldsh}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Rdsh}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\looparrowright}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\looparrowleft}{arrows}{\mathrel}
\fdsy@setslot{224}
\fdsy@DeclareSymbol{\rightvdash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\vdash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\assert}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upvdash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\perp}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftvdash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\dashv}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downvdash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightvDash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\vDash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\models}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upvDash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\Vbar}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftvDash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\Dashv}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downvDash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\barV}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightVdash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\Vdash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upVdash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftVdash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\dashV}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downVdash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\rightVDash}{arrows}{\mathrel}
```

```
  \fdsy@DeclareAlias{\VDash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\upVDash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\leftVDash}{arrows}{\mathrel}
  \fdsy@DeclareAlias{\DashV}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\downVDash}{arrows}{\mathrel}
\fdsy@DeclareSymbol{\Vvdash}{arrows}{\mathrel}

\DeclareRobustCommand{\relbar}{\mathrel{\smash-}}
\DeclareRobustCommand{\Relbar}{\mathrel=}
\let\joinrel\undefined
\DeclareRobustCommand\joinrel{\mathrel{\mkern-4mu}}
\DeclareRobustCommand\longrightarrow{\DOTSB\relbar\joinrel\rightarrow}
\DeclareRobustCommand\longleftarrow{\DOTSB\leftarrow\joinrel\relbar}
\DeclareRobustCommand\longleftrightarrow{\DOTSB\leftarrow\joinrel\rightarrow}
\DeclareRobustCommand\Longrightarrow{\DOTSB\Relbar\joinrel\Rightarrow}
\DeclareRobustCommand\Longleftarrow{\DOTSB\Leftarrow\joinrel\Relbar}
\DeclareRobustCommand\Longleftrightarrow{\DOTSB\Leftarrow\joinrel\Rightarrow}
\DeclareRobustCommand\longmapsto{\DOTSB\leftfootline\mkern-7mu\rightarrow}
\DeclareRobustCommand\emptyblackspoon{\DOTSB\leftspoon\mkern-13mu\rightblackspoon}
\let\origof\emptyblackspoon
\DeclareRobustCommand\filledemptyspoon{\DOTSB\leftblackspoon\mkern-13mu\rightspoon}
\let\imageof\filledemptyspoon
\DeclareRobustCommand\leftrightspoon{\DOTSB\leftspoon\mkern-13mu\rightspoon}
\let\dualmap\leftrightspoon
\DeclareRobustCommand\leftrightblackspoon{\DOTSB\leftblackspoon\mkern-13mu\rightblackspoon}
```

FdSymbolD: stroked arrows

```
\fdsy@setslot{0}
\fdsy@DeclareSymbol{\nrightarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nto}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuparrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ngets}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nRightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nUparrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nLeftarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nDownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nNearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nNwarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nSwarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nSearrow}{narrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\nleftrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneswarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwsearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nLeftrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nUpdownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nNeswarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nNwsearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheadrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheaduparrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheadleftarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheaddownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheadnearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheadnwarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheadswarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ntwoheadsearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightarrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuparrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftarrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownarrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnearrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwarrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswarrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsearrowtail}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightmapsto}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmapsto}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupmapsto}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmapsup}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftmapsto}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmapsfrom}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownmapsto}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmapsdown}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnemapsto}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwmapsto}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswmapsto}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsemapsto}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhookrightarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nhookrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhookuparrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhookleftarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhookdownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhooknearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhooknwarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nhknwarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nlhookswarrow}{narrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\nlhooksearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nhksearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhookrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhookuparrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhookleftarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nhookleftarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhookdownarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhooknearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nhknearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhooknwarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhookswarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nhkswarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrhooksearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightharpoonup}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupharpoonleft}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftharpoondown}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownharpoonright}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneharpoonnw}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwharpoonsw}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswharpoonse}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nseharpoonne}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightharpoondown}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupharpoonright}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nrestriction}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftharpoonup}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownharpoonleft}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneharpoonse}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwharpoonne}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswharpoonnw}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nseharpoonsw}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrightharpoonupdown}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdownharpoonleftright}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneswharpoonnwse}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwseharpoonnesw}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrightharpoondownup}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdownharpoonrightleft}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneswharpoonsenw}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwseharpoonswne}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightleftharpoons}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdownharpoons}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nupdownharpoonsleftright}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneswharpoons}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsenwharpoons}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrightharpoons}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownupharpoons}{narrows}{\mathrel}
```

