

FdSymbol: A Math Symbol Font

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v0.5a – 2011/05/09

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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 typefaces. To use this font in a L^AT_EX document, add the command

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

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

¹<http://www.typotheque.com/fonts>

Acknowledgements

The FdSymbol font is derived from 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 select a suitable weight automatically depending on the font size by selecting `auto`. For example, if you use the option `normalweight=auto`, the Book weight will be used for normal and large sizes, but the Regular weight will be used for small sizes (e.g. in sub- and superscripts).

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

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

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

Key	Values
normalweight	Book*, Regular, auto
boldweight	Medium*, Bold, auto
scale	$\langle factor \rangle$
largedelims	true, false*

4 Symbols

The fdsymbol package provides the following symbols.

4.1 Ordinary symbols

...	<code>\hdots</code>		<code>\mdwhtlozenge</code>
:	<code>\vdots</code>	◆	<code>\medblacklozenge,</code> <code>\blacklozenge,</code>
⋯	<code>\udots, \adots</code>		<code>\blacklozenge,</code>
⋱	<code>\ddots</code>		<code>\mdlgbklozenge,</code> <code>\mdblklozenge</code>
∴	<code>\righttherefore</code>	⊖	<code>\lozengeminus</code>
∵	<code>\uptherefore, \therefore</code>	☆	<code>\largewhitestar</code>
∴	<code>\lefttherefore</code>	★	<code>\largeblackstar, \bigstar</code>
∵	<code>\downtherefore, \because</code>	∞	<code>\infty</code>
∴	<code>\squaredots</code>	⊥	<code>\bot</code>
¬	<code>\neg, \lnot</code>	⊤	<code>\top</code>
⊖	<code>\backneg, \invnot, \invneg</code>	∠	<code>\angle</code>
⊖	<code>\turnedneg, \turnednot</code>	∟	<code>\revangle</code>
⊖	<code>\turnedbackneg</code>	∟	<code>\measuredangle</code>
△	<code>\largetriangleup</code>	∟	<code>\revmeasuredangle,</code> <code>\measuredangleleft</code>
▽	<code>\largetriangleup</code>	∟	<code>\sphericalangle</code>
∅	<code>\emptyset, \diameter,</code> <code>\varnothing</code>	∟	<code>\sphericalangleup</code>
∅	<code>\reemptyset</code>	∟	<code>\sphericalangleleft,</code> <code>\revsphericalangle, \gtlpar</code>
○	<code>\largecircle, \lgwhtcircle</code>	∟	<code>\sphericalangledown</code>
●	<code>\largeblackcircle</code>	⊥	<code>\rightangle</code>
□	<code>\largesquare, \lgwhtsquare</code>	⊥	<code>\measuredrightangle</code>
■	<code>\largeblacksquare,</code> <code>\lgblksquare</code>	⊥	<code>\rightanglesquare,</code> <code>\rightanglesqr</code>
◇	<code>\smalllozenge, \smwhtlozenge</code>	⊥	<code>\measuredrightangledot,</code> <code>\rightanglemdot</code>
◆	<code>\smallblacklozenge,</code> <code>\smbklozenge</code>	′	<code>\prime</code>
◇	<code>\medlozenge, \lozenge,</code> <code>\mdlwhtlozenge,</code>		

\backprime	<code>\backprime</code>	\oslash	<code>\Game</code>
\checkmark	<code>\checkmark</code>	\complement	<code>\complement</code>
\lightning	<code>\lightning, \downzigzagarrow</code>	\flat	<code>\flat</code>
\diamondsuit	<code>\diamondsuit</code>	\natural	<code>\natural</code>
\blacklozenge	<code>\vardiamondsuit</code>	\sharp	<code>\sharp</code>
\heartsuit	<code>\heartsuit</code>	\aleph	<code>\aleph</code>
\blackheart	<code>\varheartsuit</code>	\beth	<code>\beth</code>
\spadesuit	<code>\spadesuit</code>	λ	<code>\gimel</code>
\clubsuit	<code>\clubsuit</code>	\daleth	<code>\daleth</code>
\maltese	<code>\maltese</code>	\wp	<code>\wp</code>
\starofdavid	<code>\starofdavid</code>	$/$	<code>/, \mathslash</code>
\searrow	<code>\sector</code>	\backslash	<code>\backslash</code>
\forall	<code>\forall</code>	$ $	<code> , \vert</code>
\exists	<code>\exists</code>	\V	<code>\Vert</code>
\nexists	<code>\nexists</code>	\Vvert	<code>\Vvert</code>
\Finv	<code>\Finv</code>		

