FdSymbol: A Math Symbol Font

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1 Introduction

FdSymbol is a font of mathematical symbols designed as a companion to Typotheque's Fedra family¹, but it might also fit well to other contemporary type-faces. To use this font in a IATEX document, add the command

\usepackage[\(\langle options \rangle] \{ fdsymbol \}

¹http://www.typotheque.com/fonts

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.

Acknowledgements

The FdSymbol font is derived from MnSymbol², 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.

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

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.

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
- △ \largetriangleup
- √ \largetriangledown
- Ø \emptyset, \diameter,
 \varnothing
- \largecircle, \lgwhtcircle
- \largeblackcircle
- □ \largesquare, \lgwhtsquare
- \largeblacksquare, \lgblksquare
- ♦ \smalllozenge, \smwhtlozenge

- \smallblacklozenge,
 \smblklozenge
- \medlozenge, \lozenge,
 \mdlgwhtlozenge,
 \mdwhtlozenge
- ♦ \medblacklozenge, \blacklozenge, \mdlgblklozenge, \mdblklozenge
- ♦ \lozengeminus
- ☆ \largewhitestar
- ★ \largeblackstar, \bigstar
- ∞ \infty
- T \top
- ⊥ \bot
- ∠ \angle
- ∡ \measuredangle
- \revmeasuredangle,
 \measuredangleleft
- √ \sphericalangle
- ∀ \sphericalangleup

\sphericalangledown ∀ \forall ∟ \rightangle ∃ \exists \measuredrightangle ∄ \nexists ∃ \Finv \rightanglesqr ∂ \Game \measuredrightangledot, \complement \rightanglemdot \flat \prime \natural \backprime \sharp √ \checkmark א \aleph // \lightning, \downzigzagarrow ם \beth ♦ \diamondsuit \gimel \vardiamondsuit \daleth ♡ \heartsuit \wp ♥ \varheartsuit /,\mathslash ♠ \spadesuit \backslash ♠ \clubsuit |,\vert ★ \maltese

4.2 Binary operators

☆ \starofdavid

\sector

→ \dotplus \cdot \div \centerdot \hdotdot * \divideontimes \vdotdot \minushookdown \udotdot \hookdownminus - \intprod, \minushookup · \ddotdot -,\minus - \intprodr,\hookupminus \medslash, \smalldivslash \leftthreetimes \medbackslash, \smallsetminus \rightthreetimes +,\plus

\Vert

∥ \Vvert

× \times

\pm x \utimes, \ttimes ± Ŧ \mp

\dotminus ⋈ \lrtimes x \upbowtie,\hourglass \minusdot

\minusfdots \rightY \minusrdots ↓\upY \dotsminusdots ≺ \leftY

- Y \downY
- ∧ \wedge,\land
- v \vee, \lor
- ∧ \wedgedot
- v \veedot
- v \veebar
- v \veedoublebar
- \doublebarwedge
- m \doublewedge, \wedgeonwedge
- w \doublevee, \veeonwee
- ∧ \curlywedge
- √ \curlyvee
- v \curlyveedot
- м \doublecurlywedge
- w \doublecurlyvee
- ∪ \cup
- ∩ \cap
- ⊎ \doublecup, \Cup

- ∩ \capdot
- ⊎ \cupplus, \uplus
- ∩ \capplus
- ⊔ \sqcup
- п \sqcap
- □ \doublesqcup, \Sqcup
- ⊔ \sqcupdot
- □ \sqcapdot
- □ \sqcapplus
- → \pullback
- ▷ \smalltriangleright
- △ \smalltriangleup
- \smalltriangleleft
- √ \smalltriangledown
- ▶ \smallblacktriangleright
- ▲ \smallblacktriangleup

- √ \smallblacktriangleleft
- ▼ \smallblacktriangledown
- △ \medtriangleup, \triangle, \vartriangle

- ► \medblacktriangleright, \blacktriangleright
- ▲ \medblacktriangleup, \blacktriangle
- ▼ \medblacktriangledown, \blacktriangledown

- \smallcircle, \circ, \smwhtcircle
- \smallblackcircle, \bullet, \smblkcircle
- o \medcircle, \mdlgwhtcircle,
 \mdwhtcircle
- \medblackcircle, \mdlgblkcircle,\mdblkcircle
- ⊖ \ominus
- Φ \overt,\circledvert
- ⊘ \oslash
- ⊕ \oplus
- ⊗ \otimes
- ⊙ \odot
- ⊚ \ocirc.\circledcirc
- ⊗ \oast,\circledast
- \odash, \circleddash
- ⊜ \oequal,\circledequal
- \bigcirc
- smallsquare,\smwhtsquare

\smallblacksquare, \smblksquare

□ \medsquare, \square, \Box, \mdlgwhtsquare, \mdwhtsquare

\medblacksquare,
\mdlgblksquare,\mdblksquare

□ \boxvert, \boxbar□ \boxslash, \boxdiag

□ \boxbackslash,\boxbslash

□ \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

★ \medblackstar,\medstar

* *,\ast
T \intercal

 \wreath,\wr
u \amalg

\setminus

4.3 Relations

\triplesim, \approxident ≒ \fallingdotseq ≋ \risingdotseq ~ \simeq \backsimeq \smile, \smallsmile ≃ \eqsim \frown, \smallfrown \smilefrown, \asymp \cong ≅ ≅ \backcong \frownsmile, \closure

 $\stackrel{.}{\cong}$ \dotcong \cong \smileeq

\eqcirc \sqsupset \circeq å \sqsubseteq \wedgeq, \hateq \sqsupseteq \veeeq ⊑ \sqsubseteqq ≛ \stareq ⊒ \sqsupseteqq ≜ \triangleeq, \triangleq **\Sqsubset** \in **\Sqsupset** \in \owns, \ni \subset \subset ∋ <,\less < \supset \supset >, \gtr \subseteq \subseteq > \leq, \le \supseteq ≤ \supseteq \geq, \ge ≥ ⊑ \subseteqq \legslant \supseteqq ≤ ≽ \geqslant \Subset \leqq \Supset ≦ ⋑ ≧ \geqq < \prec \lesssim \succ ≲ \gtrsim ≤ \preceq ≳ ≨ \lessapprox \succeq \preccurlyeq ≳ \gtrapprox ≶ \lessgtr \succcurlyeq ≷ \gtrless \preceqq ≦ ⋚ \lesseqgtr \succeqq ≽ ⋛ \gtreqless \precsim ≾ ⋚ \lesseqqgtr \succsim ≿ ⋛ \gtreqqless \precapprox ≾ ≶ \lesseqgtrslant \succapprox ≿ ⋛ \gtreqlessslant \lessdot ≪ \11 \gtrdot >> \gg \leqdot ⊴ ≪ \111, \111ess \geqdot \legslantdot, \lesdot ≫ \ggg, \gggtr \lessclosed, \vartriangleleft \geqslantdot, \gesdot \gtrclosed, \vartriangleright \triangleright \eqslantless \leqclosed, \trianglelefteq \eqslantgtr ⊴ \geqclosed, \trianglerighteq \curlyeqprec ⊵ \lesscc, \ltcc \curlyeqsucc ◁ \gtrcc, \gtcc \thicksim \triangleright

\thickapprox

\uparrow

\rightarrow, \to

\legslcc, \lescc

\geqslcc, \gescc

\sqsubset

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←	\leftarrow.	\ oets

- \downarrow \nearrow \nwarrow
- \swarrow \searrow \Rightarrow
- \Uparrow \Leftarrow \Leftarrow \parallel **\Downarrow** \Nearrow
- \Nwarrow 1 \Swarrow \Searrow
- \leftrightarrow \updownarrow 1 \neswarrow 2 √_ \nwsearrow
- ⇔ \Leftrightarrow **\Updownarrow** Î
- \Nwsearrow
- \twoheadrightarrow
- \twoheaduparrow Ť \twoheadleftarrow
- \twoheaddownarrow
- \twoheadnearrow \twoheadnwarrow \twoheadswarrow
- \twoheadsearrow \rightarrowtail
- Ţ \uparrowtail \leftarrowtail
- Ĭ \downarrowtail
- \nearrowtail \nwarrowtail
- \swarrowtail
- \searrowtail
- \rightmapsto, \mapsto
- \upmapsto, \mapsup Î
- \leftmapsto, \mapsfrom

- \downmapsto, \mapsdown
- \nemapsto
- \nwmapsto
- \swmapsto
- \semapsto
- \lhookrightarrow, \hookrightarrow
- \lhookuparrow Ĵ
- \lhookleftarrow
- **\lhookdownarrow**
- **\lhooknearrow**
- \lhooknwarrow, \hknwarrow
- \lhookswarrow
- \lhooksearrow, \hksearrow
- \rhookrightarrow \rhookuparrow 1 \rhookleftarrow, \hookleftarrow
- \rhookdownarrow 1
- \rhooknearrow, \hknearrow
- \rhooknwarrow
- \rhookswarrow, \hkswarrow
- \rhooksearrow
- \rightharpoonup \upharpoonleft
- \leftharpoondown
- \downharpoonright l
- \neharpoonnw
- \nwharpoonsw
- \swharpoonse
- \seharpoonne
- \rightharpoondown
- \upharpoonright, \restriction 1
- \leftharpoonup
- \downharpoonleft 1
- \neharpoonse
- \nwharpoonne
- \swharpoonnw
- \seharpoonsw
- \leftrightharpoonupdown
- \updownharpoonleftright

- z \neswharpoonnwse
- \nwseharpoonnesw
- ↑ \updownharpoonrightleft
- ✓ \neswharpoonsenw
- \nwseharpoonswne
- \updownharpoons,

\updownharpoonsleftright

- ≒ \leftrightharpoons
- ↑ \downupharpoons, \downupharpoonsleftright
- √ \swneharpoons
- → \rightbkarrow, \dashrightarrow, \dasharrow
- ↑ \upbkarrow
- <- \leftbkarrow, \dashleftarrow</pre>
- ↓ \downbkarrow
- ^ \nebkarrow
- \\nwbkarrow
- √ \swbkarrow
- ` \sebkarrow
- ⊸ \rightspoon, \multimap
- ° \upspoon, \cirmid
- \downspoon, \midcir
- → \rightblackspoon
- † \upblackspoon
- ← \leftblackspoon
- ↓ \downblackspoon
- → \rightpitchfork
- ← \leftpitchfork
- ♥ \downpitchfork
- ⇒ \rightrightarrows
- ↑ \upuparrows
- ← \leftleftarrows
- ↓ \downdownarrows

- ↑ \nenearrows
- √ \nwnwarrows
- √ \swswarrows
- √ \sesearrows
- ↑↓ \updownarrows
- ⟨ \neswarrows
- √ \nwsearrows
- ≒ \leftrightarrows
- ↓↑ \downuparrows
- √ \swnearrows
- √ \senwarrows
- → \rightlsquigarrow, \leadsto, \rightsquigarrow
- \uplsquigarrow
- \downlsquigarrow
- → \rightrsquigarrow,
- \uprsquigarrow
- \downrsquigarrow
- \updownsquigarrow
- \downupsquigarrow
- \rightlcurvearrow, \curvearrowright
- ⟨ \uplcurvearrow
- ∼ \leftlcurvearrow
- \downlcurvearrow,
 \cwrightarcarrow
- \nwlcurvearrow
- √ \swlcurvearrow.

\cwundercurvearrow

- √ \selcurvearrow
- √ \rightrcurvearrow,

 \acwunderarcarrow
- 5 \uprcurvearrow

- (\downrcurvearrow, \acwleftarcarrow
- ♪ \nercurvearrow
- √ \swrcurvearrow
- \sercurvearrow,
 \ccwundercurvearrow
- \leftrightcurvearrow
- ⟨ \updowncurvearrow
- \sim \rightleftcurvearrow
- \downupcurvearrow
- ♪ \neswcurvearrow
- \nwsecurvearrow
 \nwsecurvearrow
- → \swnecurvearrow
- \senwcurvearrow
 \
- ⊢ \leftfootline,\vlongdash
- → \rightfootline, \longdashv
- \acwcirclearrowleft,
 \circlearrowleft,
 \acwopencirclearrow
- \acwcirclearrowdown,
 \acwgapcirclearrow
- \acwcirclearrowright
- C \cwcirclearrowdown, \cwgapcirclearrow
- \cwcirclearrowright,
 \circlearrowright,
 \cwopencirclearrow
- \cwcirclearrowleft
- ⇒ \Rrightarrow
- ↑ \Uuparrow
- ← \Lleftarrow
- ↓ \Ddownarrow
- ճ \Lsh
- r \Rsh
- ↓ \Ldsh

- ↓
 \Rdsh
- → \looparrowright
- ← \looparrowleft
- → \longrightarrow
- ← \longleftarrow
- ←→ \longleftrightarrow
- ⇒ \Longrightarrow
- ← \Longleftarrow
- → \longmapsto
- → \emptyblackspoon, \origof
- → \filledemptyspoon, \imageof
- → \leftrightspoon, \dualmap
- → \leftrightblackspoon
- ⊢ \rightvdash, \vdash, \assert
- ⊥ \upvdash,\perp
- ⊣ \leftvdash, \dashv
- ⊤ \downvdash
- ⊨ \rightvDash, \vDash, \models
- ⊥ \upvDash, \Vbar
- π \downvDash, \barV
- ⊥ \upVdash
- ⊣ı \leftVdash,\dashV
- ⊫ \rightVDash,\VDash
- \upVDash
- ╡ \leftVDash, \DashV
- ⊪ \Vvdash
- # \nequal, \neq, \ne
- ≢ \nequiv
- √ \nsim
- √ \nbacksim

- ≄ \nsimeq,\nsime
- ≠ \nbacksimeq
- **≇** \ncong

\nbackcong \ngtreqqless \nlesseggtrslant \napproxeq \nbumpeq # # \nbumpeqq ≮ \nll \nBumpeq ≯ \ngg # ‡

\ndoteq √ \nlll \neqdot >>> \nggg

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\ngtrsim

\nDoteq \nlessclosed, \ntriangleleft ŧ \nfallingdotseq \ngtrclosed, \ntriangleright ¥. \nrisingdotseq \nleqclosed, \ntrianglelefteq ŧ \nsmile \ngeqclosed, \ntrianglerighteq +

\nfrown \nlesscc, \nltcc \nsmilefrown, \nasymp \ngtrcc, \ngtcc * # \nfrownsmile, \nclosure \nleqslcc, \nlescc \nsmileeq \ngeqslcc, \ngescc *

¥ ≇ \nfrowneq, \narceq ¢ \nsqsubset **≠** \neqcirc \nsqsupset ⊅ # \ncirceq \nsqsubseteq ⋢ # \nwedgeq, \nhateq ⊉ \nsqsupseteq ¥ \nveeeq \nsqsubseteqq # \nstareq \nsqsupseteqq #

\ntriangleeq \nSqsubset ∉ \nin, \notin \nSqsupset ∌ \nowns, \nni \nsubset \nless \nsupset * ⊅ \ngtr \nsubseteq * ⊈ ≰ \nleq ⊉ \nsupseteq ≱ \ngeq ⊈ \nsubseteqq \nleqslant \nsupseteqq ≰ ≱ \ngeqslant \nSubset \nleqq \nSupset ≰ ≱ \ngeqq \nprec ≴ \nlesssim \nsucc

\nlessapprox \nsucceq ≱ \ngtrapprox \npreccurlyeq ≭ \nlessgtr ¥ \nsucccurlyeq \ngtrless ≰ \npreceqq \nlesseqgtr \nsucceqq \ngtreqless \nprecsim \nlesseqqgtr \nsuccsim

≰

\npreceq

≯ \ngtrdot

≰ \nleqdot

≆ \simneqq

≆ \backsimnegg

≤ \lneq

> \gneq

\$ \lneqq,\lvertneqq

\gneqq,\gvertneqq

\$ \lnsim

\$ \gnsim

≨ \lnapprox

≨ \lessneqqgtr

\sqsubsetneq

\sqsupsetneq

\sqsubsetneqq

⊋ \sqsupsetneqq

⊊ \subsetneq, \varsubsetneq

⇒ \supsetneq, \varsupsetneq

\subsetneqq,\varsubsetneqq

\supsetneqq, \varsupsetneqq

\succneqq

≿ \succnsim

→ \nrightarrow, \nto

↑ \nuparrow

/ \nleftarrow, \ngets

√ \nnearrow

√x \nnwarrow

∠ \nswarrow

¼ \nsearrow

⇒ \nRightarrow

♪ \nUparrow

∦ \nDownarrow

√ \nNearrow

∖nNwarrow

⅓ \nSearrow

↔ \nleftrightarrow

1 \nupdownarrow

\
\angle \nnwsearrow

\iff \nLeftrightarrow
\end{align*}

∱ \nUpdownarrow

\nNwsearrow

√→ \ntwoheadrightarrow

\$ \ntwoheaduparrow

</p

t \ntwoheaddownarrow

√ \ntwoheadnearrow

∿ \ntwoheadnwarrow

√ \ntwoheadswarrow

🗓 \ntwoheadsearrow

→ \nrightarrowtail

↑ \nuparrowtail

⟨ \nleftarrowtail

\ndownarrowtail

√ \nnearrowtail

¼ \nnwarrowtail

¼ \nsearrowtail

↑ \nupmapsto, \nmapsup

- ← \nleftmapsto, \nmapsfrom
- { \ndownmapsto, \nmapsdown
- ∢ \nnemapsto
- √ \nnwmapsto
- √s \nsemapsto
- ↑ \nlhookuparrow
- √ \nlhookleftarrow
- √ \nlhooknearrow
- √s \nlhooknwarrow, \nhknwarrow
- % \nlhooksearrow, \nhksearrow
- → \nrhookrightarrow
- † \nrhookuparrow
- \nrhookdownarrow
- \nrhooknearrow, \nhknearrow
- ∿ \nrhooknwarrow
- √ \nrhooksearrow
- → \nrightharpoonup
- 1 \nupharpoonleft
- → \nleftharpoondown
- † \ndownharpoonright
- √ \nneharpoonnw
- ∖ nnwharpoonsw
- x \nswharpoonse
- ∖nseharpoonne
- → \nrightharpoondown
- \nupharpoonright,
 \nrestriction
- ← \nleftharpoonup

- √ \nnwharpoonne
- \(\nswharpoonnw \)
- ⅓ \nseharpoonsw

- → \nleftrightharpoonupdown
- 1 \nupdownharpoonleftright
- x \nneswharpoonnwse
- ∖nnwseharpoonnesw
- √ \nleftrightharpoondownup
- ∤ \nupdownharpoonrightleft
- % \nnwseharpoonswne
- ₩ \nupdownharpoons,

\nupdownharpoonsleftright

- \nsenwharpoons
- # \nleftrightharpoons
- ⊮ \ndownupharpoons,

\ndownupharpoonsleftright

- % \nnwseharpoons
- -/> \nrightbkarrow, \ndasharrow,
 \ndashrightarrow
- \nupbkarrow
- </- \nleftbkarrow, \ndashleftarrow</pre>
- ↓ \ndownbkarrow
- √¹ \nnebkarrow
- √ \nnwbkarrow
- √ \nswbkarrow
- ⅓ \nsebkarrow
- → \nrightspoon, \nmultimap
- ♀ \nupspoon, \ncirmid
- → \nleftspoon, \nmultimapinv
- t \ndownspoon, \nmidcir
- ‡ \nupblackspoon
- → \nleftblackspoon
- t \ndownblackspoon
- → \nrightpitchfork
- → \nleftpitchfork
- ♥ \ndownpitchfork
- ↑ \nupuparrows

- ⊭ \nleftleftarrows
- 出 \ndowndownarrows
- ♦ \nnenearrows
- √ \nnwnwarrows
- ⟨

 ⟨

 ⟨

 \text{nswswarrows}

- ↑ \nupdownarrows
- √ \nnwsearrows
- ☆ \nleftrightarrows
- ∄ \ndownuparrows
- √ \nswnearrows

- \$ \nuplsquigarrow
- ५ \nleftlsquigarrow
- ⋄ \nrightrsquigarrow
- ֈ \nuprsquigarrow
- \nleftrsquigarrow,
 \nleftsquigarrow
- ⟨ \ndownrsquigarrow
- ⋄ \nleftrightsquigarrow
- { \nupdownsquigarrow
- \nrightleftsquigarrow
- \ndownupsquigarrow
- ↑ \nrightlcurvearrow, \ncurvearrowright
- ₹ \nuplcurvearrow

- → \nnelcurvearrow
- た \nnwlcurvearrow
- - \ncwundercurvearrow
- \mathrm{\text{mrightrcurvearrow,}}
 \nacwunderarcarrow