```
  \fdsy@DeclareAlias{\ndownupharpoonsleftright}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswneharpoons}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwseharpoons}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightbkarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ndasharrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ndashrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupbkarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftbkarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ndashleftarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownbkarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnebkarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwbkarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswbkarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsebkarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightspoon}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmultimap}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupspoon}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncirmid}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftspoon}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmultimapinv}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownspoon}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmidcir}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightblackspoon}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupblackspoon}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftblackspoon}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownblackspoon}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightpitchfork}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuppitchfork}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\npitchfork}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftpitchfork}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownpitchfork}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightrightarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupuparrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftleftarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndowndownarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnenearrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwnwarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswswarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsesearrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightleftarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdownarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nneswarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwsearrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrightarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownuparrows}{narrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\nswnearrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsenwarrows}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightlsquigarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nleadsto}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nrightsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuplsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftlsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownlsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightrsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuprsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrsquigarrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nleftsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownrsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrightsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdownsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightleftsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownupsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightlcurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncurvearrowright}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuplcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftlcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownlcurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncwrightarcarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnelcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwlcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswlcurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncwundercurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nselcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightrcurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nacwunderarcarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nuprcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrcurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncurvearrowleft}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nacwoverarcarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownrcurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nacwleftarcarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnercurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwrcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswrcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsercurvearrow}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nccwundercurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftrightcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupdowncurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightleftcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownupcurvearrow}{narrows}{\mathrel}
```

```
\fdsy@DeclareSymbol{\nneswcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nnwsecurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nswnecurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nsenwcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftfootline}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nvlongdash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightfootline}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nlongdashv}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nacwcirclearrowup}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nacwcirclearrowleft}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncirclearrowleft}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nacwopencirclearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nacwcirclearrowdown}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nacwgapcirclearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nacwcirclearrowright}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ncwcirclearrowdown}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncwgapcirclearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ncwcirclearrowright}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncirclearrowright}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ncwopencirclearrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ncwcirclearrowup}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ncwcirclearrowleft}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nRrightarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nUuparrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nLleftarrow}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nDdownarrow}{narrows}{\mathrel}
\fdsy@setslot{224}
\fdsy@DeclareSymbol{\nrightvdash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nvdash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nassert}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupvdash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nperp}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftvdash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ndashv}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownvdash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightvDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nvDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nmodels}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupvDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nVbar}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftvDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nDashv}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownvDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nbarV}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightVdash}{narrows}{\mathrel}
```

```
  \fdsy@DeclareAlias{\nVdash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupVdash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftVdash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\ndashV}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownVdash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nrightVDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nVDash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nupVDash}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\nleftVDash}{narrows}{\mathrel}
  \fdsy@DeclareAlias{\nDashV}{narrows}{\mathrel}
\fdsy@DeclareSymbol{\ndownVDash}{narrows}{\mathrel}
```

FdSymbolE: large operators

```
\fdsy@setslot{0}
\fdsy@DeclareSymbol{\tbigplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigtimes}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigtimes}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigwedge}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigwedge}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigvee}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigvee}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigwedgedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigwedgedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigveedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigveedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigdoublewedge}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tconjquant}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigdoublewedge}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dconjquant}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigdoublevee}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tdisjquant}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigdoublevee}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\ddisjquant}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcurlywedge}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcurlywedge}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcurlyvee}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcurlyvee}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcurlywedgedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcurlywedgedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcurlyveedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcurlyveedot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigdoublecurlywedge}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigdoublecurlywedge}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigdoublecurlyvee}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigdoublecurlyvee}{largesymbols}{\mathop}
```

```
\fdsy@DeclareSymbol{\tbigcap}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcap}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcup}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcup}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcapdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcapdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcupdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcupdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcapplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcapplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigcupplus}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tbiguplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigcupplus}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dbiguplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigsqcap}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigsqcap}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigsqcup}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigsqcup}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigsqcapdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigsqcapdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigsqcupdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigsqcupdot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigsqcapplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigsqcapplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigsqcupplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigsqcupplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigoplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigoplus}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigotimes}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigotimes}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigodot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigodot}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tbigoast}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dbigoast}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tprod}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dprod}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tcoprod}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dcoprod}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tsum}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dsum}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tosum}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dosum}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tiint}{largesymbols}{\mathop}
```