4.2 Binary operators

\cdot	<code>\cdot</code>	\hookdownminus	<code>\hookdownminus</code>
\centerdot	<code>\centerdot</code>	\intprod	<code>\intprod, \minushookup</code>
\hdotdot	<code>\hdotdot</code>	\intprodr	<code>\intprodr, \hookupminus</code>
\vdots	<code>\vdots</code>	\times	<code>\leftthreetimes</code>
\cdot	<code>\udotdot</code>	\times	<code>\rightthreetimes</code>
\cdot	<code>\ddotdot</code>	\times	<code>\dtimes, \btimes</code>
$-$	<code>-, \minus</code>	\times	<code>\rtimes</code>
\div	<code>\medslash, \smalldivslash</code>	\times	<code>\utimes, \ttimes</code>
\div	<code>\medbackslash, \smallsetminus</code>	\times	<code>\ltimes</code>
$+$	<code>+, \plus</code>	\times	<code>\lrtimes</code>
\times	<code>\times</code>	\times	<code>\upbowtie, \hourglass</code>
\pm	<code>\pm</code>	\times	<code>\rightY</code>
\mp	<code>\mp</code>	\times	<code>\upY</code>
$\dot{-}$	<code>\dotminus</code>	\times	<code>\leftY</code>
$\dot{-}$	<code>\minusdot</code>	\times	<code>\downY</code>
$\dot{-}$	<code>\minusfdots</code>	\wedge	<code>\wedge, \land</code>
$\dot{-}$	<code>\minusrdots</code>	\vee	<code>\vee, \lor</code>
$\dot{-}$	<code>\dotsminusdots</code>	\wedge	<code>\wedgedot</code>
$\dot{+}$	<code>\dotplus</code>	\vee	<code>\veedot</code>
\div	<code>\div</code>	$\underline{\vee}$	<code>\veebar</code>
\div	<code>\divideontimes</code>	$\overline{\wedge}$	<code>\barwedge</code>
$\dot{-}$	<code>\minushookdown</code>	$\underline{\vee}$	<code>\veedoublebar</code>