- 5 \nuprcurvearrow
- ♠ \nleftrcurvearrow, \ncurvearrowleft, \nacwoverarcarrow
- { \ndownrcurvearrow, \nacwleftarcarrow
- ★ \nnercurvearrow
- ⟨ \nnwrcurvearrow |
- ⟨ \nsercurvearrow,
 - \nccwundercurvearrow
- ₹ \nupdowncurvearrow
- √ \nrightleftcurvearrow
- \ndownupcurvearrow
- \nnwsecurvearrow
 \nswnecurvearrow
- ∜ \nsenwcurvearrow
- → \nrightfootline, \nlongdashv
- (\nacwcirclearrowup
- \nacwcirclearrowleft,
 \ncirclearrowleft,
 \nacwopencirclearrow
- \nacwcirclearrowdown,
 \nacwgapcirclearrow
- \ncwcirclearrowdown,
 \ncwgapcirclearrow
- \ncwcirclearrowright,
 \ncirclearrowright,
 \ncwopencirclearrow
- ♠ \ncwcirclearrowup
- ∅ \ncwcirclearrowleft
- ⇒ \nRrightarrow
- ↑ \nUuparrow
- **⊭** \nLleftarrow

\nleftvdash, \ndashv ⋈ \rJoin H \ndownvdash \nrightvDash, \nvDash, \nmodels ¥ ⋈ \bowtie,\Join ∞ \propto, \varpropto \nleftvDash, \nDashv Ħ ∞ \backpropto,\propfrom **\between**)(\separated ⊬ \nleftVdash, \ndashV \shortmid \mid, \divides ⊯ \nrightVDash,\nVDash \nshortmid \nmid, \ndivides ∦ \nleftVDash, \nDashV \parallel :,\mathratio ∦ \nshortparallel ∷ \Colon \nparallel \relbar

4.4 Punctuation symbols

· \cdotp : \colon, \mathcolon

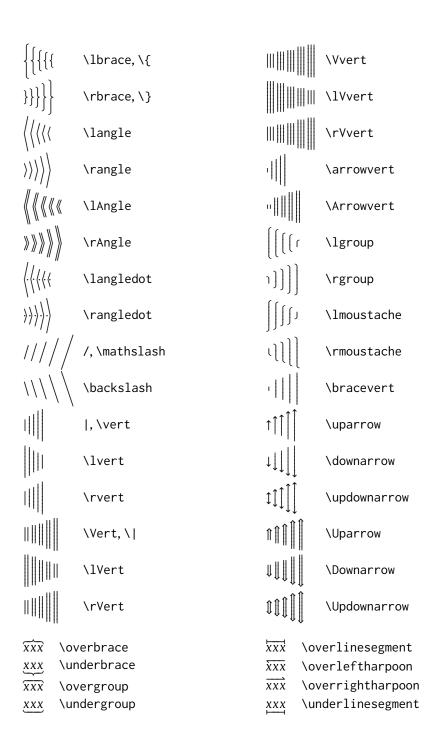
4.5 Large operators

+	+	\bigplus	U	\bigcup	\bigcup
\times	X	\bigtimes	\cap	$\overline{\cap}$	\bigcapdot
\wedge	\wedge	\bigwedge	\cup	ŀj	\bigcupdot
\vee	\bigvee	\bigvee	+	$\widetilde{+}$	\bigcapplus
\wedge	\wedge	\bigwedgedot	+	[+]	\bigcupplus,\biguplus
\forall	\bigvee	\bigveedot	П	Ĭ	\bigsqcap
\mathbb{M}	\mathbb{M}	\bigdoublewedge,	H	Ιİ	\bigsqcup
\\ <i>//</i>	\\//	\conjquant	П	П	\bigsqcapdot
W	W	\bigdoublevee, \disjquant	·		\bigsqcupdot
Y	$\langle \rangle$	\bigcurlywedge	<u> </u>	Ħ	\bigsqcapplus
Υ	Y	\bigcurlyvee	<u>+</u>	+	\bigsqcupplus
γ.	$\langle \rangle$	\bigcurlywedgedot		\Box	
Υ	Υ	\bigcurlyveedot	\oplus	Δ	\bigoplus
从	Ж	\bigdoublecurlywedge	\otimes	\otimes	\bigotimes
W	Ŵ	\bigdoublecurlyvee	\odot	$\overline{(\cdot)}$	\bigodot
\bigcap	\Box	\bigcap	\otimes	$\widecheck{\otimes}$	\bigoast

```
П
         \prod
                                             \fint
Ц
         \coprod
                                             \oint
Σ
         \sum
                                             \oiint
         \osum
                                             \oiiint
         \int
                                             \rcirclerightint,
         \iint
                                               \ointctrclockwise
         \iiint
                                             \lcirclerightint,
                                               \varointclockwise
         \iiiint
                                             \rcircleleftint,
         \idotsint, \dotsint
                                               \varointctrclockwise
                                             \lcircleleftint,
         \landupint,\intclockwise
                                               \ointclockwise
         \landdownint, \awint,
                                             \sumint
                                             \smallprod
          \intctrclockwise
                                    П
                                             \smallcoprod
                                    П
                                         П
         \intbar
                                    ſ
                                         ſ
                                             \smallint
         \intBar
                                             \surd
```

4.6 Delimiters and accents

$\Big(\Big(\big(\big($	(,\lparen	r _{rr}	\ulcorner
$))\Big)\Big)$),\rparen	ייין ד	\urcorner
$\left[\left[\left[\left[\left[\right]\right]\right]\right]\right]$	[,\lbrack	LLLLL	\llcorner
]]]]]],\rbrack	ردرد	\lrcorner
	\lfloor	Lr _{rr}	\ullcorner
	\rfloor	^{ل ر} ر _{د د} د د د د د د د د د د د د د د د د د	\ulrcorner
	\lceil		\lsem,\lBrack
ווון	\rceil		\rsem,\rBrack



 \sqrt{b} \sqrt \vec{b} \vec

 \widehat{xxx} \widehat b \middlebar \widehat{xxx} \widetilde b \middleslash \widehat{xxx} \wideparen b \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 \Re \Re † ‡ \ddagger \mathfrak{I} \Im \mathparagraph ħ \hbar \mathsection ħ \hslash \$ \mathdollar (R) \circledR £ \mathsterling ¥ (s) \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

```
1 (*style)
2 \RequirePackage{xkeyval}
```

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

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

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

- 4 \newcommand{\fdsy@scale}{1.0}
- 5\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.

6 \newcommand\fdsy@mweight{Book}

```
7 \newcommand\fdsy@msweight{Book}
 8 \newcommand\fdsy@bweight{Medium}
 9 \newcommand\fdsy@bsweight{Medium}
10 \define@choicekey*{fdsymbol.sty}{normalweight}[\@tempa\@tempb]{book,regular,auto}{%
    \ifcase\@tempb\relax
11
12
      \renewcommand\fdsy@mweight{Book}
      \renewcommand\fdsy@msweight{Book}
13
14
    \or
15
      \renewcommand\fdsy@mweight{Regular}
      \renewcommand\fdsy@msweight{Regular}
16
17
      \renewcommand\fdsy@mweight{Book}
18
19
      \renewcommand\fdsy@msweight{Regular}
20
21 }
22 \define@choicekey*{fdsymbol.sty}{boldweight}[\@tempa\@tempb]{medium,bold,auto}{%
    \ifcase\@tempb\relax
23
      \renewcommand\fdsy@bweight{Medium}
24
      \renewcommand\fdsy@bsweight{Medium}
25
26
      \renewcommand\fdsy@bweight{Bold}
27
28
      \renewcommand\fdsy@bsweight{Bold}
29
    \or
      \renewcommand\fdsy@bweight{Medium}
30
31
      \renewcommand\fdsy@bsweight{Bold}
    \fi
32
33 }
34
35 \ExecuteOptionsX{largedelims=false}
36 \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.
37 \@ifpackageloaded{amsmath}{}{\RequirePackage{amsmath}}
38 \@ifpackageloaded{textcomp}{}{\RequirePackage{textcomp}}
39 \@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.
40 \iffdsy@largedelims
    \renewcommand{\Big}{\bBigg@{1.25}}
    \renewcommand{\bigg}{\bBigg@{1.66}}
43
   \renewcommand{\Bigg}{\bBigg@{2.08}}
44\fi
Some symbols missing from FdSymbol can be obtained from other fonts or by
```