```
\fdsy@DeclareSymbol{\diint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tiiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\diiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tiiiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\diiiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tidotsint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tdotsint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\didotsint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\ddotsint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tlandupint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tintclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dlandupint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dintclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tlanddownint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tawint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tintctrclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dlanddownint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dawint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dintctrclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tintbar}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dintbar}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tintBar}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dintBar}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tfint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dfint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\toint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\doint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\toiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\doiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\toiiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\doiiint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\trcirclerightint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tointctrclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\drcirclerightint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dointctrclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tlcirclerightint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tvarointclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dlcirclerightint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dvarointclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\trcircleleftint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tvarointctrclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\drcircleleftint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dvarointctrclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tlcircleleftint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\tointclockwise}{largesymbols}{\mathop}
```

```
\fdsy@DeclareSymbol{\dlcircleleftint}{largesymbols}{\mathop}
  \fdsy@DeclareAlias{\dointclockwise}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\tsumint}{largesymbols}{\mathop}
\fdsy@DeclareSymbol{\dsumint}{largesymbols}{\mathop}
\let\intop\tint
\let\ointop\toint

\fdsy@DeclareOperator{\bigplus}{\dbigplus}{\tbigplus}
\fdsy@DeclareOperator{\bigtimes}{\dbigtimes}{\tbigtimes}
\fdsy@DeclareOperator{\bigwedge}{\dbigwedge}{\tbigwedge}
\fdsy@DeclareOperator{\bigvee}{\dbigvee}{\tbigvee}
\fdsy@DeclareOperator{\bigwedgedot}{\dbigwedgedot}{\tbigwedgedot}
\fdsy@DeclareOperator{\bigveedot}{\dbigveedot}{\tbigveedot}
\fdsy@DeclareOperator{\bigdoublewedge}{\dbigdoublewedge}{\tbigdoublewedge}
\fdsy@DeclareOperator{\conjquant}{\dconjquant}{\tconjquant}
\fdsy@DeclareOperator{\bigdoublevee}{\dbigdoublevee}{\tbigdoublevee}
\fdsy@DeclareOperator{\disjquant}{\ddisjquant}{\tdisjquant}
\fdsy@DeclareOperator{\bigcurlywedge}{\dbigcurlywedge}{\tbigcurlywedge}
\fdsy@DeclareOperator{\bigcurlyvee}{\dbigcurlyvee}{\tbigcurlyvee}
\fdsy@DeclareOperator{\bigcurlywedgedot}{\dbigcurlywedgedot}{\tbigcurlywedgedot}
\fdsy@DeclareOperator{\bigcurlyveedot}{\dbigcurlyveedot}{\tbigcurlyveedot}
\fdsy@DeclareOperator{\bigdoublecurlywedge}{\dbigdoublecurlywedge}{\tbigdoublecurlywedge}
\fdsy@DeclareOperator{\bigdoublecurlyvee}{\dbigdoublecurlyvee}{\tbigdoublecurlyvee}
\fdsy@DeclareOperator{\bigcap}{\dbigcap}{\tbigcap}
\fdsy@DeclareOperator{\bigcup}{\dbigcup}{\tbigcup}
\fdsy@DeclareOperator{\bigcapdot}{\dbigcapdot}{\tbigcapdot}
\fdsy@DeclareOperator{\bigcupdot}{\dbigcupdot}{\tbigcupdot}
\fdsy@DeclareOperator{\bigcapplus}{\dbigcapplus}{\tbigcapplus}
\fdsy@DeclareOperator{\bigcupplus}{\dbigcupplus}{\tbigcupplus}
\fdsy@DeclareOperator{\biguplus}{\dbiguplus}{\tbiguplus}
\fdsy@DeclareOperator{\bigsqcap}{\dbigsqcap}{\tbigsqcap}
\fdsy@DeclareOperator{\bigsqcup}{\dbigsqcup}{\tbigsqcup}
\fdsy@DeclareOperator{\bigsqcapdot}{\dbigsqcapdot}{\tbigsqcapdot}
\fdsy@DeclareOperator{\bigsqcupdot}{\dbigsqcupdot}{\tbigsqcupdot}
\fdsy@DeclareOperator{\bigsqcapplus}{\dbigsqcapplus}{\tbigsqcapplus}
\fdsy@DeclareOperator{\bigsqcupplus}{\dbigsqcupplus}{\tbigsqcupplus}
\fdsy@DeclareOperator{\bigoplus}{\dbigoplus}{\tbigoplus}
\fdsy@DeclareOperator{\bigotimes}{\dbigotimes}{\tbigotimes}
\fdsy@DeclareOperator{\bigodot}{\dbigodot}{\tbigodot}
\fdsy@DeclareOperator{\bigoast}{\dbigoast}{\tbigoast}
\fdsy@DeclareOperator{\sum}{\dsum}{\tsum}
\fdsy@DeclareOperator{\osum}{\dosum}{\tosum}
\fdsy@DeclareOperator{\prod}{\dprod}{\tprod}
\fdsy@DeclareOperator{\coprod}{\dcoprod}{\tcoprod}
\fdsy@DeclareIntegral{\iint}{\diint}{\tiint}
```