$\overline{\wedge}$	<code>\doublebarwedge</code>	∇	<code>\medtriangledown,</code> <code>\triangledown</code>
\M	<code>\doublewedge, \wedgonwedge</code>	\blacktriangleright	<code>\medblacktriangleright,</code> <code>\blacktriangleright</code>
\W	<code>\doublevee, \veeonwee</code>	\blacktriangle	<code>\medblacktriangleup,</code> <code>\blacktriangle</code>
\curlywedge	<code>\curlywedge</code>	\blacktriangleleft	<code>\medblacktriangleleft,</code> <code>\blacktriangleleft</code>
\curlyvee	<code>\curlyvee</code>	\blacktriangledown	<code>\medblacktriangledown,</code> <code>\blacktriangledown</code>
\curlywedgedot	<code>\curlywedgedot</code>	\bigtriangleup	<code>\bigtriangleup</code>
\curlyveedot	<code>\curlyveedot</code>	\bigtriangledown	<code>\bigtriangledown</code>
\doublecurlywedge	<code>\doublecurlywedge</code>	\circ	<code>\smallcircle, \circ,</code> <code>\smwhtcircle</code>
\doublecurlyvee	<code>\doublecurlyvee</code>	\bullet	<code>\smallblackcircle, \bullet,</code> <code>\smbkcircle</code>
\cup	<code>\cup</code>	\bigcirc	<code>\medcircle, \mdlgwhtcircle,</code> <code>\mdwhtcircle</code>
\cap	<code>\cap</code>	\bullet	<code>\medblackcircle,</code> <code>\mdlgblkcircle, \mdblkcircle</code>
\cupcup	<code>\doublecup, \Cup</code>	\ominus	<code>\ominus</code>
\capcap	<code>\doublecap, \Cap</code>	\oslash	<code>\overt, \circledvert</code>
\cupdot	<code>\cupdot</code>	\oslash	<code>\oslash</code>
\capdot	<code>\capdot</code>	\oslash	<code>\obackslash, \obslash</code>
\cupplus	<code>\cupplus, \uplus</code>	\oplus	<code>\oplus</code>
\capplus	<code>\capplus</code>	\otimes	<code>\otimes</code>
\sqcup	<code>\sqcup</code>	\odot	<code>\odot</code>
\sqcap	<code>\sqcap</code>	\odot	<code>\ocirc, \circledcirc</code>
\sqcupcup	<code>\doublesqcup, \Sqcup</code>	\otimes	<code>\oast, \circledast</code>
\sqcapcap	<code>\doublesqcap, \Sqcap</code>	\odot	<code>\odash, \circleddash</code>
\sqcupdot	<code>\sqcupdot</code>	\odot	<code>\oequal, \circledequal</code>
\sqcapdot	<code>\sqcapdot</code>	\bigcirc	<code>\bigcirc</code>
\sqcupplus	<code>\sqcupplus</code>	\square	<code>\smallsquare, \smwhtsquare</code>
\sqcapplus	<code>\sqcapplus</code>	\blacksquare	<code>\smallblacksquare,</code> <code>\smbklsquare</code>
\pullback	<code>\pullback</code>	\square	<code>\medsquare, \square, \Box,</code> <code>\mdlgwhtsquare, \mdwhtsquare</code>
\pushout	<code>\pushout</code>	\blacksquare	<code>\medblacksquare,</code> <code>\mdlgblklsquare, \mdblklsquare</code>
\smalltriangleright	<code>\smalltriangleright</code>	\boxminus	<code>\boxminus</code>
\smalltriangleup	<code>\smalltriangleup</code>	\boxplus	<code>\boxplus</code>
\smalltriangleleft	<code>\smalltriangleleft</code>		
\smalltriangledown	<code>\smalltriangledown</code>		
\smallblacktriangleright	<code>\smallblacktriangleright</code>		
\smallblacktriangleup	<code>\smallblacktriangleup</code>		
\smallblacktriangleleft	<code>\smallblacktriangleleft</code>		
\smallblacktriangledown	<code>\smallblacktriangledown</code>		
\medtriangleright	<code>\medtriangleright,</code> <code>\triangleright</code>		
\medtriangleup	<code>\medtriangleup, \triangle,</code> <code>\vartriangle</code>		
\medtriangleleft	<code>\medtriangleleft,</code> <code>\triangleleft</code>		

\boxslash	<code>\boxslash, \boxdiag</code>	\diamondbackslash	<code>\diamondbackslash,</code>
\boxbackslash	<code>\boxbackslash, \boxbslash</code>	\diamondbackslash	<code>\diamondbackslash</code>
\boxplus	<code>\boxplus</code>	\diamondplus	<code>\diamondplus</code>
\boxtimes	<code>\boxtimes</code>	\diamondtimes	<code>\diamondtimes</code>
\boxdot	<code>\boxdot</code>	\diamonddot	<code>\diamonddot, \diamondcdot</code>
\boxbox	<code>\boxbox</code>	$\diamond\diamond$	<code>\diamond\diamond</code>
\smalllozenge	<code>\smalllozenge, \diamond,</code>	\smallstar	<code>\smallstar, \smstar</code>
\smallblacklozenge	<code>\smallblacklozenge,</code>	\smallblackstar	<code>\smallblackstar, \star</code>
\blacklozenge	<code>\blacklozenge, \smlblacklozenge</code>	\medstar	<code>\medstar</code>
\medlozenge	<code>\medlozenge, \Diamond,</code>	\ast	<code>\ast, \ast</code>
\mdlozenge	<code>\mdlozenge, \mdlozenge</code>	\intercal	<code>\intercal</code>
\medblacklozenge	<code>\medblacklozenge,</code>	\wreath	<code>\wreath, \wr</code>
\mdlblacklozenge	<code>\mdlblacklozenge,</code>	\amalg	<code>\amalg</code>
\mdblacklozenge	<code>\mdblacklozenge</code>	\lhd	<code>\lhd</code>
\diamondminus	<code>\diamondminus</code>	\rhd	<code>\rhd</code>
\diamondvert	<code>\diamondvert</code>	\unlhd	<code>\unlhd</code>
\diamondslash	<code>\diamondslash</code>	\unrhd	<code>\unrhd</code>
		\div	<code>\div</code>
		\setminus	<code>\setminus</code>