combining several other symbols.

```
45 \DeclareRobustCommand{\dagger}{\fdsy@text{\textdagger}}
46 \DeclareRobustCommand{\ddagger}{\fdsy@text{\textdaggerdbl}}
47 \DeclareRobustCommand{\mathparagraph}{\fdsy@text{\textparagraph}}}
48 \DeclareRobustCommand{\mathsection}{\fdsy@text{\textsection}}
49 \DeclareRobustCommand{\mathdollar}{\fdsy@text{\textdollar}}
50 \DeclareRobustCommand{\mathsterling}{\fdsy@text{\textsterling}}
51 \DeclareRobustCommand{\yen}{\fdsy@text{\textyen}}
52 \DeclareRobustCommand{\circledR}{\fdsy@text{\textcircled{%
       \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont R}}}
54\DeclareRobustCommand{\circledS}{\fdsy@text{\textcircled{%
55 \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont S}}}
56 \DeclareRobustCommand{\Re}{\mathfrak{R}}
57 \DeclareRobustCommand{\Im}{\mathfrak{I}}}
58 \DeclareRobustCommand{\dotplus}{\mathbin{\dot{+}}}
59 \DeclareRobustCommand{\dotcong}{\mathrel{\dot{\cong}}}
60 \DeclareRobustCommand{\thicksim}{\mathrel{\text{\boldmath$\m@th\sim$}}}
 61\DeclareRobustCommand \\ \thickapprox \\ \mbox{mathrel $$ \text{\boldmath} \mbox{m@th}\approx }$} \\
62 \let\hbar\undefined
63 \let\hslash\undefined
64 \DeclareRobustCommand{\hbar}{\middlebar h}
65 \DeclareRobustCommand{\hslash}{\middleslash h}
66 \DeclareRobustCommand{\veebar}{\mathbin{\underline{\vee}}}
\label{lem:continuous} \begin{tabular} \label{lem:continuous} \label{lem:continuous} \end{tabular} $$ \color= \color
68 \DeclareRobustCommand{\veedoublebar}{\mathbin{\underline{\underline{\vee}}}}
69 \DeclareRobustCommand{\doublebarwedge}{\mathbin{\overline{\overline{\wedge}}}}
70 \DeclareRobustCommand{\centerdot}{\mathbin{\rule{0.15em}{0.15em}}}
71\DeclareRobustCommand{\divideontimes}{\mathbin{\ooalign{$\div$\crcr$\times$}}}
Unneeded partial symbols.
72 \let\mapstochar\undefined
73 \let\lhook\undefined
74 \let\rhook\undefined
Shorthands to simplify the definitions below.
75 \newcommand\fdsy@setslot[1]{\@tempcnta #1\relax}
76 \newcommand\fdsy@nextslot{\advance\@tempcnta 1\relax}
77 \newcommand\fdsy@prevslot{\advance\@tempcnta-1\relax}
79 \newcommand\fdsy@@DeclareSymbol[4]{\DeclareMathSymbol{#2}{#3}{#4}{#1}}  
80 \newcommand\fdsy@DeclareSymbol[3]{%
       \if\relax\noexpand#1\let#1\undefined\fi
       \fdsy@nextslot
83
84 }
85\newcommand\fdsy@DeclareAlias[3]{\fdsy@prevslot\fdsy@DeclareSymbol{#1}{#2}{#3}}
86 \newcommand\fdsy@DeclareOperator[3]{\def#1{\DOTSB#3\slimits@}}
87\newcommand\fdsy@DeclareIntegral[3]{\def#1{\DOTSI#3\ilimits@}}
```

```
88 \newcommand\fdsy@DeclareDelimiter[4]{%
    \if\relax\noexpand#1\let#1\undefined\fi
90
    \DeclareMathDelimiter{#1}{#2}{#3}{#4}{#3}{#4}%
91 }
92 \newcommand\fdsy@DeclareOpen[3]{\fdsy@DeclareDelimiter{#1}{\mathopen}{#2}{#3}}
93\newcommand\fdsy@DeclareClose[3]{\fdsy@DeclareDelimiter{#1}{\mathclose}{#2}{#3}}
Font definitions.
94 \DeclareFontFamily{U}{FdSymbolA}{}
95 \DeclareFontFamily{U}{FdSymbolB}{}
96 \DeclareFontFamily{U}{FdSymbolC}{}
97 \DeclareFontFamily{U}{FdSymbolD}{}
98 \DeclareFontFamily{U}{FdSymbolE}{}
99 \DeclareFontFamily{U}{FdSymbolF}{}
101 \DeclareFontShape{U}{FdSymbolA}{m}{n}{
       <-7.1> s * [\fdsy@scale] FdSymbolA-\fdsy@msweight
102
103
      <7.1-> s * [\fdsy@scale] FdSymbolA-\fdsy@mweight
104 }{}
105 \DeclareFontShape{U}{FdSymbolA}{b}{n}{
       <-7.1> s * [\fdsy@scale] FdSymbolA-\fdsy@bsweight
106
107
       <7.1-> s * [\fdsy@scale] FdSymbolA-\fdsy@bweight
108 }{}
109 \DeclareFontShape{U}{FdSymbolB}{m}{n}{
      <-7.1> s * [\fdsy@scale] FdSymbolB-\fdsy@msweight
111
       <7.1-> s * [\fdsy@scale] FdSymbolB-\fdsy@mweight
112 }{}
113 \DeclareFontShape{U}{FdSymbolB}{b}{n}{
114
      <-7.1> s * [\fdsy@scale] FdSymbolB-\fdsy@bsweight
       <7.1-> s * [\fdsy@scale] FdSymbolB-\fdsy@bweight
115
116 }{}
117 \DeclareFontShape{U}{FdSymbolC}{m}{n}{
      <-7.1> s * [\fdsy@scale] FdSymbolC-\fdsy@msweight
118
       <7.1-> s * [\fdsy@scale] FdSymbolC-\fdsy@mweight
119
120 }{}
121 \DeclareFontShape{U}{FdSymbolC}{b}{n}{
      <-7.1> s * [\fdsy@scale] FdSymbolC-\fdsy@bsweight
122
123
       <7.1-> s * [\fdsy@scale] FdSymbolC-\fdsy@bweight
124 }{}
125 \DeclareFontShape{U}{FdSymbolD}{m}{n}{
126
       <-7.1> s * [\fdsy@scale] FdSymbolD-\fdsy@msweight
       <7.1-> s * [\fdsy@scale] FdSymbolD-\fdsy@mweight
127
128 }{}
129 \DeclareFontShape{U}{FdSymbolD}{b}{n}{
       <-7.1> s * [\fdsy@scale] FdSymbolD-\fdsy@bsweight
130
      <7.1-> s * [\fdsy@scale] FdSymbolD-\fdsy@bweight
131
```

```
132 }{}
133 \DeclareFontShape{U}{FdSymbolE}{m}{n}{
      <-7.1> s * [\fdsy@scale] FdSymbolE-\fdsy@msweight
       <7.1-> s * [\fdsy@scale] FdSymbolE-\fdsy@mweight
135
136 }{}
137 \DeclareFontShape{U}{FdSymbolE}{b}{n}{
       <-7.1> s * [\fdsy@scale] FdSymbolE-\fdsy@bsweight
138
139
       <7.1-> s * [\fdsy@scale] FdSymbolE-\fdsy@bweight
140 }{}
141 \DeclareFontShape{U}{FdSymbolF}{m}{n}{
      <-7.1> s * [\fdsy@scale] FdSymbolF-\fdsy@msweight
142
      <7.1-> s * [\fdsy@scale] FdSymbolF-\fdsy@mweight
143
144 }{}
145 \DeclareFontShape{U}{FdSymbolF}{b}{n}{
      <-7.1> s * [\fdsy@scale] FdSymbolF-\fdsy@bsweight
       <7.1-> s * [\fdsy@scale] FdSymbolF-\fdsy@bweight
147
148 }{}
149
150 \DeclareSymbolFont{symbols}{U}{FdSymbolA}{m}{n}
151 \DeclareSymbolFont{relations}{U}{FdSymbolB}{m}{n}
152 \DeclareSymbolFont{arrows}{U}{FdSymbolC}{m}{n}
153 \DeclareSymbolFont{narrows}{U}{FdSymbolD}{m}{n}
154 \DeclareSymbolFont{largesymbols}{U}{FdSymbolE}{m}{n}
156 \SetSymbolFont{symbols}{bold}{U}{FdSymbolA}{b}{n}
157 \SetSymbolFont{relations}{bold}{U}{FdSymbolB}{b}{n}
158 \ensuremath{\mbox{\sc NetSymbolFont{arrows}{bold}{U}{FdSymbolC}{b}{n}} \\
159 \SetSymbolFont{narrows}{bold}{U}{FdSymbolD}{b}{n}
160 \SetSymbolFont{largesymbols}{bold}{U}{FdSymbolE}{b}{n}
161 \SetSymbolFont{delimiters}{bold}{U}{FdSymbolF}{b}{n}
At the moment, we still use cmsy for the calligraphic alphabet.
162 \DeclareMathAlphabet{\mathcal}{OMS}{cmsy}{m}{n}
\label{local} $$ \operatorname{SetMathAlphabet}\mathcal{(0MS}{cmsy}{b}{n}$ 
A command to take math symbols from text fonts.
164 \newcommand\fdsy@bold{bold}
165 \newcommand\fdsy@text[1]{%
    \ifx\fdsy@bold\math@version
166
       \text{\bfseries#1}%
167
    \else
168
169
       \text{\mdseries#1}%
170
    \fi
171 }
FdSymbolA: binary operators and ordinary symbols
172 \fdsy@setslot{0}
```

```
173 \fdsy@DeclareSymbol{\cdot}{symbols}{\mathbin}
               \fdsy@DeclareAlias{\cdotp}{symbols}{\mathpunct}
175 \fdsy@DeclareSymbol{\hdotdot}{symbols}{\mathbin}
176 \fdsy@DeclareSymbol{\vdotdot}{symbols}{\mathbin}
                \fdsy@DeclareAlias{\colon}{symbols}{\mathpunct}
                \fdsy@DeclareAlias{\mathcolon}{symbols}{\mathpunct}
                \fdsy@DeclareAlias{\mathratio}{symbols}{\mathrel}
179
180 \fdsy@DeclareSymbol{\udotdot}{symbols}{\mathbin}
181 \fdsy@DeclareSymbol{\ddotdot}{symbols}{\mathbin}
182 \fdsy@DeclareSymbol{\hdots}{symbols}{\mathord}
                \fdsy@DeclareAlias{\@cdots}{symbols}{\mathinner}
               \left( \cdot \right) \cdot \left( \cdot
184
185 \fdsy@DeclareSymbol{\@vdots}{symbols}{\mathord}
187 \fdsy@DeclareSymbol{\udots}{symbols}{\mathord}
                \fdsy@DeclareAlias{\adots}{symbols}{\mathord}
189 \fdsy@DeclareSymbol{\ddots}{symbols}{\mathord}
190 \fdsy@DeclareSymbol{\righttherefore}{symbols}{\mathord}
191 \fdsy@DeclareSymbol{\uptherefore}{symbols}{\mathord}
                \fdsy@DeclareAlias{\therefore}{symbols}{\mathord}
193 \fdsy@DeclareSymbol{\lefttherefore}{symbols}{\mathord}
194 \fdsy@DeclareSymbol{\downtherefore}{symbols}{\mathord}
                \fdsy@DeclareAlias{\because}{symbols}{\mathord}
196 \fdsy@DeclareSymbol{\squaredots}{symbols}{\mathord}
                \fdsy@DeclareAlias{\Colon}{symbols}{\mathrel}
198 \fdsy@DeclareSymbol{\minus}{symbols}{\mathbin}
199 \fdsy@DeclareSymbol{\medslash}{symbols}{\mathbin}
                \fdsy@DeclareAlias{\smalldivslash}{symbols}{\mathbin}
201 \fdsy@DeclareSymbol{\medbackslash}{ symbols}{ \mathbin}
                \fdsy@DeclareAlias{\smallsetminus}{symbols}{\mathbin}
203 \fdsy@DeclareSymbol{\plus}{symbols}{\mathbin}
204 \fdsy@DeclareSymbol{\times}{symbols}{\mathbin}
205 \fdsy@DeclareSymbol{\pm}{symbols}{\mathbin}
206 \fdsy@DeclareSymbol{\mp}{symbols}{\mathbin}
207\fdsy@DeclareSymbol{\dotminus}{symbols}{\mathbin}
208 \fdsy@DeclareSymbol{\minusdot}{symbols}{\mathbin}
209 \fdsy@DeclareSymbol{\minusfdots}{symbols}{\mathbin}
210 \fdsy@DeclareSymbol{\minusrdots}{symbols}{\mathbin}
211 \fdsy@DeclareSymbol{\dotsminusdots}{symbols}{\mathbin}
212 \fdsy@DeclareSymbol{\div}{symbols}{\mathbin}
213 \fdsy@DeclareSymbol{\neg}{symbols}{\mathord}
                \fdsy@DeclareAlias{\lnot}{symbols}{\mathord}
                \fdsy@DeclareAlias{\minushookdown}{symbols}{\mathbin}
216 \fdsy@DeclareSymbol{\backneg}{symbols}{\mathord}
                \fdsy@DeclareAlias{\hookdownminus}{symbols}{\mathbin}
```

```
\fdsy@DeclareAlias{\invneg}{symbols}{\mathord}
218
    \fdsy@DeclareAlias{\invnot}{symbols}{\mathord}
219
   fdsy@DeclareSymbol{\intprod}{symbols}{\mathbin}
220
    \fdsy@DeclareAlias{\minushookup}{symbols}{\mathbin}
    222
    \fdsy@DeclareAlias{\turnednot}{symbols}{\mathord}
223
224 \fdsy@DeclareSymbol{\intprodr}{symbols}{\mathbin}
225
    \fdsy@DeclareAlias{\hookupminus}{symbols}{\mathbin}
226
    \fdsy@DeclareAlias{\turnedbackneg}{symbols}{\mathord}
227\fdsy@DeclareSymbol{\leftthreetimes}{symbols}{\mathbin}
228 \fdsy@DeclareSymbol{\rightthreetimes}{symbols}{\mathbin}
229 \fdsy@DeclareSymbol{\dtimes}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\btimes}{symbols}{\mathbin}
231 \fdsy@DeclareSymbol{\rtimes}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\rJoin}{symbols}{\mathrel}
   fdsy@DeclareSymbol{\utimes}{symbols}{\mathbin}
234
    \fdsy@DeclareAlias{\ttimes}{symbols}{\mathbin}
    fdsy@DeclareSymbol{\ltimes}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\lJoin}{symbols}{\mathrel}
236
237 \fdsy@DeclareSymbol{\bowtie}{symbols}{\mathrel}
    \fdsy@DeclareAlias{\Join}{symbols}{\mathrel}
238
    \fdsy@DeclareAlias{\lrtimes}{symbols}{\mathbin}
240 \fdsy@DeclareSymbol{\upbowtie}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\hourglass}{symbols}{\mathbin}
242 \fdsy@DeclareSymbol{\rightY}{symbols}{\mathbin}
243 \fdsy@DeclareSymbol{\upY}{symbols}{\mathbin}
244 \fdsy@DeclareSymbol{\leftY}{symbols}{\mathbin}
245 \fdsy@DeclareSymbol{\downY}{symbols}{\mathbin}
246 \fdsy@DeclareSymbol{\wedge}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\land}{symbols}{\mathbin}
248 \fdsy@DeclareSymbol{\vee}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\lor}{symbols}{\mathbin}
250 \fdsy@DeclareSymbol{\wedgedot}{symbols}{\mathbin}
251 \fdsy@DeclareSymbol{\veedot}{symbols}{\mathbin}
252 \fdsy@DeclareSymbol{\doublewedge}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\wedgeonwedge}{symbols}{\mathbin}
254 \fdsy@DeclareSymbol{\doublevee}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\veeonvee}{symbols}{\mathbin}
256 \fdsy@DeclareSymbol{\curlywedge}{symbols}{\mathbin}
257 \fdsy@DeclareSymbol{\curlyvee}{symbols}{\mathbin}
258 \fdsy@DeclareSymbol{\curlywedgedot}{symbols}{\mathbin}
259 \fdsy@DeclareSymbol{\curlyveedot}{symbols}{\mathbin}
260 \fdsy@DeclareSymbol{\doublecurlywedge}{symbols}{\mathbin}
261\fdsy@DeclareSymbol{\doublecurlyvee}{symbols}{\mathbin}
262 \fdsy@DeclareSymbol{\cup}{symbols}{\mathbin}
```

```
263 \fdsy@DeclareSymbol{\cap}{symbols}{\mathbin}
264 \fdsy@DeclareSymbol{\doublecup}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\Cup}{symbols}{\mathbin}
266 \fdsy@DeclareSymbol{\doublecap}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\Cap}{symbols}{\mathbin}
268 \fdsy@DeclareSymbol{\cupdot}{symbols}{\mathbin}
269 \fdsy@DeclareSymbol{\capdot}{symbols}{\mathbin}
270 \fdsy@DeclareSymbol{\cupplus}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\uplus}{symbols}{\mathbin}
272 \fdsy@DeclareSymbol{\capplus}{symbols}{\mathbin}
273 \fdsy@DeclareSymbol{\sqcup}{symbols}{\mathbin}
274 \fdsy@DeclareSymbol{\sqcap}{symbols}{\mathbin}
275 \fdsy@DeclareSymbol{\doublesqcup}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\Sqcup}{symbols}{\mathbin}
277 \fdsy@DeclareSymbol{\doublesqcap}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\Sqcap}{symbols}{\mathbin}
279 \fdsy@DeclareSymbol{\sqcupdot}{symbols}{\mathbin}
280 \fdsy@DeclareSymbol{\sqcapdot}{symbols}{\mathbin}
281 \fdsy@DeclareSymbol{\sqcupplus}{symbols}{\mathbin}
282 \fdsy@DeclareSymbol{\sqcapplus}{symbols}{\mathbin}
283 \fdsy@DeclareSymbol{\pullback}{symbols}{\mathbin}
284 \fdsy@DeclareSymbol{\pushout}{symbols}{\mathbin}
285 \fdsy@DeclareSymbol{\smalltriangleright}{symbols}{\mathbin}
286 \fdsy@DeclareSymbol{\smalltriangleup}{symbols}{\mathbin}
287 \fdsy@DeclareSymbol{\smalltriangleleft}{symbols}{\mathbin}
288 \fdsy@DeclareSymbol{\smalltriangledown}{symbols}{\mathbin}
289 \fdsy@DeclareSymbol{\smallblacktriangleright}{symbols}{\mathbin}
290 \fdsy@DeclareSymbol{\smallblacktriangleup}{symbols}{\mathbin}
291\fdsy@DeclareSymbol{\smallblacktriangleleft}{symbols}{\mathbin}
292 \fdsy@DeclareSymbol{\smallblacktriangledown}{symbols}{\mathbin}
293 \fdsy@DeclareSymbol{\medtriangleright}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\triangleright}{symbols}{\mathbin}
295 \fdsy@DeclareSymbol{\medtriangleup}{symbols}{\mathbin}
296
     \fdsy@DeclareAlias{\triangle}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\vartriangle}{symbols}{\mathbin}
297
    fdsy@DeclareSymbol{\medtriangleleft}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\triangleleft}{symbols}{\mathbin}
299
   \fdsy@DeclareSymbol{\medtriangledown}{symbols}{\mathbin}
300
     \fdsy@DeclareAlias{\triangledown}{symbols}{\mathbin}
301
302 \
    fdsy@DeclareSymbol{\medblacktriangleright}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\blacktriangleright}{symbols}{\mathbin}
304\fdsy@DeclareSymbol{\medblacktriangleup}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\blacktriangle}{symbols}{\mathbin}
306\fdsy@DeclareSymbol{\medblacktriangleleft}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\blacktriangleleft}{symbols}{\mathbin}
```

```
308 \fdsy@DeclareSymbol{\medblacktriangledown}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\blacktriangledown}{symbols}{\mathbin}
310 \fdsy@DeclareSymbol{\largetriangleup}{symbols}{\mathord}
         \fdsy@DeclareAlias{\bigtriangleup}{symbols}{\mathbin}
{\tt 312 \fdsy@DeclareSymbol{\largetriangledown}\{symbols}\{\mboundered{\tt 312 \fdsy@DeclareSymbol}\} and {\tt 312 \fdsy@DeclareSymbol} and {\tt 312 \fdsy@DeclareSymb
         \fdsy@DeclareAlias{\bigtriangledown}{symbols}{\mathbin}
313
314 \fdsy@DeclareSymbol{\smallcircle}{symbols}{\mathbin}
315
         \fdsy@DeclareAlias{\circ}{symbols}{\mathbin}
316
         \fdsy@DeclareAlias{\smwhtcircle}{symbols}{\mathbin}
317 \fdsy@DeclareSymbol{\smallblackcircle}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\bullet}{symbols}{\mathbin}
318
         \fdsy@DeclareAlias{\smblkcircle}{symbols}{\mathbin}
319
320 \fdsy@DeclareSymbol{\medcircle}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\mdlgwhtcircle}{symbols}{\mathbin}
321
322 \fdsy@DeclareSymbol{\medblackcircle}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\mdlgblkcircle}{symbols}{\mathbin}
324 \fdsy@DeclareSymbol{\ominus}{symbols}{\mathbin}
325 \fdsy@DeclareSymbol{\overt}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\circledvert}{symbols}{\mathbin}
327\fdsy@DeclareSymbol{\oslash}{symbols}{\mathbin}
328 \fdsy@DeclareSymbol{\obackslash}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\obslash}{symbols}{\mathbin}
330 \fdsy@DeclareSymbol{\oplus}{symbols}{\mathbin}
331 \fdsy@DeclareSymbol{\otimes}{symbols}{\mathbin}
332 \fdsy@DeclareSymbol{\odot}{symbols}{\mathbin}
333 \fdsy@DeclareSymbol{\ocirc}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\circledcirc}{symbols}{\mathbin}
335 \fdsy@DeclareSymbol{\oast}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\circledast}{symbols}{\mathbin}
       fdsy@DeclareSymbol{\odash}{symbols}{\mathbin}
337 \
         \fdsy@DeclareAlias{\circleddash}{symbols}{\mathbin}
338
       fdsy@DeclareSymbol{\oequal}{symbols}{\mathbin}
339
         \fdsy@DeclareAlias{\circledequal}{symbols}{\mathbin}