```
\fdsy@DeclareIntegral{\iiint}{\diiint}{\tiiint}
\fdsy@DeclareIntegral{\iiiint}{\diiiint}{\tiiiint}
\fdsy@DeclareIntegral{\idotsint}{\didotsint}{\tidotsint}
\fdsy@DeclareIntegral{\dotsint}{\ddotsint}{\tdotsint}
\fdsy@DeclareIntegral{\landupint}{\dlandupint}{\tlandupint}
\fdsy@DeclareIntegral{\intclockwise}{\dintclockwise}{\tintclockwise}
\fdsy@DeclareIntegral{\landdownint}{\dlanddownint}{\tlanddownint}
\fdsy@DeclareIntegral{\awint}{\dawint}{\tawint}
\fdsy@DeclareIntegral{\intctrclockwise}{\dintctrclockwise}{\tintctrclockwise}
\fdsy@DeclareIntegral{\landdownint}{\dlanddownint}{\tlanddownint}
\fdsy@DeclareIntegral{\intbar}{\dintbar}{\tintbar}
\fdsy@DeclareIntegral{\intBar}{\dintBar}{\tintBar}
\fdsy@DeclareIntegral{\fint}{\dfint}{\tfint}
\fdsy@DeclareIntegral{\oiint}{\doiint}{\toiint}
\fdsy@DeclareIntegral{\oiiint}{\doiiint}{\toiiint}
\fdsy@DeclareIntegral{\rcirclerightint}{\drcirclerightint}{\trcirclerightint}
\fdsy@DeclareIntegral{\ointctrclockwise}{\dointctrclockwise}{\tointctrclockwise}
\fdsy@DeclareIntegral{\lcirclerightint}{\dlcirclerightint}{\tlcirclerightint}
\fdsy@DeclareIntegral{\varointclockwise}{\dvarointclockwise}{\tvarointclockwise}
\fdsy@DeclareIntegral{\rcircleleftint}{\drcircleleftint}{\trcircleleftint}
\fdsy@DeclareIntegral{\varointctrclockwise}{\dvarointctrclockwise}{\tvarointctrclockwise}
\fdsy@DeclareIntegral{\lcircleleftint}{\dlcircleleftint}{\tlcircleleftint}
\fdsy@DeclareIntegral{\ointclockwise}{\dointclockwise}{\tointclockwise}
\fdsy@DeclareIntegral{\sumint}{\dsumint}{\tsumint}

\def\intkern@{\mkern-8.5mu\mathchoice{\mkern-1mu}{}{}{}}
\def\intdots@{\mkern-6mu%
  \mathchoice{\@cdots}%
  {{\cdotp}\mkern0.5mu{\cdotp}\mkern0.5mu{\cdotp}}%
  {{\cdotp}{\cdotp}{\cdotp}}%
  {{\cdotp}{\cdotp}{\cdotp}}%
  \mkern-6mu}
```

Math accents.