4.3 Relations

$=$	<code>=, \equal, \Relbar</code>	\eqdot	<code>\eqdot</code>
\coloneq	<code>\coloneq, \coloneqq</code>	\Doteq	<code>\Doteq</code>
\equiv	<code>\equiv</code>	\fallingdotseq	<code>\fallingdotseq</code>
\sim	<code>\sim</code>	\risingdotseq	<code>\risingdotseq</code>
\backsimeq	<code>\backsimeq</code>	\smile	<code>\smile, \smallsmile</code>
\approx	<code>\approx</code>	\frown	<code>\frown, \smallfrown</code>
\triplesim	<code>\triplesim, \approxident</code>	\smilefrown	<code>\smilefrown, \asymp</code>
\simeq	<code>\simeq</code>	\frownsmile	<code>\frownsmile, \closure</code>
\backsimeq	<code>\backsimeq</code>	\smileeq	<code>\smileeq</code>
\eqsim	<code>\eqsim</code>	\frowneq	<code>\frowneq, \arceq</code>
\cong	<code>\cong</code>	\eqcirc	<code>\eqcirc</code>
\backcong	<code>\backcong</code>	\circeq	<code>\circeq</code>
\dotcong	<code>\dotcong</code>	\wedgedeq	<code>\wedgedeq, \hateq</code>
\approxeq	<code>\approxeq</code>	\veeeq	<code>\veeeq</code>
\bumpeq	<code>\bumpeq</code>	\stareq	<code>\stareq</code>
\Bumpeq	<code>\Bumpeq</code>	\triangleeq	<code>\triangleeq, \triangleq</code>
\doteq	<code>\doteq</code>	\in	<code>\in</code>
		\owns	<code>\owns, \ni</code>