340
341 \fdsy@DeclareSymbol{\emptyset}{symbols}{\mathord}
         \fdsy@DeclareAlias{\diameter}{symbols}{\mathord}
342
         \fdsy@DeclareAlias{\varnothing}{symbols}{\mathord}
344 \fdsy@DeclareSymbol{\revemptyset}{symbols}{\mathord}
345 \fdsy@DeclareSymbol{\largecircle}{symbols}{\mathord}
         \fdsy@DeclareAlias{\bigcirc}{symbols}{\mathord}
346
347
         \fdsy@DeclareAlias{\lgwhtcircle}{symbols}{\mathord}
       .fdsy@DeclareSymbol{\largeblackcircle}{symbols}{\mathord}
         \fdsy@DeclareAlias{\lgblkcircle}{symbols}{\mathord}
349
       fdsy@DeclareSymbol{\smallsquare}{symbols}{\mathbin}
         \fdsy@DeclareAlias{\smwhtsquare}{symbols}{\mathbin}
352\fdsy@DeclareSymbol{\smallblacksquare}{symbols}{\mathbin}
```

```
\fdsy@DeclareAlias{\smblksquare}{symbols}{\mathbin}
353
   fdsy@DeclareSymbol{\medsquare}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\square}{symbols}{\mathbin}
355
    \fdsy@DeclareAlias{\Box}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\mdlgwhtsquare}{symbols}{\mathbin}
357
    \fdsy@DeclareAlias{\mdwhtsquare}{symbols}{\mathbin}
358
    fdsy@DeclareSymbol{\medblacksquare}{symbols}{\mathbin}
359
360
     \fdsy@DeclareAlias{\mdlgblksquare}{symbols}{\mathbin}
361
    \fdsy@DeclareAlias{\mdblksquare}{symbols}{\mathbin}
362\fdsy@DeclareSymbol{\boxminus}{symbols}{\mathbin}
   fdsy@DeclareSymbol{\boxvert}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\boxbar}{symbols}{\mathbin}
364
365 \fdsy@DeclareSymbol{\boxslash}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\boxdiag}{symbols}{\mathbin}
366
367\fdsy@DeclareSymbol{\boxbackslash}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\boxbslash}{symbols}{\mathbin}
369 \fdsy@DeclareSymbol{\boxplus}{symbols}{\mathbin}
370 \fdsy@DeclareSymbol{\boxtimes}{symbols}{\mathbin}
371 \fdsy@DeclareSymbol{\boxdot}{symbols}{\mathbin}
372 \fdsy@DeclareSymbol{\boxbox}{symbols}{\mathbin}
{\tt 373 \fdsy@DeclareSymbol{\largesquare}\{symbols\}\{\mathord\}}
     \fdsy@DeclareAlias{\lgwhtsquare}{symbols}{\mathord}
   fdsy@DeclareSymbol{\largeblacksquare}{symbols}{\mathord}
375 \
     \fdsy@DeclareAlias{\lgblksquare}{symbols}{\mathord}
376
    fdsy@DeclareSymbol{\smalldiamond}{symbols}{\mathbin}
377
    \fdsy@DeclareAlias{\diamond}{symbols}{\mathbin}
378
    \fdsy@DeclareAlias{\smwhtdiamond}{symbols}{\mathbin}
379
   fdsy@DeclareSymbol{\smallblackdiamond}{symbols}{\mathbin}
380 \
    \fdsy@DeclareAlias{\blackdiamond}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\smblkdiamond}{symbols}{\mathbin}
382
383
    fdsy@DeclareSymbol{\meddiamond}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\Diamond}{symbols}{\mathbin}
384
    \fdsy@DeclareAlias{\mdlgwhtdiamond}{symbols}{\mathbin}
385
    \fdsy@DeclareAlias{\mdwhtdiamond}{symbols}{\mathbin}
386
387 \fdsy@DeclareSymbol{\medblackdiamond}{symbols}{\mathbin}
388
    \fdsy@DeclareAlias{\mdlgblkdiamond}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\mdblkdiamond}{symbols}{\mathbin}
389
{\tt 390 \fdsy@DeclareSymbol{\diamondminus}{symbols}{\tt \mathbin}}
391 \fdsy@DeclareSymbol{\diamondvert}{symbols}{\mathbin}
392 \fdsy@DeclareSymbol{\diamondslash}{symbols}{\mathbin}
393 \fdsy@DeclareSymbol{\diamondbackslash}{symbols}{\mathbin}
    \fdsy@DeclareAlias{\diamondbslash}{symbols}{\mathbin}
395 \fdsy@DeclareSymbol{\diamondplus}{symbols}{\mathbin}
396 \fdsy@DeclareSymbol{\diamondtimes}{symbols}{\mathbin}
397\fdsy@DeclareSymbol{\diamonddot}{symbols}{\mathbin}
```

```
\fdsy@DeclareAlias{\diamondcdot}{symbols}{\mathbin}
399 \fdsy@DeclareSymbol{\diamonddiamond}{symbols}{\mathbin}
400 \fdsy@DeclareSymbol{\smalllozenge}{symbols}{\mathord}
     \fdsy@DeclareAlias{\smwhtlozenge}{symbols}{\mathord}
{\tt 402 \fdsy@DeclareSymbol{\smallblacklozenge}\{symbols\}\{\mbord\}} \\
     \fdsy@DeclareAlias{\smblklozenge}{symbols}{\mathord}
404 \fdsy@DeclareSymbol{\medlozenge}{symbols}{\mathord}
405
     \fdsy@DeclareAlias{\lozenge}{symbols}{\mathord}
406
     \fdsy@DeclareAlias{\mdlgwhtlozenge}{symbols}{\mathord}
     \fdsy@DeclareAlias{\mdwhtlozenge}{symbols}{\mathord}
407
    fdsy@DeclareSymbol{\medblacklozenge}{symbols}{\mathord}
408
     \fdsy@DeclareAlias{\blacklozenge}{symbols}{\mathord}
409
     \fdsy@DeclareAlias{\mdlgblklozenge}{symbols}{\mathord}
410
     \fdsy@DeclareAlias{\mdblklozenge}{symbols}{\mathord}
411
412 \fdsy@DeclareSymbol{\lozengeminus}{symbols}{\mathord}
413 \fdsy@DeclareSymbol{\smallwhitestar}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\smwhitestar}{symbols}{\mathbin}
    fdsy@DeclareSymbol{\smallblackstar}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\star}{symbols}{\mathbin}
417 \fdsy@DeclareSymbol{\medwhitestar}{symbols}{\mathbin}
{\tt 418 \fdsy@DeclareSymbol{\medblackstar}{symbols}{\tt \mathbin}}
     \fdsy@DeclareAlias{\medstar}{symbols}{\mathbin}
420 \fdsy@DeclareSymbol{\largewhitestar}{symbols}{\mathord}
421 \fdsy@DeclareSymbol{\largeblackstar}{symbols}{\mathord}
     \fdsy@DeclareAlias{\bigstar}{symbols}{\mathord}
423 \fdsy@DeclareSymbol{\ast}{symbols}{\mathbin}
424 \fdsy@DeclareSymbol{\infty}{symbols}{\mathord}
425 \fdsy@DeclareSymbol{\propto}{symbols}{\mathrel}
     \fdsy@DeclareAlias{\varpropto}{symbols}{\mathrel}
427 \fdsy@DeclareSymbol{\backpropto}{symbols}{\mathrel}
     \fdsy@DeclareAlias{\propfrom}{symbols}{\mathrel}
429 \fdsy@DeclareSymbol{\crossing}{symbols}{\mathrel}
430 \fdsy@DeclareSymbol{\between}{symbols}{\mathrel}
431 \fdsy@DeclareSymbol{\separated}{symbols}{\mathrel}
432 \fdsy@DeclareSymbol{\top}{symbols}{\mathord}
     \fdsy@DeclareAlias{\intercal}{symbols}{\mathbin}
434 \fdsy@DeclareSymbol{\bot}{symbols}{\mathord}
435 \fdsy@DeclareSymbol{\wreath}{symbols}{\mathbin}
     \fdsy@DeclareAlias{\wr}{symbols}{\mathbin}
437 \fdsy@DeclareSymbol{\angle}{symbols}{\mathord}
438 \fdsy@DeclareSymbol{\revangle}{symbols}{\mathord}
439 \fdsy@DeclareSymbol{\measuredangle}{symbols}{\mathord}
440 \fdsy@DeclareSymbol{\revmeasuredangle}{symbols}{\mathord}
    \fdsy@DeclareAlias{\measuredangleleft}{symbols}{\mathord}
442 \fdsy@DeclareSymbol{\sphericalangle}{symbols}{\mathord}
```

```
443 \fdsy@DeclareSymbol{\sphericalangleup}{symbols}{\mathord}
444 \fdsy@DeclareSymbol{\sphericalangleleft}{symbols}{\mathord}
    \fdsy@DeclareAlias{\revsphericalangle}{symbols}{\mathord}
    \fdsy@DeclareAlias{\gtlpar}{symbols}{\mathord}
\label{lem:condition} \begin{tabular} $$447 \fdsy@DeclareSymbol{\sphericalangledown}{symbols}{\mathord}$$
448 \fdsy@DeclareSymbol{\rightangle}{symbols}{\mathord}
449 \fdsy@DeclareSymbol{\measuredrightangle}{symbols}{\mathord}
450 \fdsy@DeclareSymbol{\rightanglesquare}{symbols}{\mathord}
    \fdsy@DeclareAlias{\rightanglesqr}{symbols}{\mathord}
452 \fdsy@DeclareSymbol{\measuredrightangledot}{symbols}{\mathord}
    \fdsy@DeclareAlias{\rightanglemdot}{symbols}{\mathord}
454 \fdsy@DeclareSymbol{\prime}{symbols}{\mathord}
455 \fdsy@DeclareSymbol{\backprime}{symbols}{\mathord}
456 \fdsy@DeclareSymbol{\smallprod}{symbols}{\mathop}
457 \fdsy@DeclareSymbol{\smallcoprod}{symbols}{\mathop}
    \fdsy@DeclareAlias{\amalg}{symbols}{\mathbin}
459 \fdsy@DeclareSymbol{\smallint}{symbols}{\mathop}
460 \fdsy@DeclareSymbol{\checkmark}{symbols}{\mathord}
461 \fdsy@DeclareSymbol{\lightning}{symbols}{\mathord}
    \fdsy@DeclareAlias{\downzigzagarrow}{symbols}{\mathord}
464 \fdsy@DeclareSymbol{\vardiamondsuit}{symbols}{\mathord}
465 \fdsy@DeclareSymbol{\heartsuit}{symbols}{\mathord}
466 \fdsy@DeclareSymbol{\varheartsuit}{symbols}{\mathord}
467 \fdsy@DeclareSymbol{\spadesuit}{symbols}{\mathord}
468 \fdsy@DeclareSymbol{\clubsuit}{symbols}{\mathord}
469 \fdsy@DeclareSymbol{\maltese}{symbols}{\mathord}
470 \fdsy@DeclareSymbol{\starofdavid}{symbols}{\mathord}
471 \fdsy@DeclareSymbol{\sector}{symbols}{\mathord}
472 \fdsy@DeclareSymbol{\forall}{symbols}{\mathord}
473 \fdsy@DeclareSymbol{\exists}{symbols}{\mathord}
474 \fdsy@DeclareSymbol{\nexists}{symbols}{\mathord}
475 \fdsy@DeclareSymbol{\Finv}{symbols}{\mathord}
476 \fdsy@DeclareSymbol{\Game}{symbols}{\mathord}
477 \fdsy@DeclareSymbol{\complement}{symbols}{\mathord}
478 \fdsy@DeclareSymbol{\flat}{symbols}{\mathord}
479 \fdsy@DeclareSymbol{\natural}{symbols}{\mathord}
480 \fdsy@DeclareSymbol{\sharp}{symbols}{\mathord}
481 \fdsy@DeclareSymbol{\aleph}{symbols}{\mathord}
482 \fdsy@DeclareSymbol{\beth}{symbols}{\mathord}
483 \fdsy@DeclareSymbol{\gimel}{symbols}{\mathord}
484 \fdsy@DeclareSymbol{\daleth}{symbols}{\mathord}
485 \fdsy@DeclareSymbol{\wp}{symbols}{\mathord}
FdSymbolB: relations
486 \fdsy@setslot{0}
```

```
487\fdsy@DeclareSymbol{\equal}{relations}{\mathrel}
488 \fdsy@DeclareSymbol{\equiv}{relations}{\mathrel}
489 \fdsy@DeclareSymbol{\sim}{relations}{\mathrel}
490 \fdsy@DeclareSymbol{\backsim}{relations}{\mathrel}
491\fdsy@DeclareSymbol{\approx}{relations}{\mathrel}
492 \fdsy@DeclareSymbol{\triplesim}{relations}{\mathrel}
   \fdsy@DeclareAlias{\approxident}{relations}{\mathrel}
494 \fdsy@DeclareSymbol{\simeq}{relations}{\mathrel}
495 \fdsy@DeclareSymbol{\backsimeq}{relations}{\mathrel}
496 \fdsy@DeclareSymbol{\eqsim}{relations}{\mathrel}
497 \fdsy@DeclareSymbol{\cong}{relations}{\mathrel}
498 \fdsy@DeclareSymbol{\backcong}{relations}{\mathrel}
499 \fdsy@DeclareSymbol{\approxeq}{relations}{\mathrel}
500 \fdsy@DeclareSymbol{\bumpeq}{relations}{\mathrel}
501 \fdsy@DeclareSymbol{\bumpeqq}{relations}{\mathrel}
502 \fdsy@DeclareSymbol{\Bumpeq}{relations}{\mathrel}
503 \fdsy@DeclareSymbol{\doteq}{relations}{\mathrel}
504 \fdsy@DeclareSymbol{\eqdot}{relations}{\mathrel}
505 \fdsy@DeclareSymbol{\Doteq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\doteqdot}{relations}{\mathrel}
\verb| 507 \fdsy@DeclareSymbol{\fallingdotseq}{relations}{\mathrel}| \\
508 \fdsy@DeclareSymbol{\risingdotseq}{relations}{\mathrel}
509 \fdsy@DeclareSymbol{\smile}{relations}{\mathrel}
    \fdsy@DeclareAlias{\smallsmile}{relations}{\mathrel}
511 \fdsy@DeclareSymbol{\frown}{relations}{\mathrel}
    \fdsy@DeclareAlias{\smallfrown}{relations}{\mathrel}
512
513 \fdsy@DeclareSymbol{\smilefrown}{relations}{\mathrel}
    \fdsy@DeclareAlias{\asymp}{relations}{\mathrel}
515 \fdsy@DeclareSymbol{\frownsmile}{relations}{\mathrel}
    \fdsy@DeclareAlias{\closure}{relations}{\mathrel}
517 \fdsy@DeclareSymbol{\smileeq}{relations}{\mathrel}
518 \fdsy@DeclareSymbol{\frowneq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\arceq}{relations}{\mathrel}
520 \fdsy@DeclareSymbol{\eqcirc}{relations}{\mathrel}
521 \fdsy@DeclareSymbol{\circeq}{relations}{\mathrel}
522 \fdsy@DeclareSymbol{\wedgeq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\hateq}{relations}{\mathrel}
524 \fdsy@DeclareSymbol{\veeeq}{relations}{\mathrel}
525 \fdsy@DeclareSymbol{\stareq}{relations}{\mathrel}
526 \fdsy@DeclareSymbol{\triangleeq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\triangleq}{relations}{\mathrel}
528 \fdsy@DeclareSymbol{\in}{relations}{\mathrel}
529 \fdsy@DeclareSymbol{\owns}{relations}{\mathrel}
    \fdsy@DeclareAlias{\ni}{relations}{\mathrel}
531 \fdsy@DeclareSymbol{\less}{relations}{\mathrel}
```

```
532 \fdsy@DeclareSymbol{\gtr}{relations}{\mathrel}
\fdsy@DeclareAlias{\le}{relations}{\mathrel}
535 \fdsy@DeclareSymbol{\geq}{relations}{\mathrel}
        \fdsy@DeclareAlias{\ge}{relations}{\mathrel}
537 \fdsy@DeclareSymbol{\leqslant}{relations}{\mathrel}
538 \fdsy@DeclareSymbol{\geqslant}{relations}{\mathrel}
539 \fdsy@DeclareSymbol{\leqq}{relations}{\mathrel}
540 \fdsy@DeclareSymbol{\geqq}{relations}{\mathrel}
541\fdsy@DeclareSymbol{\lesssim}{relations}{\mathrel}
542 \fdsy@DeclareSymbol{\gtrsim}{relations}{\mathrel}
543 \fdsy@DeclareSymbol{\lessapprox}{relations}{\mathrel}
544 \fdsy@DeclareSymbol{\gtrapprox}{relations}{\mathrel}
545 \fdsy@DeclareSymbol{\lessgtr}{relations}{\mathrel}
546 \fdsy@DeclareSymbol{\gtrless}{relations}{\mathrel}
{\tt 547 \fdsy@DeclareSymbol{\lesseqgtr}{relations}{\tt \mathrel}}
548 \fdsy@DeclareSymbol{\gtreqless}{relations}{\mathrel}
549 \fdsy@DeclareSymbol{\lesseqqgtr}{relations}{\mathrel}
550 \fdsy@DeclareSymbol{\gtreqqless}{relations}{\mathrel}
551 \fdsy@DeclareSymbol{\lesseqgtrslant}{relations}{\mathrel}
\label{lem:signal} $$ \space{2.552 \end{0.05cm} $$ \space{2.552 \end{0.0
553 \fdsy@DeclareSymbol{\ll}{relations}{\mathrel}
554 \fdsy@DeclareSymbol{\gg}{relations}{\mathrel}
555 \fdsy@DeclareSymbol{\lll}{relations}{\mathrel}
        \fdsy@DeclareAlias{\llless}{relations}{\mathrel}
557 \fdsy@DeclareSymbol{\ggg}{relations}{\mathrel}
        \fdsy@DeclareAlias{\gggtr}{relations}{\mathrel}
559 \fdsy@DeclareSymbol{\lessclosed}{relations}{\mathrel}
        \fdsy@DeclareAlias{\lhd}{relations}{\mathbin}
560
        \fdsy@DeclareAlias{\vartriangleleft}{relations}{\mathrel}
561
     \fdsy@DeclareSymbol{\gtrclosed}{relations}{\mathrel}
562
        \fdsy@DeclareAlias{\rhd}{relations}{\mathbin}
563
        \fdsy@DeclareAlias{\vartriangleright}{relations}{\mathrel}
564
565 \fdsy@DeclareSymbol{\leqclosed}{relations}{\mathrel}
        \fdsy@DeclareAlias{\unlhd}{relations}{\mathbin}
566
567
        \fdsy@DeclareAlias{\trianglelefteq}{relations}{\mathrel}
568 \fdsy@DeclareSymbol{\geqclosed}{relations}{\mathrel}
        \fdsy@DeclareAlias{\unrhd}{relations}{\mathbin}
569
        \fdsy@DeclareAlias{\trianglerighteq}{relations}{\mathrel}
570
571
       fdsy@DeclareSymbol{\lesscc}{relations}{\mathrel}
        \fdsy@DeclareAlias{\ltcc}{relations}{\mathrel}
573 \fdsy@DeclareSymbol{\gtrcc}{relations}{\mathrel}
         \fdsy@DeclareAlias{\gtcc}{relations}{\mathrel}
575 \fdsy@DeclareSymbol{\leqslcc}{relations}{\mathrel}
        \fdsy@DeclareAlias{\lescc}{relations}{\mathrel}
```

```
577 \fdsy@DeclareSymbol{\geqslcc}{relations}{\mathrel}
    \fdsy@DeclareAlias{\gescc}{relations}{\mathrel}
579 \fdsy@DeclareSymbol{\sqsubset}{relations}{\mathrel}
580 \fdsy@DeclareSymbol{\sqsupset}{relations}{\mathrel}
581\fdsy@DeclareSymbol{\sqsubseteq}{relations}{\mathrel}
582 \fdsy@DeclareSymbol{\sqsupseteq}{relations}{\mathrel}
583 \fdsy@DeclareSymbol{\sqsubseteqq}{relations}{\mathrel}
584 \fdsy@DeclareSymbol{\sqsupseteqq}{relations}{\mathrel}
585 \fdsy@DeclareSymbol{\Sqsubset}{relations}{\mathrel}
586 \fdsy@DeclareSymbol{\Sqsupset}{relations}{\mathrel}
587 \fdsy@DeclareSymbol{\subset}{relations}{\mathrel}
588 \fdsy@DeclareSymbol{\supset}{relations}{\mathrel}
589 \fdsy@DeclareSymbol{\subseteq}{relations}{\mathrel}
590 \fdsy@DeclareSymbol{\supseteq}{relations}{\mathrel}
591\fdsy@DeclareSymbol{\subseteqq}{relations}{\mathrel}
592 \fdsy@DeclareSymbol{\supseteqq}{relations}{\mathrel}
593 \fdsy@DeclareSymbol{\Subset}{relations}{\mathrel}
594 \fdsy@DeclareSymbol{\Supset}{relations}{\mathrel}
595 \fdsy@DeclareSymbol{\prec}{relations}{\mathrel}
596 \fdsy@DeclareSymbol{\succ}{relations}{\mathrel}
597\fdsy@DeclareSymbol{\preceq}{relations}{\mathrel}
598 \fdsy@DeclareSymbol{\succeq}{relations}{\mathrel}
{\tt 599 \fdsy@DeclareSymbol{\preccurlyeq}{relations}\{\mathrel}
600 \fdsy@DeclareSymbol{\succcurlyeq}{relations}{\mathrel}
601\fdsy@DeclareSymbol{\preceqq}{relations}{\mathrel}
602\fdsy@DeclareSymbol{\succeqq}{relations}{\mathrel}
603 \fdsy@DeclareSymbol{\precsim}{relations}{\mathrel}
604 \fdsy@DeclareSymbol{\succsim}{relations}{\mathrel}
605 \fdsy@DeclareSymbol{\precapprox}{relations}{\mathrel}
606 \fdsy@DeclareSymbol{\succapprox}{relations}{\mathrel}
607\fdsy@DeclareSymbol{\lessdot}{relations}{\mathrel}
608 \fdsy@DeclareSymbol{\gtrdot}{relations}{\mathrel}
609 \fdsy@DeclareSymbol{\leqdot}{relations}{\mathrel}
610 \fdsy@DeclareSymbol{\geqdot}{relations}{\mathrel}
611 \fdsy@DeclareSymbol{\leqslantdot}{relations}{\mathrel}
     \fdsy@DeclareAlias{\lesdot}{relations}{\mathrel}
613 \fdsy@DeclareSymbol{\geqslantdot}{relations}{\mathrel}
     \fdsy@DeclareAlias{\gesdot}{relations}{\mathrel}
615 \fdsy@DeclareSymbol{\eqslantless}{relations}{\mathrel}
616 \fdsy@DeclareSymbol{\eqslantgtr}{relations}{\mathrel}
617 \fdsy@DeclareSymbol{\curlyeqprec}{relations}{\mathrel}
618 \fdsy@DeclareSymbol{\curlyeqsucc}{relations}{\mathrel}
619 \fdsy@DeclareSymbol{\nequal}{relations}{\mathrel}
     \fdsy@DeclareAlias{\neq}{relations}{\mathrel}
     \fdsy@DeclareAlias{\ne}{relations}{\mathrel}
```