```
\DeclareMathAccent{\widehat}{\mathord}{largesymbols}{"72}
\DeclareMathAccent{\widetilde}{\mathord}{largesymbols}{"78}
\DeclareMathAccent{\wideparen}{\mathord}{largesymbols}{"7E}
\DeclareMathAccent{\vec}{\mathord}{largesymbols}{"84}
\DeclareMathAccent{\middlebar}{\mathord}{largesymbols}{"85}
\DeclareMathAccent{\middleslash}{\mathord}{largesymbols}{"86}
\DeclareMathAccent{\strokethrough}{\mathord}{largesymbols}{"87}
```

FdSymbolF: delimiters

```
\let\lfloor\undefined
\let\rfloor\undefined
\let\lceil\undefined
\let\rceil\undefined
```

```
\let\langle\undefined
\let\rangle\undefined
\iffdsy@largedelims
  \fdsy@DeclareOpen{(}{delimiters}{"01}
  \fdsy@DeclareClose{)}{delimiters}{"07}
  \fdsy@DeclareOpen{\lparen}{delimiters}{"01}
  \fdsy@DeclareClose{\rparen}{delimiters}{"07}
  \fdsy@DeclareOpen{[}{delimiters}{"13}
  \fdsy@DeclareClose{]}{delimiters}{"19}
  \fdsy@DeclareOpen{\lbrack}{delimiters}{"13}
  \fdsy@DeclareClose{\rbrack}{delimiters}{"19}
  \fdsy@DeclareOpen{\lfloor}{delimiters}{"1F}
  \fdsy@DeclareClose{\rfloor}{delimiters}{"25}
  \fdsy@DeclareOpen{\lceil}{delimiters}{"2B}
  \fdsy@DeclareClose{\rceil}{delimiters}{"31}
  \fdsy@DeclareOpen{\ulcorner}{delimiters}{"37}
  \fdsy@DeclareClose{\urcorner}{delimiters}{"3D}
  \fdsy@DeclareOpen{\llcorner}{delimiters}{"43}
  \fdsy@DeclareClose{\lrcorner}{delimiters}{"49}
  \fdsy@DeclareOpen{\ullcorner}{delimiters}{"4F}
  \fdsy@DeclareClose{\ulrcorner}{delimiters}{"55}
  \fdsy@DeclareOpen{\lsem}{delimiters}{"61}
  \fdsy@DeclareClose{\rsem}{delimiters}{"67}
  \fdsy@DeclareOpen{\lBrack}{delimiters}{"61}
  \fdsy@DeclareClose{\rBrack}{delimiters}{"67}
  \fdsy@DeclareOpen{\lbrace}{delimiters}{"73}
  \fdsy@DeclareClose{\rbrace}{delimiters}{"79}
  \fdsy@DeclareOpen{<}{delimiters}{"86}
  \fdsy@DeclareClose{>}{delimiters}{"8C}
  \fdsy@DeclareOpen{\langle}{delimiters}{"86}
  \fdsy@DeclareClose{\rangle}{delimiters}{"8C}
  \fdsy@DeclareOpen{\lAngle}{delimiters}{"92}
  \fdsy@DeclareClose{\rAngle}{delimiters}{"98}
  \fdsy@DeclareOpen{\langledot}{delimiters}{"9E}
  \fdsy@DeclareClose{\rangledot}{delimiters}{"A4}
  \fdsy@DeclareDelimiter{/}{\mathord}{delimiters}{"AA}
  \fdsy@DeclareDelimiter{\mathslash}{\mathord}{delimiters}{"AA}
  \DeclareMathSymbol{\divslash}{\mathbin}{delimiters}{"AA}
  \fdsy@DeclareDelimiter{\backslash}{\mathord}{delimiters}{"B0}
  \expandafter\DeclareMathDelimiter\@backslashchar%
    {\mathord}{delimiters}{"B0}{delimiters}{"B0}
  \DeclareMathSymbol{\setminus}{\mathbin}{delimiters}{"B0}
  \fdsy@DeclareDelimiter{|}{\mathord}{delimiters}{"B7}
  \fdsy@DeclareDelimiter{\vert}{\mathord}{delimiters}{"B7}
  \fdsy@DeclareOpen{\lvert}{delimiters}{"B7}
```