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622 \fdsy@DeclareSymbol{\nequiv}{relations}{\mathrel}
623 \fdsy@DeclareSymbol{\nsim}{relations}{\mathrel}
624 \fdsy@DeclareSymbol{\nbacksim}{relations}{\mathrel}
625 \fdsy@DeclareSymbol{\napprox}{relations}{\mathrel}
626 \fdsy@DeclareSymbol{\ntriplesim}{relations}{\mathrel}
         \fdsy@DeclareAlias{\napproxident}{relations}{\mathrel}
628 \fdsy@DeclareSymbol{\nsimeq}{relations}{\mathrel}
         \fdsy@DeclareAlias{\nsime}{relations}{\mathrel}
630 \fdsy@DeclareSymbol{\nbacksimeq}{relations}{\mathrel}
631\fdsy@DeclareSymbol{\neqsim}{relations}{\mathrel}
632 \fdsy@DeclareSymbol{\ncong}{relations}{\mathrel}
633 \fdsy@DeclareSymbol{\nbackcong}{relations}{\mathrel}
634 \fdsy@DeclareSymbol{\napproxeq}{relations}{\mathrel}
635 \fdsy@DeclareSymbol{\nbumpeq}{relations}{\mathrel}
636 \fdsy@DeclareSymbol{\nbumpeqq}{relations}{\mathrel}
\label{lem:continuous} $$637 \fdsy@DeclareSymbol{\nBumpeq}{relations}{\mathbb{Z}} $$
638 \fdsy@DeclareSymbol{\ndoteq}{relations}{\mathrel}
639 \fdsy@DeclareSymbol{\neqdot}{relations}{\mathrel}
640 \fdsy@DeclareSymbol{\nDoteq}{relations}{\mathrel}
641 \fdsy@DeclareSymbol{\nfallingdotseq}{relations}{\mathrel}
\label{lem:condition} $$ 642 \end{\colored} {\colored} {\colored} {\colored} $$ (mathrel) $$ (
643 \fdsy@DeclareSymbol{\nsmile}{relations}{\mathrel}
644 \fdsy@DeclareSymbol{\nfrown}{relations}{\mathrel}
645 \fdsy@DeclareSymbol{\nsmilefrown}{relations}{\mathrel}
         \fdsy@DeclareAlias{\nasymp}{relations}{\mathrel}
647 \fdsy@DeclareSymbol{\nfrownsmile}{relations}{\mathrel}
         \fdsy@DeclareAlias{\nclosure}{relations}{\mathrel}
649 \fdsy@DeclareSymbol{\nsmileeq}{relations}{\mathrel}
650 \fdsy@DeclareSymbol{\nfrowneq}{relations}{\mathrel}
         \fdsy@DeclareAlias{\narceq}{relations}{\mathrel}
652 \fdsy@DeclareSymbol{\neqcirc}{relations}{\mathrel}
653 \fdsy@DeclareSymbol{\ncirceq}{relations}{\mathrel}
654 \fdsy@DeclareSymbol{\nwedgeq}{relations}{\mathrel}
         \fdsy@DeclareAlias{\nhateq}{relations}{\mathrel}
656 \fdsy@DeclareSymbol{\nveeeq}{relations}{\mathrel}
657 \fdsy@DeclareSymbol{\nstareq}{relations}{\mathrel}
658 \fdsy@DeclareSymbol{\ntriangleeq}{relations}{\mathrel}
659 \fdsy@DeclareSymbol{\nin}{relations}{\mathrel}
         \fdsy@DeclareAlias{\notin}{relations}{\mathrel}
661 \fdsy@DeclareSymbol{\nowns}{relations}{\mathrel}
         \fdsy@DeclareAlias{\nni}{relations}{\mathrel}
663 \fdsy@DeclareSymbol{\nless}{relations}{\mathrel}
664 \fdsy@DeclareSymbol{\ngtr}{relations}{\mathrel}
665 \fdsy@DeclareSymbol{\nleq}{relations}{\mathrel}
666 \fdsy@DeclareSymbol{\ngeq}{relations}{\mathrel}
```

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667 \fdsy@DeclareSymbol{\nleqslant}{relations}{\mathrel}
668 \fdsy@DeclareSymbol{\ngeqslant}{relations}{\mathrel}
669 \fdsy@DeclareSymbol{\nleqq}{relations}{\mathrel}
670 \fdsy@DeclareSymbol{\ngeqq}{relations}{\mathrel}
\label{lem:condition} $$ 671 \footnote{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colored{\colore
672 \fdsy@DeclareSymbol{\ngtrsim}{relations}{\mathrel}
673 \fdsy@DeclareSymbol{\nlessapprox}{relations}{\mathrel}
674 \fdsy@DeclareSymbol{\ngtrapprox}{relations}{\mathrel}
675 \fdsy@DeclareSymbol{\nlessgtr}{relations}{\mathrel}
676 \fdsy@DeclareSymbol{\ngtrless}{relations}{\mathrel}
677 \fdsy@DeclareSymbol{\nlesseqgtr}{relations}{\mathrel}
678 \fdsy@DeclareSymbol{\ngtreqless}{relations}{\mathrel}
679 \fdsy@DeclareSymbol{\nlesseqqgtr}{relations}{\mathrel}
680 \fdsy@DeclareSymbol{\ngtreqqless}{relations}{\mathrel}
681 \fdsy@DeclareSymbol{\nlesseggtrslant}{relations}{\mathrel}
682 \fdsy@DeclareSymbol{\ngtreqlessslant}{relations}{\mathrel}
683 \fdsy@DeclareSymbol{\nll}{relations}{\mathrel}
684 \fdsy@DeclareSymbol{\ngg}{relations}{\mathrel}
685 \fdsy@DeclareSymbol{\nlll}{relations}{\mathrel}
686 \fdsy@DeclareSymbol{\nggg}{relations}{\mathrel}
687 \footnote{Mathrel} \end{Mathrel} $$ \end{Mathrel} $
             \fdsy@DeclareAlias{\ntriangleleft}{relations}{\mathrel}
689 \fdsy@DeclareSymbol{\ngtrclosed}{relations}{\mathrel}
             \fdsy@DeclareAlias{\ntriangleright}{relations}{\mathrel}
690
691\fdsy@DeclareSymbol{\nleqclosed}{relations}{\mathrel}
             \fdsy@DeclareAlias{\ntrianglelefteq}{relations}{\mathrel}
692
693 \fdsy@DeclareSymbol{\ngeqclosed}{relations}{\mathrel}
             \fdsy@DeclareAlias{\ntrianglerighteq}{relations}{\mathrel}
694
695 \fdsy@DeclareSymbol{\nlesscc}{relations}{\mathrel}
             \fdsy@DeclareAlias{\nltcc}{relations}{\mathrel}
696
697 \fdsy@DeclareSymbol{\ngtrcc}{relations}{\mathrel}
             \fdsy@DeclareAlias{\ngtcc}{relations}{\mathrel}
699 \fdsy@DeclareSymbol{\nleqslcc}{relations}{\mathrel}
             \fdsy@DeclareAlias{\nlescc}{relations}{\mathrel}
701\fdsy@DeclareSymbol{\ngeqslcc}{relations}{\mathrel}
             \fdsy@DeclareAlias{\ngescc}{relations}{\mathrel}
703 \fdsy@DeclareSymbol{\nsqsubset}{relations}{\mathrel}
704 \fdsy@DeclareSymbol{\nsqsupset}{relations}{\mathrel}
705 \fdsy@DeclareSymbol{\nsqsubseteq}{relations}{\mathrel}
706 \fdsy@DeclareSymbol{\nsqsupseteq}{relations}{\mathrel}
707 \fdsy@DeclareSymbol{\nsqsubseteqq}{relations}{\mathrel}
\label{lem:condition} $$ \dsy@DeclareSymbol{\nsqsupseteqq}{relations}_{\mbox{\mbox{$mathrel$}}} $$
709 \fdsy@DeclareSymbol{\nSqsubset}{relations}{\mathrel}
710 \fdsy@DeclareSymbol{\nSqsupset}{relations}{\mathrel}
 711 \fdsy@DeclareSymbol{\nsubset}{relations}{\mathrel}
```

```
712 \fdsy@DeclareSymbol{\nsupset}{relations}{\mathrel}
713 \fdsy@DeclareSymbol{\nsubseteq}{relations}{\mathrel}
714 \fdsy@DeclareSymbol{\nsupseteq}{relations}{\mathrel}
715 \fdsy@DeclareSymbol{\nsubseteqq}{relations}{\mathrel}
716 \fdsy@DeclareSymbol{\nsupseteqq}{relations}{\mathrel}
717 \fdsy@DeclareSymbol{\nSubset}{relations}{\mathrel}
718 \fdsy@DeclareSymbol{\nSupset}{relations}{\mathrel}
719 \fdsy@DeclareSymbol{\nprec}{relations}{\mathrel}
720 \fdsy@DeclareSymbol{\nsucc}{relations}{\mathrel}
721 \fdsy@DeclareSymbol{\npreceq}{relations}{\mathrel}
722 \fdsy@DeclareSymbol{\nsucceq}{relations}{\mathrel}
723 \fdsy@DeclareSymbol{\npreccurlyeq}{relations}{\mathrel}
724 \fdsy@DeclareSymbol{\nsucccurlyeq}{relations}{\mathrel}
725 \fdsy@DeclareSymbol{\npreceqq}{relations}{\mathrel}
726 \fdsy@DeclareSymbol{\nsucceqq}{relations}{\mathrel}
727 \fdsy@DeclareSymbol{\nprecsim}{relations}{\mathrel}
728 \fdsy@DeclareSymbol{\nsuccsim}{relations}{\mathrel}
729 \fdsy@DeclareSymbol{\nprecapprox}{relations}{\mathrel}
730 \fdsy@DeclareSymbol{\nsuccapprox}{relations}{\mathrel}
731 \fdsy@DeclareSymbol{\nlessdot}{relations}{\mathrel}
\label{lem:condition} $$732 \foots = Symbol{\ngtrdot}{relations}{\mathbb{Z}} $$
733 \fdsy@DeclareSymbol{\nleqdot}{relations}{\mathrel}
734 \fdsy@DeclareSymbol{\ngeqdot}{relations}{\mathrel}
735 \fdsy@DeclareSymbol{\nleqslantdot}{relations}{\mathrel}
    \fdsy@DeclareAlias{\nlesdot}{relations}{\mathrel}
737 \fdsy@DeclareSymbol{\ngeqslantdot}{relations}{\mathrel}
    \fdsy@DeclareAlias{\ngesdot}{relations}{\mathrel}
739 \fdsy@DeclareSymbol{\neqslantless}{relations}{\mathrel}
740 \fdsy@DeclareSymbol{\neqslantgtr}{relations}{\mathrel}
741 \fdsy@DeclareSymbol{\ncurlyeqprec}{relations}{\mathrel}
742 \fdsy@DeclareSymbol{\ncurlyeqsucc}{relations}{\mathrel}
743 \fdsy@DeclareSymbol{\simneqq}{relations}{\mathrel}
744 \fdsy@DeclareSymbol{\backsimneqq}{relations}{\mathrel}
745 \fdsy@DeclareSymbol{\lneq}{relations}{\mathrel}
746 \fdsy@DeclareSymbol{\gneq}{relations}{\mathrel}
747 \fdsy@DeclareSymbol{\lneqq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\lvertneqq}{relations}{\mathrel}
749 \fdsy@DeclareSymbol{\gneqq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\gvertneqq}{relations}{\mathrel}
751\fdsy@DeclareSymbol{\lnsim}{relations}{\mathrel}
752 \fdsy@DeclareSymbol{\gnsim}{relations}{\mathrel}
753 \fdsy@DeclareSymbol{\lnapprox}{relations}{\mbox{\mathrel}}
754 \fdsy@DeclareSymbol{\gnapprox}{relations}{\mathrel}
755 \fdsy@DeclareSymbol{\lessneqqgtr}{relations}{\mathrel}
756 \fdsy@DeclareSymbol{\gtrneqqless}{relations}{\mathrel}
```

```
757 \fdsy@DeclareSymbol{\sqsubsetneq}{relations}{\mathrel}
758 \fdsy@DeclareSymbol{\sqsupsetneq}{relations}{\mathrel}
759 \fdsy@DeclareSymbol{\sqsubsetneqq}{relations}{\mathrel}
760 \fdsy@DeclareSymbol{\sqsupsetneqq}{relations}{\mathrel}
761 \fdsy@DeclareSymbol{\subsetneq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\varsubsetneq}{relations}{\mathrel}
763 \fdsy@DeclareSymbol{\supsetneq}{relations}{\mathrel}
     \fdsy@DeclareAlias{\varsupsetneq}{relations}{\mathrel}
765 \fdsy@DeclareSymbol{\subsetneqq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\varsubsetneqq}{relations}{\mathrel}
766
767 \fdsy@DeclareSymbol{\supsetneqq}{relations}{\mathrel}
    \fdsy@DeclareAlias{\varsupsetneqq}{relations}{\mathrel}
769 \fdsy@DeclareSymbol{\precneq}{relations}{\mathrel}
770 \fdsy@DeclareSymbol{\succneq}{relations}{\mathrel}
771 \fdsy@DeclareSymbol{\precneqq}{relations}{\mathrel}
772 \fdsy@DeclareSymbol{\succneqq}{relations}{\mathrel}
773 \fdsy@DeclareSymbol{\precnsim}{relations}{\mathrel}
774 \fdsy@DeclareSymbol{\succnsim}{relations}{\mathrel}
775 \fdsy@DeclareSymbol{\precnapprox}{relations}{\mathrel}
776 \fdsy@DeclareSymbol{\succnapprox}{relations}{\mathrel}
778 \DeclareRobustCommand{\coloneq}{\mathrel{{\vdotdot}{\equal}}}
779 \let\coloneqq\coloneq
FdSymbolC: arrows
780 \fdsy@setslot{0}
781 \fdsy@DeclareSymbol{\rightarrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\to}{arrows}{\mathrel}
783 \fdsy@DeclareSymbol{\uparrow}{arrows}{\mathrel}
784 \fdsy@DeclareSymbol{\leftarrow}{arrows}{\mathrel}
785 \fdsy@DeclareAlias{\gets}{arrows}{\mathrel}
786 \fdsy@DeclareSymbol{\downarrow}{arrows}{\mathrel}
787 \fdsy@DeclareSymbol{\nearrow}{arrows}{\mathrel}
788 \fdsy@DeclareSymbol{\nwarrow}{arrows}{\mathrel}
789 \fdsy@DeclareSymbol{\swarrow}{arrows}{\mathrel}
790 \fdsy@DeclareSymbol{\searrow}{arrows}{\mathrel}
791 \fdsy@DeclareSymbol{\Rightarrow}{arrows}{\mathrel}
792 \fdsy@DeclareSymbol{\Uparrow}{arrows}{\mathrel}
793 \fdsy@DeclareSymbol{\Leftarrow}{arrows}{\mathrel}
794 \fdsy@DeclareSymbol{\Downarrow}{arrows}{\mathrel}
795 \fdsy@DeclareSymbol{\Nearrow}{arrows}{\mathrel}
796 \fdsy@DeclareSymbol{\Nwarrow}{arrows}{\mathrel}
797 \fdsy@DeclareSymbol{\Swarrow}{arrows}{\mathrel}
798 \fdsy@DeclareSymbol{\Searrow}{arrows}{\mathrel}
799 \fdsy@DeclareSymbol{\leftrightarrow}{arrows}{\mathrel}
800 \fdsy@DeclareSymbol{\updownarrow}{arrows}{\mathrel}
```

```
801\fdsy@DeclareSymbol{\neswarrow}{arrows}{\mathrel}
802\fdsy@DeclareSymbol{\nwsearrow}{arrows}{\mathrel}
803 \fdsy@DeclareSymbol{\Leftrightarrow}{arrows}{\mathrel}
804 \fdsy@DeclareSymbol{\Updownarrow}{arrows}{\mathrel}
805 \fdsy@DeclareSymbol{\Neswarrow}{arrows}{\mathrel}
806 \fdsy@DeclareSymbol{\Nwsearrow}{arrows}{\mathrel}
807\fdsy@DeclareSymbol{\twoheadrightarrow}{arrows}{\mathrel}
808 \fdsy@DeclareSymbol{\twoheaduparrow}{arrows}{\mathrel}
809 \fdsy@DeclareSymbol{\twoheadleftarrow}{arrows}{\mathrel}
810 \fdsy@DeclareSymbol{\twoheaddownarrow}{arrows}{\mathrel}
811 \fdsy@DeclareSymbol{\twoheadnearrow}{arrows}{\mathrel}
812 \fdsy@DeclareSymbol{\twoheadnwarrow}{arrows}{\mathrel}
813 \fdsy@DeclareSymbol{\twoheadswarrow}{arrows}{\mathrel}
814 \fdsy@DeclareSymbol{\twoheadsearrow}{arrows}{\mathrel}
815 \fdsy@DeclareSymbol{\rightarrowtail}{arrows}{\mathrel}
816 \fdsy@DeclareSymbol{\uparrowtail}{arrows}{\mathrel}
817 \fdsy@DeclareSymbol{\leftarrowtail}{arrows}{\mathrel}
818 \fdsy@DeclareSymbol{\downarrowtail}{arrows}{\mathrel}
819 \fdsy@DeclareSymbol{\nearrowtail}{arrows}{\mathrel}
820 \fdsy@DeclareSymbol{\nwarrowtail}{arrows}{\mathrel}
821\fdsy@DeclareSymbol{\swarrowtail}{arrows}{\mathrel}
822 \fdsy@DeclareSymbol{\searrowtail}{arrows}{\mathrel}
823 \fdsy@DeclareSymbol{\rightmapsto}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\mapsto}{arrows}{\mathrel}
{\tt 825 \fdsy@DeclareSymbol{\upmapsto}\{arrows}\{\mbox{\tt mathrel}\}} \\
     \fdsy@DeclareAlias{\mapsup}{arrows}{\mathrel}
827 \fdsy@DeclareSymbol{\leftmapsto}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\mapsfrom}{arrows}{\mathrel}
829 \fdsy@DeclareSymbol{\downmapsto}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\mapsdown}{arrows}{\mathrel}
831 \fdsy@DeclareSymbol{\nemapsto}{arrows}{\mathrel}
832 \fdsy@DeclareSymbol{\nwmapsto}{arrows}{\mathrel}
833 \fdsy@DeclareSymbol{\swmapsto}{arrows}{\mathrel}
834 \fdsy@DeclareSymbol{\semapsto}{arrows}{\mathrel}
835 \fdsy@DeclareSymbol{\lhookrightarrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\hookrightarrow}{arrows}{\mathrel}
837 \fdsy@DeclareSymbol{\lhookuparrow}{arrows}{\mathrel}
838 \fdsy@DeclareSymbol{\lhookleftarrow}{arrows}{\mathrel}
{\tt 839 \fdsy@DeclareSymbol{\lhookdownarrow}{arrows}{\mbox{\mbox{$mathrel}$}} \\
840 \fdsy@DeclareSymbol{\lhooknearrow}{arrows}{\mathrel}
841 \fdsy@DeclareSymbol{\lhooknwarrow}{arrows}{\mathrel}
   \fdsy@DeclareAlias{\hknwarrow}{arrows}{\mathrel}
843 \fdsy@DeclareSymbol{\lhookswarrow}{arrows}{\mathrel}
844 \fdsy@DeclareSymbol{\lhooksearrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\hksearrow}{arrows}{\mathrel}
```

```
846 \fdsy@DeclareSymbol{\rhookrightarrow}{arrows}{\mathrel}
847 \fdsy@DeclareSymbol{\rhookuparrow}{arrows}{\mathrel}
848 \fdsy@DeclareSymbol{\rhookleftarrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\hookleftarrow}{arrows}{\mathrel}
850 \fdsy@DeclareSymbol{\rhookdownarrow}{arrows}{\mathrel}
851\fdsy@DeclareSymbol{\rhooknearrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\hknearrow}{arrows}{\mathrel}
853 \fdsy@DeclareSymbol{\rhooknwarrow}{arrows}{\mathrel}
854 \fdsy@DeclareSymbol{\rhookswarrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\hkswarrow}{arrows}{\mathrel}
856 \fdsy@DeclareSymbol{\rhooksearrow}{arrows}{\mathrel}
857\fdsy@DeclareSymbol{\rightharpoonup}{arrows}{\mathrel}
858 \fdsy@DeclareSymbol{\upharpoonleft}{arrows}{\mathrel}
859 \fdsy@DeclareSymbol{\leftharpoondown}{arrows}{\mathrel}
860 \fdsy@DeclareSymbol{\downharpoonright}{arrows}{\mathrel}
861 \fdsy@DeclareSymbol{\neharpoonnw}{arrows}{\mathrel}
862 \fdsy@DeclareSymbol{\nwharpoonsw}{arrows}{\mathrel}
863 \fdsy@DeclareSymbol{\swharpoonse}{arrows}{\mathrel}
864 \fdsy@DeclareSymbol{\seharpoonne}{arrows}{\mathrel}
865 \fdsy@DeclareSymbol{\rightharpoondown}{arrows}{\mathrel}
866 \fdsy@DeclareSymbol{\upharpoonright}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\restriction}{arrows}{\mathrel}
868 \fdsy@DeclareSymbol{\leftharpoonup}{arrows}{\mathrel}
869 \fdsy@DeclareSymbol{\downharpoonleft}{arrows}{\mathrel}
870 \fdsy@DeclareSymbol{\neharpoonse}{arrows}{\mathrel}
871\fdsy@DeclareSymbol{\nwharpoonne}{arrows}{\mathrel}
872 \fdsy@DeclareSymbol{\swharpoonnw}{arrows}{\mathrel}
873 \fdsy@DeclareSymbol{\seharpoonsw}{arrows}{\mbox{\mathrel}}
874 \fdsy@DeclareSymbol{\leftrightharpoonupdown}{arrows}{\mathrel}
875 \fdsy@DeclareSymbol{\updownharpoonleftright}{arrows}{\mathrel}
876 \fdsy@DeclareSymbol{\neswharpoonnwse}{arrows}{\mathrel}
877 \fdsy@DeclareSymbol{\nwseharpoonnesw}{arrows}{\mathrel}
878 \fdsy@DeclareSymbol{\leftrightharpoondownup}{arrows}{\mathrel}
879 \fdsy@DeclareSymbol{\updownharpoonrightleft}{arrows}{\mathrel}
880 \fdsy@DeclareSymbol{\neswharpoonsenw}{arrows}{\mathrel}
881 \fdsy@DeclareSymbol{\nwseharpoonswne}{arrows}{\mathrel}
882 \fdsy@DeclareSymbol{\rightleftharpoons}{arrows}{\mathrel}
883 \fdsy@DeclareSymbol{\updownharpoons}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\updownharpoonsleftright}{arrows}{\mathrel}
885 \fdsy@DeclareSymbol{\neswharpoons}{arrows}{\mathrel}
886 \fdsy@DeclareSymbol{\senwharpoons}{arrows}{\mathrel}
887 \fdsy@DeclareSymbol{\leftrightharpoons} {arrows} {\mbox{$mathrel}} \\
888 \fdsy@DeclareSymbol{\downupharpoons}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\downupharpoonsleftright}{arrows}{\mathrel}
890 \fdsy@DeclareSymbol{\swneharpoons}{arrows}{\mathrel}
```

```
891\fdsy@DeclareSymbol{\nwseharpoons}{arrows}{\mathrel}
892\fdsy@DeclareSymbol{\rightbkarrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\dasharrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\dashrightarrow}{arrows}{\mathrel}
895 \fdsy@DeclareSymbol{\upbkarrow}{arrows}{\mathrel}
896 \fdsy@DeclareSymbol{\leftbkarrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\dashleftarrow}{arrows}{\mathrel}
898 \fdsy@DeclareSymbol{\downbkarrow}{arrows}{\mathrel}
899 \fdsy@DeclareSymbol{\nebkarrow}{arrows}{\mathrel}
900 \fdsy@DeclareSymbol{\nwbkarrow}{arrows}{\mathrel}
901 \fdsy@DeclareSymbol{\swbkarrow}{arrows}{\mathrel}
902 \fdsy@DeclareSymbol{\sebkarrow}{arrows}{\mathrel}
903 \fdsy@DeclareSymbol{\rightspoon}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\multimap}{arrows}{\mathrel}
905 \fdsy@DeclareSymbol{\upspoon}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\cirmid}{arrows}{\mathrel}
907 \fdsy@DeclareSymbol{\leftspoon}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\multimapinv}{arrows}{\mathrel}
909 \fdsy@DeclareSymbol{\downspoon}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\midcir}{arrows}{\mathrel}
911 \fdsy@DeclareSymbol{\rightblackspoon}{arrows}{\mathrel}
912 \fdsy@DeclareSymbol{\upblackspoon}{arrows}{\mathrel}
913 \fdsy@DeclareSymbol{\leftblackspoon}{arrows}{\mathrel}
914 \fdsy@DeclareSymbol{\downblackspoon}{arrows}{\mathrel}
915 \footnote{Mathrel} \
916 \fdsy@DeclareSymbol{\uppitchfork}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\pitchfork}{arrows}{\mathrel}
918 \fdsy@DeclareSymbol{\leftpitchfork}{arrows}{\mathrel}
919 \fdsy@DeclareSymbol{\downpitchfork}{arrows}{\mathrel}
920 \fdsy@DeclareSymbol{\rightrightarrows}{arrows}{\mathrel}
921 \fdsy@DeclareSymbol{\upuparrows}{arrows}{\mathrel}
922 \fdsy@DeclareSymbol{\leftleftarrows}{arrows}{\mathrel}
923 \fdsy@DeclareSymbol{\downdownarrows}{arrows}{\mathrel}
924 \fdsy@DeclareSymbol{\nenearrows}{arrows}{\mathrel}
925 fdsy@DeclareSymbol{\nwnwarrows}{arrows}{mathrel}
926 \fdsy@DeclareSymbol{\swswarrows}{arrows}{\mathrel}
927 \fdsy@DeclareSymbol{\sesearrows}{arrows}{\mathrel}
928 \fdsy@DeclareSymbol{\rightleftarrows}{arrows}{\mathrel}
929 \fdsy@DeclareSymbol{\updownarrows}{arrows}{\mathrel}
930 \fdsy@DeclareSymbol{\neswarrows}{arrows}{\mathrel}
931 \fdsy@DeclareSymbol{\nwsearrows}{arrows}{\mathrel}
932 \fdsy@DeclareSymbol{\leftrightarrows}{arrows}{\mathrel}
933 \fdsy@DeclareSymbol{\downuparrows}{arrows}{\mathrel}
934 \fdsy@DeclareSymbol{\swnearrows}{arrows}{\mathrel}
935 \fdsy@DeclareSymbol{\senwarrows}{arrows}{\mathrel}
```

```
936 \fdsy@DeclareSymbol{\rightlsquigarrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\leadsto}{arrows}{\mathrel}
938
     \fdsy@DeclareAlias{\rightsquigarrow}{arrows}{\mathrel}
939 \fdsy@DeclareSymbol{\uplsquigarrow}{arrows}{\mathrel}
940 \fdsy@DeclareSymbol{\leftlsquigarrow}{arrows}{\mathrel}
941 \fdsy@DeclareSymbol{\downlsquigarrow}{arrows}{\mathrel}
942 \fdsy@DeclareSymbol{\rightrsquigarrow}{arrows}{\mathrel}
943 \fdsy@DeclareSymbol{\uprsquigarrow}{arrows}{\mathrel}
944 \fdsy@DeclareSymbol{\leftrsquigarrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\leftsquigarrow}{arrows}{\mathrel}
946 \fdsy@DeclareSymbol{\downrsquigarrow}{arrows}{\mathrel}
947\fdsy@DeclareSymbol{\leftrightsquigarrow}{arrows}{\mathrel}
948 \fdsy@DeclareSymbol{\updownsquigarrow}{arrows}{\mathrel}
949 \fdsy@DeclareSymbol{\rightleftsquigarrow}{arrows}{\mathrel}
950 \fdsy@DeclareSymbol{\downupsquigarrow}{arrows}{\mathrel}
951 \fdsy@DeclareSymbol{\rightlcurvearrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\curvearrowright}{arrows}{\mathrel}
953 \fdsy@DeclareSymbol{\uplcurvearrow}{arrows}{\mathrel}
954 \fdsy@DeclareSymbol{\leftlcurvearrow}{arrows}{\mathrel}
955 \fdsy@DeclareSymbol{\downlcurvearrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\cwrightarcarrow}{arrows}{\mathrel}
957 \fdsy@DeclareSymbol{\nelcurvearrow}{arrows}{\mathrel}
958 \fdsy@DeclareSymbol{\nwlcurvearrow}{arrows}{\mathrel}
959 \fdsy@DeclareSymbol{\swlcurvearrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\cwundercurvearrow}{arrows}{\mathrel}
961 \fdsy@DeclareSymbol{\selcurvearrow}{arrows}{\mathrel}
962 \fdsy@DeclareSymbol{\rightrcurvearrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\acwunderarcarrow}{arrows}{\mathrel}
964 \fdsy@DeclareSymbol{\uprcurvearrow}{arrows}{\mathrel}
965 \fdsy@DeclareSymbol{\leftrcurvearrow}{arrows}{\mathrel}
966
     \fdsy@DeclareAlias{\curvearrowleft}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\acwoverarcarrow}{arrows}{\mathrel}
968 \fdsy@DeclareSymbol{\downrcurvearrow}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\acwleftarcarrow}{arrows}{\mathrel}
970 \fdsy@DeclareSymbol{\nercurvearrow}{arrows}{\mathrel}
971 \fdsy@DeclareSymbol{\nwrcurvearrow}{arrows}{\mathrel}
972 \fdsy@DeclareSymbol{\swrcurvearrow}{arrows}{\mathrel}
973 \fdsy@DeclareSymbol{\sercurvearrow}{arrows}{\mathrel}
    \fdsy@DeclareAlias{\ccwundercurvearrow}{arrows}{\mathrel}
975 \fdsy@DeclareSymbol{\leftrightcurvearrow}{arrows}{\mathrel}
976 \fdsy@DeclareSymbol{\updowncurvearrow}{arrows}{\mathrel}
977 \fdsy@DeclareSymbol{\rightleftcurvearrow}{arrows}{\mathrel}
978 \fdsy@DeclareSymbol{\downupcurvearrow}{arrows}{\mathrel}
979 \fdsy@DeclareSymbol{\neswcurvearrow}{arrows}{\mathrel}
980 \fdsy@DeclareSymbol{\nwsecurvearrow}{arrows}{\mathrel}
```

```
981 \fdsy@DeclareSymbol{\swnecurvearrow}{arrows}{\mathrel}
982 \fdsy@DeclareSymbol{\senwcurvearrow}{arrows}{\mathrel}
983 \fdsy@DeclareSymbol{\leftfootline}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\vlongdash}{arrows}{\mathrel}
985 \fdsy@DeclareSymbol{\rightfootline}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\longdashv}{arrows}{\mathrel}
987 \fdsy@DeclareSymbol{\acwcirclearrowup}{arrows}{\mathrel}
988 \fdsy@DeclareSymbol{\acwcirclearrowleft}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\circlearrowleft}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\acwopencirclearrow}{arrows}{\mathrel}
990
991\fdsy@DeclareSymbol{\acwcirclearrowdown){arrows}{\mathrel}
     \fdsy@DeclareAlias{\acwgapcirclearrow}{arrows}{\mathrel}
993 \fdsy@DeclareSymbol{\acwcirclearrowright}{arrows}{\mathrel}
994 \fdsy@DeclareSymbol{\cwcirclearrowdown}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\cwgapcirclearrow}{arrows}{\mathrel}
996 \fdsy@DeclareSymbol{\cwcirclearrowright}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\circlearrowright}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\cwopencirclearrow}{arrows}{\mathrel}
999 \fdsy@DeclareSymbol{\cwcirclearrowup}{arrows}{\mathrel}
1000 \fdsy@DeclareSymbol{\cwcirclearrowleft}{arrows}{\mathrel}
1001\fdsy@DeclareSymbol{\Rrightarrow}{arrows}{\mathrel}
1002 \fdsy@DeclareSymbol{\Uuparrow}{arrows}{\mathrel}
1003 \fdsy@DeclareSymbol{\Lleftarrow}{arrows}{\mathrel}
1004 \fdsy@DeclareSymbol{\Ddownarrow}{arrows}{\mathrel}
1005 \fdsy@DeclareSymbol{\Lsh}{arrows}{\mathrel}
1006 \fdsy@DeclareSymbol{\Rsh}{arrows}{\mathrel}
1007 \fdsy@DeclareSymbol{\Ldsh}{arrows}{\mathrel}
1008 \fdsy@DeclareSymbol{\Rdsh}{arrows}{\mathrel}
1009 \fdsy@DeclareSymbol{\looparrowright}{arrows}{\mathrel}
1010 \fdsy@DeclareSymbol{\looparrowleft}{arrows}{\mathrel}
1011 \fdsy@setslot{224}
1012 \fdsy@DeclareSymbol{\rightvdash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\vdash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\assert}{arrows}{\mathrel}
1015 \fdsy@DeclareSymbol{\upvdash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\perp}{arrows}{\mathrel}
1017 \fdsy@DeclareSymbol{\leftvdash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\dashv}{arrows}{\mathrel}
1019 \fdsy@DeclareSymbol{\downvdash}{arrows}{\mathrel}
1020 \fdsy@DeclareSymbol{\rightvDash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\vDash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\models}{arrows}{\mathrel}
1022
1023 \fdsy@DeclareSymbol{\upvDash}{arrows}{\mathrel}
     \fdsy@DeclareAlias{\Vbar}{arrows}{\mathrel}
1025 \fdsy@DeclareSymbol{\leftvDash}{arrows}{\mathrel}
```

```
\fdsy@DeclareAlias{\Dashv}{arrows}{\mathrel}
1027 \fdsy@DeclareSymbol{\downvDash}{arrows}{\mathrel}
          \fdsy@DeclareAlias{\barV}{arrows}{\mathrel}
1029 \fdsy@DeclareSymbol{\rightVdash}{arrows}{\mathrel}
          \fdsy@DeclareAlias{\Vdash}{arrows}{\mathrel}
1031 \fdsy@DeclareSymbol{\upVdash}{arrows}{\mathrel}
1032 \fdsy@DeclareSymbol{\leftVdash}{arrows}{\mathrel}
          \fdsy@DeclareAlias{\dashV}{arrows}{\mathrel}
1034 \fdsy@DeclareSymbol{\downVdash}{arrows}{\mathrel}
1035 \fdsy@DeclareSymbol{\rightVDash}{arrows}{\mathrel}
         \fdsy@DeclareAlias{\VDash}{arrows}{\mathrel}
1037 \fdsy@DeclareSymbol{\upVDash}{arrows}{\mathrel}
1038 \fdsy@DeclareSymbol{\leftVDash}{arrows}{\mathrel}
        \fdsy@DeclareAlias{\DashV}{arrows}{\mathrel}
1040 \fdsy@DeclareSymbol{\downVDash}{arrows}{\mathrel}
1041 \fdsy@DeclareSymbol{\Vvdash}{arrows}{\mathrel}
1042
\label{local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-local-loc
1044 \DeclareRobustCommand{\Relbar}{\mathrel=}
1045 \let\joinrel\undefined
{\tt 1046 \backslash DeclareRobustCommand \backslash joinrel\{\backslash mkern-4mu\}\}}
1047 \DeclareRobustCommand\longrightarrow{\DOTSB\relbar\joinrel\rightarrow}
1048 \DeclareRobustCommand\longleftarrow{\DOTSB\leftarrow\joinrel\relbar}
1049 \DeclareRobustCommand\longleftrightarrow{\DOTSB\leftarrow\joinrel\rightarrow}
1050 \DeclareRobustCommand\Longrightarrow{\DOTSB\Relbar\joinrel\Rightarrow}
1051 \DeclareRobustCommand\Longleftarrow{\DOTSB\Leftarrow\joinrel\Relbar}
1052 \DeclareRobustCommand\Longleftrightarrow{\DOTSB\Leftarrow\joinrel\Rightarrow}
1053 \DeclareRobustCommand\longmapsto{\DOTSB\leftfootline\mkern-7mu\rightarrow}
1054 \DeclareRobustCommand\emptyblackspoon{\DOTSB\leftspoon\mkern-13mu\rightblackspoon}
1055 \let\origof\emptyblackspoon
1056 \DeclareRobustCommand\filledemptyspoon{\DOTSB\leftblackspoon\mkern-13mu\rightspoon}
1057 \let\imageof\filledemptyspoon
1058 \DeclareRobustCommand\leftrightspoon{\DOTSB\leftspoon\mkern-13mu\rightspoon}
1059 \let\dualmap\leftrightspoon
1060 \DeclareRobustCommand\leftrightblackspoon{\DOTSB\leftblackspoon\mkern-13mu\rightblackspoon}
  FdSymbolD: stroked arrows
1061 \fdsy@setslot{0}
1062 \fdsy@DeclareSymbol{\nrightarrow}{narrows}{\mathrel}
          \fdsy@DeclareAlias{\nto}{narrows}{\mathrel}
1064 \fdsy@DeclareSymbol{\nuparrow}{\narrows}{\mathrel}
1065 \fdsy@DeclareSymbol{\nleftarrow}{narrows}{\mathrel}
         \fdsy@DeclareAlias{\ngets}{narrows}{\mathrel}
1067 \fdsy@DeclareSymbol{\ndownarrow}{narrows}{\mathrel}
1068 \fdsy@DeclareSymbol{\nnearrow}{\narrows}{\mathrel}
```

1069 \fdsy@DeclareSymbol{\nnwarrow}{\narrows}{\mathrel}

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1070 \fdsy@DeclareSymbol{\nswarrow}{\narrows}{\mathrel}
1071 \fdsy@DeclareSymbol{\nsearrow}{\narrows}{\mathrel}
1072 \fdsy@DeclareSymbol{\nRightarrow}{narrows}{\mathrel}
1073 \fdsy@DeclareSymbol{\nUparrow}{narrows}{\mathrel}
\label{localized} 1074 \fdsy@DeclareSymbol{\nLeftarrow}{narrows}{\mbox{\mbox{$\setminus$}}} % \columnwidth{\mbox{$\setminus$}} % \columnwidth{\
1075 \fdsy@DeclareSymbol{\nDownarrow}{narrows}{\mathrel}
1076 \fdsy@DeclareSymbol{\nNearrow}{narrows}{\mathrel}
1077 \fdsy@DeclareSymbol{\nNwarrow}{\narrows}{\mathrel}
1078 \fdsy@DeclareSymbol{\nSwarrow}{narrows}{\mathrel}
1079 \fdsy@DeclareSymbol{\nSearrow}{narrows}{\mathrel}
1080 \fdsy@DeclareSymbol{\nleftrightarrow}{narrows}{\mathrel}
{\tt 1081 \ fdsy@DeclareSymbol \{\ nupdownarrow\} \{\ narrows\} \{\ mathrel\}}
1082 \fdsy@DeclareSymbol{\nneswarrow}{narrows}{\mathrel}
1083 \fdsy@DeclareSymbol{\nnwsearrow}{narrows}{\mathrel}
1084 \fdsy@DeclareSymbol{\nLeftrightarrow}{narrows}{\mathrel}
1085 \fdsy@DeclareSymbol{\nUpdownarrow}{narrows}{\mathrel}
1086 \fdsy@DeclareSymbol{\nNeswarrow}{narrows}{\mathrel}
1087 \fdsy@DeclareSymbol{\nNwsearrow}{narrows}{\mathrel}
1088 \fdsy@DeclareSymbol{\ntwoheadrightarrow}{narrows}{\mathrel}
1089 \fdsy@DeclareSymbol{\ntwoheaduparrow}{narrows}{\mathrel}
1090 \fdsy@DeclareSymbol{\ntwoheadleftarrow}{narrows}{\mathrel}
1091 \fdsy@DeclareSymbol{\ntwoheaddownarrow}{narrows}{\mathrel}
1092 \fdsy@DeclareSymbol{\ntwoheadnearrow}{narrows}{\mathrel}
1093 \fdsy@DeclareSymbol{\ntwoheadnwarrow}{\narrows}{\mathrel}
1094 \fdsy@DeclareSymbol{\ntwoheadswarrow}{narrows}{\mathrel}
1095 \fdsy@DeclareSymbol{\ntwoheadsearrow}{narrows}{\mathrel}
1096 \fdsy@DeclareSymbol{\nrightarrowtail}{narrows}{\mathrel}
1097 \fdsy@DeclareSymbol{\nuparrowtail}{narrows}{\mathrel}
1098 \fdsy@DeclareSymbol{\nleftarrowtail}{narrows}{\mathrel}
1099 \fdsy@DeclareSymbol{\ndownarrowtail}{narrows}{\mathrel}
1100 \fdsy@DeclareSymbol{\nnearrowtail}{narrows}{\mathrel}
1101 \fdsy@DeclareSymbol{\nnwarrowtail}{narrows}{\mathrel}
1102 \fdsy@DeclareSymbol{\nswarrowtail}{narrows}{\mathrel}
1103 \fdsy@DeclareSymbol{\nsearrowtail}{narrows}{\mathrel}
1104 \fdsy@DeclareSymbol{\nrightmapsto}{\narrows}{\mathrel}
           \fdsy@DeclareAlias{\nmapsto}{\narrows}{\mathrel}
1106 \fdsy@DeclareSymbol{\nupmapsto}{\narrows}{\mathrel}
           \fdsy@DeclareAlias{\nmapsup}{narrows}{\mathrel}
1108 \fdsy@DeclareSymbol{\nleftmapsto}{narrows}{\mathrel}
           \fdsy@DeclareAlias{\nmapsfrom}{narrows}{\mathrel}
1110 \fdsy@DeclareSymbol{\ndownmapsto}{narrows}{\mathrel}
           \fdsy@DeclareAlias{\nmapsdown}{narrows}{\mathrel}
1112 \fdsy@DeclareSymbol{\nnemapsto}{\narrows}{\mathrel}
1113 \fdsy@DeclareSymbol{\nnwmapsto}{\narrows}{\mathrel}
1114 \fdsy@DeclareSymbol{\nswmapsto}{\narrows}{\mathrel}
```

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1115 \fdsy@DeclareSymbol{\nsemapsto}{\narrows}{\mathrel}
1116 \fdsy@DeclareSymbol{\nlhookrightarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nhookrightarrow}{narrows}{\mathrel}
1118 \fdsy@DeclareSymbol{\nlhookuparrow}{narrows}{\mathrel}
{\tt 1119 \fdsy@DeclareSymbol\{\nlhookleftarrow\}\{narrows\}\{\mbox{\tt mathrel}\}} \\
1120 \fdsy@DeclareSymbol{\nlhookdownarrow}{narrows}{\mathrel}
1121 \fdsy@DeclareSymbol{\nlhooknearrow}{narrows}{\mathrel}
1122 \fdsy@DeclareSymbol{\nlhooknwarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nhknwarrow}{narrows}{\mathrel}
1124 \fdsy@DeclareSymbol{\nlhookswarrow}{narrows}{\mathrel}
1125 \fdsy@DeclareSymbol{\nlhooksearrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nhksearrow}{narrows}{\mathrel}
1127 \fdsy@DeclareSymbol{\nrhookrightarrow}{narrows}{\mathrel}
1128 \fdsy@DeclareSymbol{\nrhookuparrow}{narrows}{\mathrel}
1129 \fdsy@DeclareSymbol{\nrhookleftarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nhookleftarrow}{narrows}{\mathrel}
1131 \fdsy@DeclareSymbol{\nrhookdownarrow}{narrows}{\mathrel}
1132 \fdsy@DeclareSymbol{\nrhooknearrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nhknearrow}{narrows}{\mathrel}
1134 \fdsy@DeclareSymbol{\nrhooknwarrow}{narrows}{\mathrel}
1135 \fdsy@DeclareSymbol{\nrhookswarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nhkswarrow}{narrows}{\mathrel}
1137 \fdsy@DeclareSymbol{\nrhooksearrow}{narrows}{\mathrel}
1138 \fdsy@DeclareSymbol{\nrightharpoonup}{narrows}{\mathrel}
1139 \fdsy@DeclareSymbol{\nupharpoonleft}{narrows}{\mathrel}
1140 \fdsy@DeclareSymbol{\nleftharpoondown}{narrows}{\mathrel}
1141 \fdsy@DeclareSymbol{\ndownharpoonright}{narrows}{\mathrel}
1142 \fdsy@DeclareSymbol{\nneharpoonnw}{narrows}{\mathrel}
1143 \fdsy@DeclareSymbol{\nnwharpoonsw}{narrows}{\mathrel}
1144 \fdsy@DeclareSymbol{\nswharpoonse}{narrows}{\mathrel}
1145 \fdsy@DeclareSymbol{\nseharpoonne}{narrows}{\mathrel}
1146 \fdsy@DeclareSymbol{\nrightharpoondown}{narrows}{\mathrel}
1147 \fdsy@DeclareSymbol{\nupharpoonright}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nrestriction}{narrows}{\mathrel}
1149 \fdsy@DeclareSymbol{\nleftharpoonup}{narrows}{\mathrel}
1150 \fdsy@DeclareSymbol{\ndownharpoonleft}{narrows}{\mathrel}
1151 \fdsy@DeclareSymbol{\nneharpoonse}{\narrows}{\mathrel}
1152 \fdsy@DeclareSymbol{\nnwharpoonne}{narrows}{\mathrel}
{\tt 1153 \fdsy@DeclareSymbol{\nswharpoonnw}{narrows}{\tt \{\narrows\}{\tt \{\narrows\}{\tt \{}}}} \\
1154 \fdsy@DeclareSymbol{\nseharpoonsw}{narrows}{\mathrel}
1155 \fdsy@DeclareSymbol{\nleftrightharpoonupdown}{\narrows}{\mathrel}
{\tt 1156 \fdsy@DeclareSymbol{\nupdownharpoonleftright}\{narrows\}{\tt \nupdownharpoonleftright}} \\
1157 \fdsy@DeclareSymbol{\nneswharpoonnwse}{narrows}{\mathrel}
1158 \fdsy@DeclareSymbol{\nnwseharpoonnesw}{narrows}{\mathrel}
1159 \fdsy@DeclareSymbol{\nleftrightharpoondownup}{narrows}{\mathrel}
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1160 \fdsy@DeclareSymbol{\nupdownharpoonrightleft}{narrows}{\mathrel}
1161 \fdsy@DeclareSymbol{\nneswharpoonsenw}{narrows}{\mathrel}
1162 \fdsy@DeclareSymbol{\nnwseharpoonswne}{narrows}{\mathrel}
1163 \fdsy@DeclareSymbol{\nrightleftharpoons}{narrows}{\mathrel}
1164 \fdsy@DeclareSymbol{\nupdownharpoons}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nupdownharpoonsleftright}{narrows}{\mathrel}
1166 \fdsy@DeclareSymbol{\nneswharpoons}{narrows}{\mathrel}
1167 \fdsy@DeclareSymbol{\nsenwharpoons}{narrows}{\mathrel}
1168 \fdsy@DeclareSymbol{\nleftrightharpoons}{\narrows}{\mathrel}
1169 \fdsy@DeclareSymbol{\ndownupharpoons}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ndownupharpoonsleftright}{narrows}{\mathrel}
1171 \fdsy@DeclareSymbol{\nswneharpoons}{narrows}{\mathrel}
1172 \fdsy@DeclareSymbol{\nnwseharpoons}{narrows}{\mathrel}
1173 \fdsy@DeclareSymbol{\nrightbkarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ndasharrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ndashrightarrow}{narrows}{\mathrel}
1176 \fdsy@DeclareSymbol{\nupbkarrow}{\narrows}{\mathrel}
1177 \fdsy@DeclareSymbol{\nleftbkarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ndashleftarrow}{narrows}{\mathrel}
1179 \fdsy@DeclareSymbol{\ndownbkarrow}{\narrows}{\mathrel}
1180 \fdsy@DeclareSymbol{\nnebkarrow}{\narrows}{\mathrel}
1181 \fdsy@DeclareSymbol{\nnwbkarrow}{\narrows}{\mathrel}
1182 \fdsy@DeclareSymbol{\nswbkarrow}{narrows}{\mathrel}
1183 \fdsy@DeclareSymbol{\nsebkarrow}{narrows}{\mathrel}
1184 \fdsy@DeclareSymbol{\nrightspoon}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nmultimap}{\narrows}{\mathrel}
1186 \fdsy@DeclareSymbol{\nupspoon}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ncirmid}{narrows}{\mathrel}
1188 \fdsy@DeclareSymbol{\nleftspoon}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nmultimapinv}{narrows}{\mathrel}
1190 \fdsy@DeclareSymbol{\ndownspoon}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nmidcir}{narrows}{\mathrel}
1192 \fdsy@DeclareSymbol{\nrightblackspoon}{narrows}{\mathrel}
1193 \fdsy@DeclareSymbol{\nupblackspoon}{narrows}{\mathrel}
1194 \fdsy@DeclareSymbol{\nleftblackspoon}{narrows}{\mathrel}
1195 \fdsy@DeclareSymbol{\ndownblackspoon}{narrows}{\mathrel}
1196 \fdsy@DeclareSymbol{\nrightpitchfork}{narrows}{\mathrel}
1197 \fdsy@DeclareSymbol{\nuppitchfork}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\npitchfork}{narrows}{\mathrel}
1199 \fdsy@DeclareSymbol{\nleftpitchfork}{narrows}{\mathrel}
1200 \fdsy@DeclareSymbol{\ndownpitchfork}{narrows}{\mathrel}
1201 \fdsy@DeclareSymbol{\nrightrightarrows}{\narrows}{\mathrel}
1202 \fdsy@DeclareSymbol{\nupuparrows}{narrows}{\mathrel}
1203 \fdsy@DeclareSymbol{\nleftleftarrows}{\narrows}{\mathrel}
1204 \fdsy@DeclareSymbol{\ndowndownarrows}{\narrows}{\mathrel}
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1205 \fdsy@DeclareSymbol{\nnenearrows}{\narrows}{\mathrel}
1206 \fdsy@DeclareSymbol{\nnwnwarrows}{narrows}{\mathrel}
1207 \fdsy@DeclareSymbol{\nswswarrows}{\narrows}{\mathrel}
1208 \fdsy@DeclareSymbol{\nsesearrows}{\narrows}{\mathrel}
1210 \fdsy@DeclareSymbol{\nupdownarrows}{\narrows}{\mathrel}
1211 \fdsy@DeclareSymbol{\nneswarrows}{\narrows}{\mathrel}
1212 \fdsy@DeclareSymbol{\nnwsearrows}{narrows}{\mathrel}
1213 \fdsy@DeclareSymbol{\nleftrightarrows}{\narrows}{\mathrel}
1214 \fdsy@DeclareSymbol{\ndownuparrows}{\narrows}{\mathrel}
1215 \fdsy@DeclareSymbol{\nswnearrows}{\narrows}{\mathrel}
1217 \fdsy@DeclareSymbol{\nrightlsquigarrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nleadsto}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nrightsquigarrow}{narrows}{\mathrel}
1220 \fdsy@DeclareSymbol{\nuplsquigarrow}{\narrows}{\mathrel}
1221 \fdsy@DeclareSymbol{\nleftlsquigarrow}{narrows}{\mathrel}
1222 \fdsy@DeclareSymbol{\ndownlsquigarrow}{narrows}{\mathrel}
1223 \fdsy@DeclareSymbol{\nrightrsquigarrow}{narrows}{\mathrel}
1224 \fdsy@DeclareSymbol{\nuprsquigarrow}{\narrows}{\mathrel}
\fdsy@DeclareAlias{\nleftsquigarrow}{\narrows}{\mathrel}
1227 \fdsy@DeclareSymbol{\ndownrsquigarrow}{narrows}{\mathrel}
1228 \fdsy@DeclareSymbol{\nleftrightsquigarrow}{narrows}{\mathrel}
1229 \fdsy@DeclareSymbol{\nupdownsquigarrow}{narrows}{\mathrel}
1230 \fdsy@DeclareSymbol{\nrightleftsquigarrow}{narrows}{\mathrel}
1231 \fdsy@DeclareSymbol{\ndownupsquigarrow}{narrows}{\mathrel}
\fdsy@DeclareAlias{\ncurvearrowright}{narrows}{\mathrel}
1234 \fdsy@DeclareSymbol{\nuplcurvearrow}{narrows}{\mathrel}
1235 \fdsy@DeclareSymbol{\nleftlcurvearrow}{narrows}{\mathrel}
1236 \fdsy@DeclareSymbol{\ndownlcurvearrow}{narrows}{\mathrel}
    \fdsy@DeclareAlias{\ncwrightarcarrow}{narrows}{\mathrel}
1238 \fdsy@DeclareSymbol{\nnelcurvearrow}{narrows}{\mathrel}
1239 \fdsy@DeclareSymbol{\nnwlcurvearrow}{narrows}{\mathrel}
1240 \fdsy@DeclareSymbol{\nswlcurvearrow}{narrows}{\mathrel}
    \fdsy@DeclareAlias{\ncwundercurvearrow}{narrows}{\mathrel}
1242 \fdsy@DeclareSymbol{\nselcurvearrow}{narrows}{\mathrel}
\fdsy@DeclareAlias{\nacwunderarcarrow}{\narrows}{\mathrel}
1245 \fdsy@DeclareSymbol{\nuprcurvearrow}{narrows}{\mathrel}
1246 \fdsy@DeclareSymbol{\nleftrcurvearrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ncurvearrowleft}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nacwoverarcarrow}{narrows}{\mathrel}
1249 \fdsy@DeclareSymbol{\ndownrcurvearrow}{narrows}{\mathrel}
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\fdsy@DeclareAlias{\nacwleftarcarrow}{narrows}{\mathrel}
1251 \fdsy@DeclareSymbol{\nnercurvearrow}{narrows}{\mathrel}
1252 \fdsy@DeclareSymbol{\nnwrcurvearrow}{narrows}{\mathrel}
1253 \fdsy@DeclareSymbol{\nswrcurvearrow}{narrows}{\mathrel}
1254 \fdsy@DeclareSymbol{\nsercurvearrow}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nccwundercurvearrow}{\narrows}{\mathrel}
1256 \fdsy@DeclareSymbol{\nleftrightcurvearrow}{narrows}{\mathrel}
1257 \fdsy@DeclareSymbol{\nupdowncurvearrow}{narrows}{\mathrel}
1258 \fdsy@DeclareSymbol{\nrightleftcurvearrow}{narrows}{\mathrel}
1259 \fdsy@DeclareSymbol{\ndownupcurvearrow}{narrows}{\mathrel}
1260 \fdsy@DeclareSymbol{\nneswcurvearrow}{narrows}{\mathrel}
1261 \fdsy@DeclareSymbol{\nnwsecurvearrow}{narrows}{\mathrel}
1262 \fdsy@DeclareSymbol{\nswnecurvearrow}{narrows}{\mathrel}
1263 \fdsy@DeclareSymbol{\nsenwcurvearrow}{narrows}{\mathrel}
1264 \fdsy@DeclareSymbol{\nleftfootline}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nvlongdash}{narrows}{\mathrel}
1266 \fdsy@DeclareSymbol{\nrightfootline}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nlongdashv}{narrows}{\mathrel}
1268 \fdsy@DeclareSymbol{\nacwcirclearrowup}{narrows}{\mathrel}
1269 \fdsy@DeclareSymbol{\nacwcirclearrowleft}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ncirclearrowleft}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nacwopencirclearrow}{\narrows}{\mathrel}
1272 \fdsy@DeclareSymbol{\nacwcirclearrowdown}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nacwgapcirclearrow}{narrows}{\mathrel}
1274 \fdsy@DeclareSymbol{\nacwcirclearrowright}{narrows}{\mathrel}
1275 \fdsy@DeclareSymbol{\ncwcirclearrowdown}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ncwgapcirclearrow}{narrows}{\mathrel}
1277 \fdsy@DeclareSymbol{\ncwcirclearrowright}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ncirclearrowright}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ncwopencirclearrow}{narrows}{\mathrel}
1280 \fdsy@DeclareSymbol{\ncwcirclearrowup}{narrows}{\mathrel}
1281 \fdsy@DeclareSymbol{\ncwcirclearrowleft}{narrows}{\mathrel}
1282 \fdsy@DeclareSymbol{\nRrightarrow}{narrows}{\mathrel}
1283 \fdsy@DeclareSymbol{\nUuparrow}{narrows}{\mathrel}
1284 \fdsy@DeclareSymbol{\nLleftarrow}{narrows}{\mathrel}
1285 \fdsy@DeclareSymbol{\nDdownarrow}{narrows}{\mathrel}
1286 \fdsy@setslot{224}
1287 \fdsy@DeclareSymbol{\nrightvdash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nvdash}{narrows}{\mathrel}
1289
     \fdsy@DeclareAlias{\nassert}{narrows}{\mathrel}
1290 \fdsy@DeclareSymbol{\nupvdash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nperp}{narrows}{\mathrel}
1291
1292 \fdsy@DeclareSymbol{\nleftvdash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ndashv}{narrows}{\mathrel}
1294 \fdsy@DeclareSymbol{\ndownvdash}{narrows}{\mathrel}
```