```
  \fdsy@DeclareClose{\rvert}{delimiters}{"B7}
  \DeclareMathSymbol{\mid}{\mathrel}{delimiters}{"B7}
  \DeclareMathSymbol{\nmid}{\mathrel}{delimiters}{"BA}
  \fdsy@DeclareDelimiter{\Vert}{\mathord}{delimiters}{"BE}
  \fdsy@DeclareOpen{\lVert}{delimiters}{"BE}
  \fdsy@DeclareClose{\rVert}{delimiters}{"BE}
  \DeclareMathSymbol{\parallel}{\mathrel}{delimiters}{"BE}
  \DeclareMathSymbol{\nparallel}{\mathrel}{delimiters}{"C1}
  \fdsy@DeclareDelimiter{\Vvert}{\mathord}{delimiters}{"C4}
  \fdsy@DeclareOpen{\lVvert}{delimiters}{"C4}
  \fdsy@DeclareClose{\rVvert}{delimiters}{"C4}
\else
  \fdsy@DeclareOpen{(}{delimiters}{"00}
  \fdsy@DeclareClose{)}{delimiters}{"06}
  \fdsy@DeclareOpen{\lparen}{delimiters}{"00}
  \fdsy@DeclareClose{\rparen}{delimiters}{"06}
  \fdsy@DeclareOpen{[}{delimiters}{"12}
  \fdsy@DeclareClose{]}{delimiters}{"18}
  \fdsy@DeclareOpen{\lbrack}{delimiters}{"12}
  \fdsy@DeclareClose{\rbrack}{delimiters}{"18}
  \fdsy@DeclareOpen{\lfloor}{delimiters}{"1E}
  \fdsy@DeclareClose{\rfloor}{delimiters}{"24}
  \fdsy@DeclareOpen{\lceil}{delimiters}{"2A}
  \fdsy@DeclareClose{\rceil}{delimiters}{"30}
  \fdsy@DeclareOpen{\ulcorner}{delimiters}{"36}
  \fdsy@DeclareClose{\urcorner}{delimiters}{"3C}
  \fdsy@DeclareOpen{\llcorner}{delimiters}{"42}
  \fdsy@DeclareClose{\lrcorner}{delimiters}{"48}
  \fdsy@DeclareOpen{\ullcorner}{delimiters}{"4E}
  \fdsy@DeclareClose{\ulrcorner}{delimiters}{"54}
  \fdsy@DeclareOpen{\lsem}{delimiters}{"60}
  \fdsy@DeclareClose{\rsem}{delimiters}{"66}
  \fdsy@DeclareOpen{\lBrack}{delimiters}{"60}
  \fdsy@DeclareClose{\rBrack}{delimiters}{"66}
  \fdsy@DeclareOpen{\lbrace}{delimiters}{"72}
  \fdsy@DeclareClose{\rbrace}{delimiters}{"78}
  \fdsy@DeclareOpen{<}{delimiters}{"85}
  \fdsy@DeclareClose{>}{delimiters}{"8B}
  \fdsy@DeclareOpen{\langle}{delimiters}{"85}
  \fdsy@DeclareClose{\rangle}{delimiters}{"8B}
  \fdsy@DeclareOpen{\lAngle}{delimiters}{"91}
  \fdsy@DeclareClose{\rAngle}{delimiters}{"97}
  \fdsy@DeclareOpen{\langledot}{delimiters}{"9D}
  \fdsy@DeclareClose{\rangledot}{delimiters}{"A3}
  \fdsy@DeclareDelimiter{/}{\mathord}{delimiters}{"A9}
```