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1295 \fdsy@DeclareSymbol{\nrightvDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nvDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nmodels}{\narrows}{\mathrel}
1297
1298 \fdsy@DeclareSymbol{\nupvDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nVbar}{narrows}{\mathrel}
1299
1300 \fdsy@DeclareSymbol{\nleftvDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nDashv}{narrows}{\mathrel}
1301
1302 \fdsy@DeclareSymbol{\ndownvDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nbarV}{narrows}{\mathrel}
1304\fdsy@DeclareSymbol{\nrightVdash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nVdash}{narrows}{\mathrel}
1306 \fdsy@DeclareSymbol{\nupVdash}{narrows}{\mathrel}
1307 \fdsy@DeclareSymbol{\nleftVdash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\ndashV}{narrows}{\mathrel}
1309 \fdsy@DeclareSymbol{\ndownVdash}{narrows}{\mathrel}
1310 \fdsy@DeclareSymbol{\nrightVDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nVDash}{narrows}{\mathrel}
1312 \fdsy@DeclareSymbol{\nupVDash}{narrows}{\mathrel}
1313 \fdsy@DeclareSymbol{\nleftVDash}{narrows}{\mathrel}
     \fdsy@DeclareAlias{\nDashV}{narrows}{\mathrel}
1315 \fdsy@DeclareSymbol{\ndownVDash}{narrows}{\mathrel}
 FdSymbolE: large operators
1316 \fdsy@setslot{0}
1317 \fdsy@DeclareSymbol{\tbigplus}{largesymbols}{\mathop}
1318 \fdsy@DeclareSymbol{\dbigplus}{largesymbols}{\mathop}
1319 \fdsy@DeclareSymbol{\tbigtimes}{largesymbols}{\mathop}
1320 \fdsy@DeclareSymbol{\dbigtimes}{largesymbols}{\mathop}
1321 \fdsy@DeclareSymbol{\tbigwedge}{largesymbols}{\mathop}
1322 \fdsy@DeclareSymbol{\dbigwedge}{largesymbols}{\mathop}
1323 \fdsy@DeclareSymbol{\tbigvee}{largesymbols}{\mathop}
1324 \fdsy@DeclareSymbol{\dbigvee}{largesymbols}{\mathop}
1325 \fdsy@DeclareSymbol{\tbigwedgedot}{largesymbols}{\mathop}
1326 \fdsy@DeclareSymbol{\dbigwedgedot}{largesymbols}{\mathop}
1327 \fdsy@DeclareSymbol{\tbigveedot}{largesymbols}{\mathop}
1328 \fdsy@DeclareSymbol{\dbigveedot}{largesymbols}{\mathop}
1329 \fdsy@DeclareSymbol{\tbigdoublewedge}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tconjquant}{largesymbols}{\mathop}
1331 \fdsy@DeclareSymbol{\dbigdoublewedge}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\dconjquant}{largesymbols}{\mathop}
1333 \fdsy@DeclareSymbol{\tbigdoublevee}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tdisjquant}{largesymbols}{\mathop}
1335 \fdsy@DeclareSymbol{\dbigdoublevee}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\ddisjquant}{largesymbols}{\mathop}
1337 \fdsy@DeclareSymbol{\tbigcurlywedge}{largesymbols}{\mathop}
1338 \fdsy@DeclareSymbol{\dbigcurlywedge}{largesymbols}{\mathop}
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1339 \fdsy@DeclareSymbol{\tbigcurlyvee}{largesymbols}{\mathop}
1340 \fdsy@DeclareSymbol{\dbigcurlyvee}{largesymbols}{\mathop}
1341 \fdsy@DeclareSymbol{\tbigcurlywedgedot}{largesymbols}{\mathop}
1342 \fdsy@DeclareSymbol{\dbigcurlywedgedot}{largesymbols}{\mathop}
{\tt 1343 \fdsy@DeclareSymbol{\tbigcurlyveedot}{largesymbols}{\tt \mathop}}
1344 \fdsy@DeclareSymbol{\dbigcurlyveedot}{largesymbols}{\mathop}
1345 \fdsy@DeclareSymbol{\tbigdoublecurlywedge}{largesymbols}{\mathop}
1346\fdsy@DeclareSymbol{\dbigdoublecurlywedge}{largesymbols}{\mathop}
1347 \fdsy@DeclareSymbol{\tbigdoublecurlyvee}{largesymbols}{\mathop}
1348 \fdsy@DeclareSymbol{\dbigdoublecurlyvee}{largesymbols}{\mathop}
1349 \fdsy@DeclareSymbol{\tbigcap}{largesymbols}{\mathop}
1350 \fdsy@DeclareSymbol{\dbigcap}{largesymbols}{\mathop}
1351 \fdsy@DeclareSymbol{\tbigcup}{largesymbols}{\mathop}
1352 \fdsy@DeclareSymbol{\dbigcup}{largesymbols}{\mathop}
1353 \fdsy@DeclareSymbol{\tbigcapdot}{largesymbols}{\mathop}
1354 \fdsy@DeclareSymbol{\dbigcapdot}{largesymbols}{\mathop}
1355 \fdsy@DeclareSymbol{\tbigcupdot}{largesymbols}{\mathop}
1356 \fdsy@DeclareSymbol{\dbigcupdot}{largesymbols}{\mathop}
1357 \fdsy@DeclareSymbol{\tbigcapplus}{largesymbols}{\mathop}
1358 \fdsy@DeclareSymbol{\dbigcapplus}{largesymbols}{\mathop}
1359 \fdsy@DeclareSymbol{\tbigcupplus}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tbiguplus}{largesymbols}{\mathop}
1361 \fdsy@DeclareSymbol{\dbigcupplus}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\dbiguplus}{largesymbols}{\mathop}
\label{largesymbol} $$1363 \fdsy@DeclareSymbol{\tbigsqcap}{largesymbols}{\mathbb R}$
1364\fdsy@DeclareSymbol{\dbigsqcap}{largesymbols}{\mathop}
1365 \fdsy@DeclareSymbol{\tbigsqcup}{largesymbols}{\mathop}
1366 \fdsy@DeclareSymbol{\dbigsqcup}{largesymbols}{\mathop}
1367 \fdsy@DeclareSymbol{\tbigsqcapdot}{largesymbols}{\mathop}
1368 \fdsy@DeclareSymbol{\dbigsqcapdot}{largesymbols}{\mathop}
1369 \fdsy@DeclareSymbol{\tbigsqcupdot}{largesymbols}{\mathop}
\label{largesymbol} $$1370 \fdsy@DeclareSymbol{\dbigsqcupdot}{largesymbols}{\mathbb R}$
1371 \fdsy@DeclareSymbol{\tbigsqcapplus}{largesymbols}{\mathop}
1372 \fdsy@DeclareSymbol{\dbigsqcapplus}{largesymbols}{\mathop}
1373 \fdsy@DeclareSymbol{\tbigsqcupplus}{largesymbols}{\mathop}
1374 \fdsy@DeclareSymbol{\dbigsqcupplus}{largesymbols}{\mathop}
1375 \fdsy@DeclareSymbol{\tbigoplus}{largesymbols}{\mathop}
1376 \fdsy@DeclareSymbol{\dbigoplus}{largesymbols}{\mathop}
1377 \fdsy@DeclareSymbol{\tbigotimes}{largesymbols}{\mathop}
1378 \fdsy@DeclareSymbol{\dbigotimes}{largesymbols}{\mathop}
1379 \fdsy@DeclareSymbol{\tbigodot}{largesymbols}{\mathop}
1380 \fdsy@DeclareSymbol{\dbigodot}{largesymbols}{\mathop}
1381 \fdsy@DeclareSymbol{\tbigoast}{largesymbols}{\mathop}
1382 \fdsy@DeclareSymbol{\dbigoast}{largesymbols}{\mathop}
1383 \fdsy@DeclareSymbol{\tprod}{largesymbols}{\mathop}
```