```
  \fdsy@DeclareDelimiter{\mathslash}{\mathord}{delimiters}{"A9}
  \DeclareMathSymbol{\divslash}{\mathbin}{delimiters}{"A9}
  \fdsy@DeclareDelimiter{\backslash}{\mathord}{delimiters}{"AF}
  \expandafter\DeclareMathDelimiter\@backslashchar%
    {\mathord}{delimiters}{"AF}{delimiters}{"AF}
  \DeclareMathSymbol{\setminus}{\mathbin}{delimiters}{"AF}
  \fdsy@DeclareDelimiter{|}{\mathord}{delimiters}{"B6}
  \fdsy@DeclareDelimiter{\vert}{\mathord}{delimiters}{"B6}
  \fdsy@DeclareOpen{\lvert}{delimiters}{"B6}
  \fdsy@DeclareClose{\rvert}{delimiters}{"B6}
  \DeclareMathSymbol{\mid}{\mathrel}{delimiters}{"B6}
  \DeclareMathSymbol{\nmid}{\mathrel}{delimiters}{"B9}
  \fdsy@DeclareDelimiter{\Vert}{\mathord}{delimiters}{"BD}
  \fdsy@DeclareOpen{\lVert}{delimiters}{"BD}
  \fdsy@DeclareClose{\rVert}{delimiters}{"BD}
  \DeclareMathSymbol{\parallel}{\mathrel}{delimiters}{"BD}
  \DeclareMathSymbol{\nparallel}{\mathrel}{delimiters}{"C0}
  \fdsy@DeclareDelimiter{\Vvert}{\mathord}{delimiters}{"C3}
  \fdsy@DeclareOpen{\lVvert}{delimiters}{"C3}
  \fdsy@DeclareClose{\rVvert}{delimiters}{"C3}
\fi
\let\|\Vert
\let\divides\mid
\let\ndivides\nmid
\DeclareMathSymbol{\shortmid}{\mathrel}{delimiters}{"B5}
\DeclareMathSymbol{\nshortmid}{\mathrel}{delimiters}{"B8}
\DeclareMathSymbol{\shortparallel}{\mathrel}{delimiters}{"BC}
\DeclareMathSymbol{\nshortparallel}{\mathrel}{delimiters}{"BF}
\fdsy@DeclareDelimiter{\arrowvert}{\mathord}{delimiters}{"BB}
\fdsy@DeclareDelimiter{\Arrowvert}{\mathord}{delimiters}{"C2}
\fdsy@DeclareClose{\lgroup}{delimiters}{"7E}
\fdsy@DeclareOpen{\rgroup}{delimiters}{"7F}
\fdsy@DeclareClose{\rmoustache}{delimiters}{"80}
\fdsy@DeclareOpen{\lmoustache}{delimiters}{"81}
\fdsy@DeclareDelimiter{\bracevert}{\mathord}{delimiters}{"84}
\let\uparrow\undefined
\let\downarrow\undefined
\let\updownarrow\undefined
\let\Uparrow\undefined
\let\Downarrow\undefined
\let\Updownarrow\undefined
\DeclareMathDelimiter{\uparrow}{\mathrel}{arrows}{"01}{delimiters}{"C6}
\DeclareMathDelimiter{\downarrow}{\mathrel}{arrows}{"03}{delimiters}{"C7}
\DeclareMathDelimiter{\updownarrow}{\mathrel}{arrows}{"11}{delimiters}{"C8}
\DeclareMathDelimiter{\Uparrow}{\mathrel}{arrows}{"09}{delimiters}{"C9}
```

```
\DeclareMathDelimiter{\Downarrow}{\mathrel}{arrows}{"0B}{delimiters}{"CA}
\DeclareMathDelimiter{\Updownarrow}{\mathrel}{arrows}{"15}{delimiters}{"CB}
```

Horizontal braces.

```
\DeclareMathSymbol{\braceld}{\mathord}{delimiters}{"CC}
\DeclareMathSymbol{\bracelu}{\mathord}{delimiters}{"CD}
\DeclareMathSymbol{\bracerd}{\mathord}{delimiters}{"CE}
\DeclareMathSymbol{\braceru}{\mathord}{delimiters}{"CF}
\DeclareMathSymbol{\bracemd}{\mathord}{delimiters}{"D0}
\DeclareMathSymbol{\bracemu}{\mathord}{delimiters}{"D1}
\DeclareMathSymbol{\bracemid}{\mathord}{delimiters}{"D2}

\def\bracefill@#1#2#3#4#5{$\m@th#5#1\leaders\hbox{$#4$}\hfill#2\leaders\hbox{$#4$}\hfill#3$}
\def\downbracefill@{\bracefill@\braceld\bracemd\bracerd\bracemid}
\def\upbracefill@{\bracefill@\bracelu\bracemu\braceru\bracemid}
\def\downgroupfill@{\bracefill@\braceld{}\bracerd\bracemid}
\def\upgroupfill@{\bracefill@\bracelu{}\braceru\bracemid}
\def\linesegmentfill@{\arrowfill@\leftfootline\relbar\rightfootline}
\def\leftharpoonfill@{\arrowfill@\leftharpoondown\relbar\relbar}
\def\rightharpoonfill@{\arrowfill@\relbar\relbar\rightharpoonup}

\DeclareRobustCommand{\overbrace}[1]{\mathop{\mathpalette{\overarrow@\downbracefill@}{#1}}\limi
\DeclareRobustCommand{\underbrace}[1]{\mathop{\mathpalette{\underarrow@\upbracefill@}{#1}}\limi
\DeclareRobustCommand{\overgroup}{\mathpalette{\overarrow@\downgroupfill@}}
\DeclareRobustCommand{\undergroup}{\mathpalette{\underarrow@\upgroupfill@}}
\DeclareRobustCommand{\overlinesegment}{\mathpalette{\overarrow@\linesegmentfill@}}
\DeclareRobustCommand{\overleftharpoon}{\mathpalette{\overarrow@\leftharpoonfill@}}
\DeclareRobustCommand{\overrightharpoon}{\mathpalette{\overarrow@\rightharpoonfill@}}
\DeclareRobustCommand{\underlinesegment}{\mathpalette{\underarrow@\linesegmentfill@}}
```

Radical symbols.

```
\iffdsy@largedelims
  \DeclareMathRadical{\sqrtsign}{delimiters}{"D4}{delimiters}{"D4}
  \DeclareMathSymbol{\surd}{\mathop}{delimiters}{"D4}
\else
  \DeclareMathRadical{\sqrtsign}{delimiters}{"D3}{delimiters}{"D3}
  \DeclareMathSymbol{\surd}{\mathop}{delimiters}{"D3}
\fi
```

In the n-th root, we don't want the n to come too close to the radical (adopted from package lucimatx).

```
\def\r@@t#1#2{\setbox\z@\hbox{$\m@th#1\sqrt{#2}$}%
  \dimen@\ht\z@ \advance\dimen@-\dp\z@
  \mkern5mu\raise.6\dimen@\copy\rootbox \mkern-8mu\box\z@}
```

Mathchars.

```
\DeclareMathSymbol{+}{\mathbin}{symbols}{"11}
\DeclareMathSymbol{-}{\mathbin}{symbols}{"0E}
```

```
\DeclareMathSymbol{*}{\mathbin}{symbols}{"93}
\DeclareMathSymbol{:}{\mathrel}{symbols}{"02}
\DeclareMathSymbol{=}{\mathrel}{relations}{"00}
\DeclareMathSymbol{<}{\mathrel}{relations}{"22}
\DeclareMathSymbol{>}{\mathrel}{relations}{"23}
\iffdsy@largedelims
  \DeclareMathSymbol{|}{\mathord}{delimiters}{"B6}
  \DeclareMathSymbol{(}{\mathopen}{delimiters}{"01}
  \DeclareMathSymbol{)}{\mathclose}{delimiters}{"07}
  \DeclareMathSymbol{[}{\mathopen}{delimiters}{"13}
  \DeclareMathSymbol{]}{\mathclose}{delimiters}{"19}
  \DeclareMathSymbol{/}{\mathord}{delimiters}{"AA}
\else
  \DeclareMathSymbol{|}{\mathord}{delimiters}{"B5}
  \DeclareMathSymbol{(}{\mathopen}{delimiters}{"00}
  \DeclareMathSymbol{)}{\mathclose}{delimiters}{"06}
  \DeclareMathSymbol{[}{\mathopen}{delimiters}{"12}
  \DeclareMathSymbol{]}{\mathclose}{delimiters}{"18}
  \DeclareMathSymbol{/}{\mathord}{delimiters}{"A9}
\fi
```

There is no `\not` symbol in FdSymbol since all relational symbols come with a stroked companion. For compatibility we define a `\not` command that places a virgule over the following symbol.

```
\def\c@ncel#1#2{\m@th\ooalign{$\hfil#1/\hfil$\crcr$#1#2$}}
\def\not#1{\mathrel{\m@th\mathpalette\c@ncel{#1}}}
```

⟨/style⟩