```
1384\fdsy@DeclareSymbol{\dprod}{largesymbols}{\mathop}
1385 \fdsy@DeclareSymbol{\tcoprod}{largesymbols}{\mathop}
1386 \fdsy@DeclareSymbol{\dcoprod}{largesymbols}{\mathop}
1387 \fdsy@DeclareSymbol{\tsum}{largesymbols}{\mathop}
{\tt 1388 \fdsy@DeclareSymbol{\dsum}{largesymbols}{\tt \mathop}}
1389 \fdsy@DeclareSymbol{\tosum}{largesymbols}{\mathop}
1390 \fdsy@DeclareSymbol{\dosum}{largesymbols}{\mathop}
1391 \fdsy@DeclareSymbol{\tint}{largesymbols}{\mathop}
1392 \fdsy@DeclareSymbol{\dint}{largesymbols}{\mathop}
1393 \fdsy@DeclareSymbol{\tiint}{largesymbols}{\mathop}
1394 \fdsy@DeclareSymbol{\diint}{largesymbols}{\mathop}
1395 \fdsy@DeclareSymbol{\tiiint}{largesymbols}{\mathop}
1396 \fdsy@DeclareSymbol{\diiint}{largesymbols}{\mathop}
1397 \fdsy@DeclareSymbol{\tiiiint}{largesymbols}{\mathop}
1398 \fdsy@DeclareSymbol{\diiiint}{largesymbols}{\mathop}
1399 \fdsy@DeclareSymbol{\tidotsint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tdotsint}{largesymbols}{\mathop}
1401\fdsy@DeclareSymbol{\didotsint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\ddotsint}{largesymbols}{\mathop}
1403 \fdsy@DeclareSymbol{\tlandupint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tintclockwise}{largesymbols}{\mathop}
1405 \fdsy@DeclareSymbol{\dlandupint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\dintclockwise}{largesymbols}{\mathop}
1406
1407 \fdsy@DeclareSymbol{\tlanddownint}{largesymbols}{\mathop}
1408
     \fdsy@DeclareAlias{\tawint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tintctrclockwise}{largesymbols}{\mathop}
1409
1410 \fdsy@DeclareSymbol{\dlanddownint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\dawint}{largesymbols}{\mathop}
1411
     \fdsy@DeclareAlias{\dintctrclockwise}{largesymbols}{\mathop}
1413 \fdsy@DeclareSymbol{\tintbar}{largesymbols}{\mathop}
1414 \fdsy@DeclareSymbol{\dintbar}{largesymbols}{\mathop}
1415 \fdsy@DeclareSymbol{\tintBar}{largesymbols}{\mathop}
1416 \fdsy@DeclareSymbol{\dintBar}{largesymbols}{\mathop}
1417 \fdsy@DeclareSymbol{\tfint}{largesymbols}{\mathop}
1418 \fdsy@DeclareSymbol{\dfint}{largesymbols}{\mathop}
1419 \fdsy@DeclareSymbol{\toint}{largesymbols}{\mathop}
1420 \fdsy@DeclareSymbol{\doint}{largesymbols}{\mathop}
1421 \fdsy@DeclareSymbol{\toiint}{largesymbols}{\mathop}
1422 \fdsy@DeclareSymbol{\doiint}{largesymbols}{\mathop}
1423 \fdsy@DeclareSymbol{\toiiint}{largesymbols}{\mathop}
1424 \fdsy@DeclareSymbol{\doiiint}{largesymbols}{\mathop}
1425 \fdsy@DeclareSymbol{\trcirclerightint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\tointctrclockwise}{largesymbols}{\mathop}
1427 \fdsy@DeclareSymbol{\drcirclerightint}{largesymbols}{\mathop}
     \fdsy@DeclareAlias{\dointctrclockwise}{largesymbols}{\mathop}
```

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1429 \fdsy@DeclareSymbol{\tlcirclerightint}{largesymbols}{\mathop}
         \fdsy@DeclareAlias{\tvarointclockwise}{largesymbols}{\mathop}
1431 \fdsy@DeclareSymbol{\dlcirclerightint}{largesymbols}{\mathop}
         \fdsy@DeclareAlias{\dvarointclockwise}{largesymbols}{\mathop}
1433 \fdsy@DeclareSymbol{\trcircleleftint}{largesymbols}{\mathop}
         \fdsy@DeclareAlias{\tvarointctrclockwise}{largesymbols}{\mathop}
1435 \fdsy@DeclareSymbol{\drcircleleftint}{largesymbols}{\mathop}
         \fdsy@DeclareAlias{\dvarointctrclockwise}{largesymbols}{\mathop}
1437 \fdsy@DeclareSymbol{\tlcircleleftint} \{largesymbols\} \{\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$}\mbox{$\mbox{$}\mbox{$\mbox{$}\mbox{$}\mbox{$\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mbox{$}\mb
         \fdsy@DeclareAlias{\tointclockwise}{largesymbols}{\mathop}
1439 \fdsy@DeclareSymbol{\dlcircleleftint}{largesymbols}{\mathop}
         \fdsy@DeclareAlias{\dointclockwise}{largesymbols}{\mathop}
1441 \fdsy@DeclareSymbol{\tsumint}{largesymbols}{\mathop}
1442 \fdsy@DeclareSymbol{\\dsumint}{\largesymbols}{\\mathop}
1443 \let\intop\tint
1444 \let\ointop\toint
1445
1446 \fdsy@DeclareOperator{\bigplus}{\dbigplus}{\tbigplus}
1447 \fdsy@DeclareOperator{\bigtimes}{\dbigtimes}{\tbigtimes}
1448 \fdsy@DeclareOperator{\bigwedge}{\dbigwedge}{\tbigwedge}
1449 \fdsy@DeclareOperator{\bigvee}{\dbigvee}{\tbigvee}
1450 \fdsy@DeclareOperator{\bigwedgedot}{\dbigwedgedot}{\tbigwedgedot}
1451 \fdsy@DeclareOperator{\bigveedot}{\dbigveedot}{\tbigveedot}
1452 \fdsy@DeclareOperator{\bigdoublewedge}{\dbigdoublewedge}{\tbigdoublewedge}
1453 \fdsy@DeclareOperator{\conjquant}{\dconjquant}{\tconjquant}
1454 \fdsy@DeclareOperator{\bigdoublevee}{\\dbigdoublevee}{\\tbigdoublevee}
1455 \fdsy@DeclareOperator{\disjquant}{\ddisjquant}{\tdisjquant}
1456 \fdsy@DeclareOperator{\bigcurlywedge}{\\dbigcurlywedge}{\\dbigcurlywedge}
1457 \fdsy@DeclareOperator{\bigcurlyvee}{\dbigcurlyvee}{\tbigcurlyvee}
1458 \fdsy@DeclareOperator{\bigcurlywedgedot}{\dbigcurlywedgedot}{\tbigcurlywedgedot}
1459 \fdsy@DeclareOperator{\bigcurlyveedot}{\dbigcurlyveedot}{\tbigcurlyveedot}
1460 \fdsy@DeclareOperator{\bigdoublecurlywedge}{\dbigdoublecurlywedge}{\tbigdoublecurlywedge}
1461 \fdsy@DeclareOperator{\bigdoublecurlyvee}{\dbigdoublecurlyvee}{\tbigdoublecurlyvee}
1462 \fdsy@DeclareOperator{\bigcap}{\dbigcap}{\tbigcap}
1463 \fdsy@DeclareOperator{\bigcup}{\dbigcup}{\tbigcup}
1464 \fdsy@DeclareOperator{\bigcapdot}{\dbigcapdot}{\tbigcapdot}
1465 \fdsy@DeclareOperator{\bigcupdot}{\dbigcupdot}{\tbigcupdot}
1466 \fdsy@DeclareOperator{\bigcapplus}{\dbigcapplus}{\tbigcapplus}
1467 \fdsy@DeclareOperator{\bigcupplus}{\dbigcupplus}{\tbigcupplus}
1468 \fdsy@DeclareOperator{\biguplus}{\dbiguplus}{\tbiguplus}
1469 \fdsy@DeclareOperator{\bigsqcap}{\dbigsqcap}{\tbigsqcap}
1471 \fdsy@DeclareOperator{\bigsqcapdot}{\dbigsqcapdot}{\tbigsqcapdot}
1472 \fdsy@DeclareOperator{\bigsqcupdot}{\dbigsqcupdot}{\tbigsqcupdot}
1473 \fdsy@DeclareOperator{\bigsqcapplus}{\dbigsqcapplus}{\tbigsqcapplus}
```

```
1474 \fdsy@DeclareOperator{\bigsqcupplus}{\dbigsqcupplus}{\tbigsqcupplus}
1475 \fdsy@DeclareOperator{\bigoplus}{\dbigoplus}{\tbigoplus}
1476 \fdsy@DeclareOperator{\bigotimes}{\\dbigotimes}{\\tbigotimes}
1477 \fdsy@DeclareOperator{\bigodot}{\dbigodot}{\tbigodot}
{\tt 1478 \fdsy@DeclareOperator\{\bigoast\}\{\dbigoast\}\{\tbigoast\}}
1479 \fdsy@DeclareOperator{\sum}{\dsum}{\tsum}
1480 \fdsy@DeclareOperator{\osum}{\dosum}{\tosum}
1481 \fdsy@DeclareOperator{\prod}{\dprod}{\tprod}
1482 \fdsy@DeclareOperator{\coprod}{\dcoprod}{\tcoprod}
1483 \fdsy@DeclareIntegral{\iint}{\diint}{\tiint}
1484 \fdsy@DeclareIntegral{\iiint}{\diiint}{\tiiint}
1485 \fdsy@DeclareIntegral{\iiiint}{\diiint}{\tiiiint}
1486 \fdsy@DeclareIntegral{\idotsint}{\didotsint}{\tidotsint}
1487\fdsy@DeclareIntegral{\dotsint}{\ddotsint}{\tdotsint}
1488 \fdsy@DeclareIntegral{\landupint}{\\dlandupint}{\\tlandupint}
1489 \fdsy@DeclareIntegral{\intclockwise}{\dintclockwise}{\tintclockwise}
1490 \fdsy@DeclareIntegral{\landdownint}{\dlanddownint}{\tlanddownint}
1491 \fdsy@DeclareIntegral{\awint}{\dawint}{\tawint}
1492 \fdsy@DeclareIntegral{\intctrclockwise}{\tintctrclockwise}{\tintctrclockwise}
1493 \fdsy@DeclareIntegral{\landdownint}{\\dlanddownint}{\\tlanddownint}
1495 \fdsy@DeclareIntegral{\intBar}{\dintBar}{\tintBar}
1496 \fdsy@DeclareIntegral{\fint}{\dfint}{\tfint}
1497 \fdsy@DeclareIntegral{\oiint}{\doiint}{\toiint}
1498 \fdsy@DeclareIntegral{\oiiint}{\doiiint}{\toiiint}
1499 \fdsy@DeclareIntegral{\rcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drcirclerightint}{\drc
1500 \fdsy@DeclareIntegral{\ointctrclockwise}{\dointctrclockwise}{\tointctrclockwise}
1501\fdsy@DeclareIntegral{\lcirclerightint}{\\dlcirclerightint}{\\tlcirclerightint}
1502\fdsy@DeclareIntegral{\varointclockwise}{\dvarointclockwise}{\tvarointclockwise}
1503 \fdsy@DeclareIntegral{\rcircleleftint}{\drcircleleftint}{\drcircleleftint}
1504 \fdsy@DeclareIntegral{\varointctrclockwise}{\dvarointctrclockwise}{\tvarointctrclockwise}
1506 \fdsy@DeclareIntegral{\ointclockwise}{\dointclockwise}{\tointclockwise}
1507\fdsy@DeclareIntegral{\sumint}{\dsumint}{\tsumint}
1509 \def\intkern@{\mkern-8.5mu\mathchoice{\mkern-1mu}{}{}{}}
1510 \def\intdots@{\mkern-6mu%
        \mathchoice{\@cdots}%
         {{\cdotp}\mkern0.5mu{\cdotp}\mkern0.5mu{\cdotp}}%
1513
         {{\cdotp}{\cdotp}}%
         {{\cdotp}{\cdotp}}%
       \mkern-6mu}
1515
  Math accents.
1516 \DeclareMathAccent{\widehat}{\mathord}{largesymbols}{"72}
1517 \DeclareMathAccent{\widetilde}{\mathord}{largesymbols}{"78}
```

```
1518 \DeclareMathAccent{\wideparen}{\mathord}{largesymbols}{"7E}
1519 \DeclareMathAccent{\vec}{\mathord}{largesymbols}{"84}
1520 \DeclareMathAccent{\middlebar}{\mathord}{\largesymbols}{"85}
1521 \DeclareMathAccent{\middleslash}{\mathord}{largesymbols}{"86}
1522 \DeclareMathAccent{\strokethrough}{\mathord}{\largesymbols}{"87}
 FdSymbolF: delimiters
1523 \let\lfloor\undefined
1524 \let\rfloor\undefined
1525 \let\lceil\undefined
1526 \let\rceil\undefined
1527 \let\langle\undefined
1528 \let\rangle\undefined
1529 \iffdsy@largedelims
     \fdsy@DeclareOpen{(){delimiters}{"01}
     \fdsy@DeclareClose{)){delimiters}{"07}
1531
     \fdsy@DeclareOpen{\lparen}{delimiters}{"01}
1532
1533
     \fdsy@DeclareClose{\rparen}{delimiters}{"07}
     \fdsy@DeclareOpen{[}{delimiters}{"13}
1534
1535
     \fdsy@DeclareClose{]}{delimiters}{"19}
     \fdsy@DeclareOpen{\lbrack}{delimiters}{"13}
1536
1537
     \fdsy@DeclareClose{\rbrack}{delimiters}{"19}
     \fdsy@DeclareOpen{\lfloor}{delimiters}{"1F}
1538
     \fdsy@DeclareClose{\rfloor}{delimiters}{"25}
1539
     \fdsy@DeclareOpen{\lceil}{delimiters}{"2B}
1540
     \fdsy@DeclareClose{\rceil}{delimiters}{"31}
1541
1542
     \fdsy@DeclareOpen{\ulcorner}{delimiters}{"37}
     \fdsy@DeclareClose{\urcorner}{delimiters}{"3D}
1543
     \fdsy@DeclareOpen{\llcorner}{delimiters}{"43}
1544
     \fdsy@DeclareClose{\lrcorner}{delimiters}{"49}
1545
     \fdsy@DeclareOpen{\ullcorner}{delimiters}{"4F}
1546
     \fdsy@DeclareClose{\ulrcorner}{delimiters}{"55}
1547
     \fdsy@DeclareOpen{\lsem}{delimiters}{"61}
1548
     \fdsy@DeclareClose{\rsem}{delimiters}{"67}
1549
     \fdsy@DeclareOpen{\lBrack}{delimiters}{"61}
1550
1551
     \fdsy@DeclareClose{\rBrack}{delimiters}{"67}
     \fdsy@DeclareOpen{\lbrace}{delimiters}{"73}
1552
1553
     \fdsy@DeclareClose{\rbrace}{delimiters}{"79}
     \fdsy@DeclareOpen{<}{delimiters}{"86}
1554
     \fdsy@DeclareClose{>}{delimiters}{"8C}
1555
1556
     \fdsy@DeclareOpen{\langle}{delimiters}{"86}
     \fdsy@DeclareClose{\rangle}{delimiters}{"8C}
1557
     \fdsy@DeclareOpen{\lAngle}{delimiters}{"92}
1558
     \fdsy@DeclareClose{\rAngle}{delimiters}{"98}
1559
     \fdsy@DeclareOpen{\langledot}{delimiters}{"9E}
1560
     \fdsy@DeclareClose{\rangledot}{delimiters}{"A4}
1561
```

```
\fdsy@DeclareDelimiter{/}{\mathord}{delimiters}{"AA}
1562
     \fdsy@DeclareDelimiter{\mathslash}{\mathord}{delimiters}{"AA}
1563
     \DeclareMathSymbol{\divslash}{\mathbin}{delimiters}{"AA}
1564
1565
     \fdsy@DeclareDelimiter{\backslash}{\mathord}{delimiters}{"B0}
     \expandafter\DeclareMathDelimiter\@backslashchar%
1566
        {\mathord}{delimiters}{"B0}{delimiters}{"B0}
1567
     \DeclareMathSymbol{\setminus}{\mathbin}{delimiters}{"B0}
1568
1569
     \fdsy@DeclareDelimiter{|}{\mathord}{delimiters}{"B7}
     \fdsy@DeclareDelimiter{\vert}{\mathord}{delimiters}{"B7}
1570
     \fdsy@DeclareOpen{\lvert}{delimiters}{"B7}
1571
     \fdsy@DeclareClose{\rvert}{delimiters}{"B7}
1572
     \DeclareMathSymbol{\mid}{\mathrel}{delimiters}{"B7}
1573
1574
     \DeclareMathSymbol{\nmid}{\mathrel}{delimiters}{"BA}
     \fdsy@DeclareDelimiter{\Vert}{\mathord}{delimiters}{"BE}
1575
1576
     \fdsy@DeclareOpen{\lVert}{delimiters}{"BE}
     \fdsy@DeclareClose{\rVert}{delimiters}{"BE}
1577
     \DeclareMathSymbol{\parallel}{\mathrel}{delimiters}{"BE}
1578
     \DeclareMathSymbol{\nparallel}{\mathrel}{delimiters}{"C1}
1579
     \fdsy@DeclareDelimiter{\Vvert}{\mathord}{delimiters}{"C4}
1580
1581
     \fdsy@DeclareOpen{\lVvert}{delimiters}{"C4}
     \fdsy@DeclareClose{\rVvert}{delimiters}{"C4}
1582
1583
    else
     \fdsy@DeclareOpen{(){delimiters}{"00}
1584
     \fdsy@DeclareClose{)}{delimiters}{"06}
1585
1586
     \fdsy@DeclareOpen{\lparen}{delimiters}{"00}
     \fdsy@DeclareClose{\rparen}{delimiters}{"06}
1587
1588
     \fdsy@DeclareOpen{[]{delimiters}{"12}
     \fdsy@DeclareClose{]}{delimiters}{"18}
1589
     \fdsy@DeclareOpen{\lbrack}{delimiters}{"12}
1590
     \fdsy@DeclareClose{\rbrack}{delimiters}{"18}
1591
     \fdsy@DeclareOpen{\lfloor}{delimiters}{"1E}
1592
     \fdsy@DeclareClose{\rfloor}{delimiters}{"24}
1593
     \fdsy@DeclareOpen{\lceil}{delimiters}{"2A}
1594
     \fdsy@DeclareClose{\rceil}{delimiters}{"30}
1595
     \fdsy@DeclareOpen{\ulcorner}{delimiters}{"36}
1596
1597
     \fdsy@DeclareClose{\urcorner}{delimiters}{"3C}
     \fdsy@DeclareOpen{\llcorner}{delimiters}{"42}
1598
     \fdsy@DeclareClose{\lrcorner}{delimiters}{"48}
1599
     \fdsy@DeclareOpen{\ullcorner}{delimiters}{"4E}
1600
1601
     \fdsy@DeclareClose{\ulrcorner}{delimiters}{"54}
1602
     \fdsy@DeclareOpen{\lsem}{delimiters}{"60}
     \fdsy@DeclareClose{\rsem}{delimiters}{"66}
1603
     \fdsy@DeclareOpen{\lBrack}{delimiters}{"60}
1604
     \fdsy@DeclareClose{\rBrack}{delimiters}{"66}
1605
```

\fdsy@DeclareOpen{\lbrace}{delimiters}{"72}

1606

```
\fdsy@DeclareClose{\rbrace}{delimiters}{"78}
1607
     \fdsy@DeclareOpen{<}{delimiters}{"85}
1608
     \fdsy@DeclareClose{>}{delimiters}{"8B}
1609
     \fdsy@DeclareOpen{\langle}{delimiters}{"85}
1610
     \fdsy@DeclareClose{\rangle}{delimiters}{"8B}
1611
     \fdsy@DeclareOpen{\lAngle}{delimiters}{"91}
1612
     \fdsy@DeclareClose{\rAngle}{delimiters}{"97}
1613
1614
     \fdsy@DeclareOpen{\langledot}{delimiters}{"9D}
     \fdsy@DeclareClose{\rangledot}{delimiters}{"A3}
1615
     \fdsy@DeclareDelimiter{/}{\mathord}{delimiters}{"A9}
1616
1617
     \fdsy@DeclareDelimiter{\mathslash}{\mathord}{delimiters}{"A9}
     \DeclareMathSymbol{\divslash}{\mathbin}{delimiters}{"A9}
1618
     \fdsy@DeclareDelimiter{\backslash}{\mathord}{delimiters}{"AF}
1619
     \expandafter\DeclareMathDelimiter\@backslashchar%
1620
1621
        {\mathord}{delimiters}{"AF}{delimiters}{"AF}
     \DeclareMathSymbol{\setminus}{\mathbin}{delimiters}{"AF}
1622
     \fdsy@DeclareDelimiter{|}{\mathord}{delimiters}{"B6}
1623
     \fdsy@DeclareDelimiter{\vert}{\mathord}{delimiters}{"B6}
1624
     \fdsy@DeclareOpen{\lvert}{delimiters}{"B6}
1625
     \fdsy@DeclareClose{\rvert}{delimiters}{"B6}
1626
     \DeclareMathSymbol{\mid}{\mathrel}{delimiters}{"B6}
1627
1628
     \DeclareMathSymbol{\nmid}{\mathrel}{delimiters}{"B9}
     \fdsy@DeclareDelimiter{\Vert}{\mathord}{delimiters}{"BD}
1629
     \fdsy@DeclareOpen{\lVert}{delimiters}{"BD}
1630
1631
     \fdsy@DeclareClose{\rVert}{delimiters}{"BD}
     \DeclareMathSymbol{\parallel}{\mathrel}{delimiters}{"BD}
1632
     \DeclareMathSymbol{\nparallel}{\mathrel}{delimiters}{"C0}
1633
     \fdsy@DeclareDelimiter{\Vvert}{\mathord}{delimiters}{"C3}
1634
     \fdsy@DeclareOpen{\lVvert}{delimiters}{"C3}
     \fdsy@DeclareClose{\rVvert}{delimiters}{"C3}
1636
1637\fi
1638 \let\|\Vert
1639 \let\divides\mid
1640 \let\ndivides\nmid
1641 \DeclareMathSymbol{\shortmid}{\mathrel}{delimiters}{"B5}
1642 \DeclareMathSymbol{\nshortmid}{\mathrel}{delimiters}{"B8}
1643 \DeclareMathSymbol{\shortparallel}{\mathrel}{delimiters}{"BC}
1644 \DeclareMathSymbol{\nshortparallel}{\mathrel}{delimiters}{"BF}
1645 \fdsy@DeclareDelimiter{\arrowvert}{\mathord}{delimiters}{"BB}
1646 \fdsy@DeclareDelimiter{\Arrowvert}{\mathord}{delimiters}{"C2}
1647 \fdsy@DeclareClose{\lgroup}{delimiters}{"7E}
1648 \fdsy@DeclareOpen{\rgroup}{delimiters}{"7F}
1649 \fdsy@DeclareClose{\rmoustache}{delimiters}{"80}
1650 \fdsy@DeclareOpen{\lmoustache}{delimiters}{"81}
1651 \fdsy@DeclareDelimiter{\bracevert}{\mathord}{delimiters}{"84}
```

```
1652 \let\uparrow\undefined
1653 \let\downarrow\undefined
1654 \let\updownarrow\undefined
1655 \let\Uparrow\undefined
1656 \let\Downarrow\undefined
1657 \let\Updownarrow\undefined
1658 \DeclareMathDelimiter{\uparrow}{\mathrel}{arrows}{\"01}{\delimiters}{\"C6}
1659 \DeclareMathDelimiter{\downarrow}{\mathrel}{arrows}{"03}{delimiters}{"C7}
\label{limiters} $$1660 \end{subarrow} {\mathbf x} arrows {\ ''11}{\ delimiters} {\ ''C8} $$
1661 \DeclareMathDelimiter{\Uparrow}{\mathrel}{arrows}{"09}{delimiters}{"C9}
Horizontal braces.
1664 \DeclareMathSymbol{\braceld}{\mathord}{delimiters}{"CC}
1665 \DeclareMathSymbol{\bracelu}{\mathord}{delimiters}{"CD}
1666 \DeclareMathSymbol{\bracerd}{\mathord}{delimiters}{"CE}
1667 \DeclareMathSymbol{\braceru}{\mathord}{delimiters}{"CF}
1668 \DeclareMathSymbol{\bracemd}{\mathord}{delimiters}{"D0}
1669 \DeclareMathSymbol{\bracemu}{\mathord}{delimiters}{"D1}
1670 \DeclareMathSymbol{\bracemid}{\mathord}{delimiters}{"D2}
1672 \end{fill} 4.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 2.1 = 
1673 \def\downbracefill@{\bracefill@\braceld\bracemd\bracemid}
1674 \def\upbracefill@{\bracefill@\bracelu\bracemu\braceru\bracemid}
1675 \def\downgroupfill@{\bracefill@\braceld{}\bracerd\bracemid}
1676 \def\upgroupfill@{\bracefill@\bracelu{}\braceru\bracemid}
1677 \def\linesegmentfill@{\arrowfill@\leftfootline\relbar\rightfootline}
1678 \def\leftharpoonfill@{\arrowfill@\leftharpoondown\relbar\relbar}
1680
1681 \DeclareRobustCommand{\overbrace}[1]{\mathop{\mathpalette{\overarrow@\downbracefill@}{#1}}\limi
1682 \DeclareRobustCommand{\underbrace}[1]{\mathop{\mathpalette{\underarrow@\upbracefill@}{#1}}\limi
1683 \DeclareRobustCommand{\overgroup}{\mathpalette{\overarrow@\downgroupfill@}}
1685 \DeclareRobustCommand{\overlinesegment}{\mathpalette{\overarrow@\linesegmentfill@}}
1687 \DeclareRobustCommand{\overrightharpoon}{\mathpalette{\overarrow@\rightharpoonfill@}}
Radical symbols.
1689 \iffdsy@largedelims
        \DeclareMathRadical{\sqrtsign}{delimiters}{"D4}{delimiters}{"D4}
        \DeclareMathSymbol{\surd}{\mathop}{delimiters}{"D4}
1691
1692 \else
        \DeclareMathRadical{\sqrtsign}{delimiters}{"D3}{delimiters}{"D3}
1693
        \DeclareMathSymbol{\surd}{\mathop}{delimiters}{"D3}
```

```
1695\fi
```

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

```
\dimen@\ht\z@ \advance\dimen@-\dp\z@
     \mkern5mu\raise.6\dimen@\copy\rootbox \mkern-8mu\box\z@}
 Mathchars.
1699 \DeclareMathSymbol{+}{\mathbin}{symbols}{"11}
1700 \DeclareMathSymbol{-}{\mathbin}{symbols}{"0E}
1701 \DeclareMathSymbol{*}{\mathbin}{symbols}{"93}
1702 \DeclareMathSymbol{:}{\mathrel}{symbols}{"02}
1703 \DeclareMathSymbol{=}{\mathrel}{relations}{"00}
1705 \DeclareMathSymbol{>}{\mathrel}{relations}{"23}
1706 \iffdsy@largedelims
     \DeclareMathSymbol{|}{\mathord}{delimiters}{"B6}
     \DeclareMathSymbol{(){\mathopen}{delimiters}{"01}
1708
     1709
     \DeclareMathSymbol{[]{\mathopen}{delimiters}{"13}
1710
     \DeclareMathSymbol{]}{\mathclose}{delimiters}{"19}
1711
     \DeclareMathSymbol{/}{\mathord}{delimiters}{"AA}
1712
1713 \else
     \DeclareMathSymbol{|}{\mathord}{delimiters}{"B5}
1714
     \DeclareMathSymbol{(){\mathopen}{delimiters}{"00}
1715
     \DeclareMathSymbol{)}{\mathclose}{delimiters}{"06}
1716
     \DeclareMathSymbol{[]{\mathopen}{delimiters}{"12}
1717
1718
     \DeclareMathSymbol{]}{\mathclose}{delimiters}{"18}
     \DeclareMathSymbol{/}{\mathord}{delimiters}{"A9}
1719
1720\fi
```

1696 \def\r@@t#1#2{\setbox\z@\hbox{\$\m@th#1\sqrt{#2}\$}%

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.