\lt	<code>\less</code>	\supset	<code>\supsetset</code>
\gt	<code>\gtr</code>	\sqsubseteq	<code>\subsepeq</code>
\leq	<code>\leq, \le</code>	\supseteq	<code>\supseteqeq</code>
\geq	<code>\geq, \ge</code>	\sqsubseteqeq	<code>\subsepeqeq</code>
\leqslant	<code>\leqslant</code>	\sqsupseteq	<code>\supsepeqeq</code>
\geqslant	<code>\geqslant</code>	\Subset	<code>\Subset</code>
\leqq	<code>\leqq</code>	\Supset	<code>\Supset</code>
\geqq	<code>\geqq</code>	\prec	<code>\prec</code>
\lesssim	<code>\lesssim</code>	\succ	<code>\succ</code>
\gtrsim	<code>\gtrsim</code>	\preceq	<code>\preceq</code>
\lessapprox	<code>\lessapprox</code>	\succeq	<code>\succeq</code>
\gtrapprox	<code>\gtrapprox</code>	\preccurlyeq	<code>\preccurlyeq</code>
\lessgtr	<code>\lessgtr</code>	\succcurlyeq	<code>\succcurlyeq</code>
\gtrless	<code>\gtrless</code>	\preceqq	<code>\preceqq</code>
\lesseqgtr	<code>\lesseqgtr</code>	\succeqq	<code>\succeqq</code>
\gtreqless	<code>\gtreqless</code>	$\prec\sim$	<code>\prec\sim</code>
\lesseqqgtr	<code>\lesseqqgtr</code>	$\succ\sim$	<code>\succ\sim</code>
\gtreqqless	<code>\gtreqqless</code>	\precapprox	<code>\precapprox</code>
\lesseqqgtrslant	<code>\lesseqqgtrslant</code>	\succapprox	<code>\succapprox</code>
\gtreqqlessslant	<code>\gtreqqlessslant</code>	\lessdot	<code>\lessdot</code>
\ll	<code>\ll</code>	\gtrdot	<code>\gtrdot</code>
\gg	<code>\gg</code>	\leqdot	<code>\leqdot</code>
\lll, \llless	<code>\lll, \llless</code>	\geqdot	<code>\geqdot</code>
\ggg, \gggtr	<code>\ggg, \gggtr</code>	\leqslantdot, \lesdot	<code>\leqslantdot, \lesdot</code>
$\lessclosed, \vartriangleleft$	<code>\lessclosed, \vartriangleleft</code>	\geqslantdot, \gesdot	<code>\geqslantdot, \gesdot</code>
$\gtrclosed, \vartriangleright$	<code>\gtrclosed, \vartriangleright</code>	\eqslantless	<code>\eqslantless</code>
$\leqclosed, \trianglelefteq$	<code>\leqclosed, \trianglelefteq</code>	\eqslantgtr	<code>\eqslantgtr</code>
$\geqclosed, \trianglerighteq$	<code>\geqclosed, \trianglerighteq</code>	\curlyeqprec	<code>\curlyeqprec</code>
\lesscc, \ltcc	<code>\lesscc, \ltcc</code>	\curlyeqsucc	<code>\curlyeqsucc</code>
\gtrcc, \gtcc	<code>\gtrcc, \gtcc</code>	\thicksim	<code>\thicksim</code>
\leqslcc, \lescc	<code>\leqslcc, \lescc</code>	\thickapprox	<code>\thickapprox</code>
\geqslcc, \gescc	<code>\geqslcc, \gescc</code>	\rightarrow, \to	<code>\rightarrow, \to</code>
\sqsubset	<code>\sqsubset</code>	\uparrow	<code>\uparrow</code>
\sqsupset	<code>\sqsupset</code>	\leftarrow, \gets	<code>\leftarrow, \gets</code>
\sqsubseteqeq	<code>\sqsubseteqeq</code>	\downarrow	<code>\downarrow</code>
\sqsupseteqeq	<code>\sqsupseteqeq</code>	\nearrow	<code>\nearrow</code>
\sqsubseteqeqq	<code>\sqsubseteqeqq</code>	\nwarrow	<code>\nwarrow</code>
\sqsupseteqqq	<code>\sqsupseteqqq</code>	\swarrow	<code>\swarrow</code>
\Ssubset	<code>\Ssubset</code>	\searrow	<code>\searrow</code>
\Ssupset	<code>\Ssupset</code>	\Rightarrow	<code>\Rightarrow</code>
\subset	<code>\subset</code>	\Uparrow	<code>\Uparrow</code>

\Leftarrow	<code>\Leftarrow</code>	\hookleftarrow	<code>\hookleftarrow</code>
\Downarrow	<code>\Downarrow</code>	\hookdownarrow	<code>\hookdownarrow</code>
\nearrow	<code>\Nearrow</code>	\hooknearrow	<code>\hooknearrow</code>
\nwarrow	<code>\Nwarrow</code>	\hooknwarrow, \hknwarrow	<code>\hooknwarrow, \hknwarrow</code>
\swarrow	<code>\Swarrow</code>	\hookswarrow	<code>\hookswarrow</code>
\searrow	<code>\Searrow</code>	\hooksearrow, \hksearrow	<code>\hooksearrow, \hksearrow</code>
\leftrightarrow	<code>\leftrightharpoonup</code>	\rightharpoonup	<code>\rightharpoonup</code>
\updownarrow	<code>\updownarrow</code>	\upharpoonup	<code>\upharpoonup</code>
\nearrow	<code>\neswarrow</code>	\hookleftarrow	<code>\hookleftarrow</code>
\nwarrow	<code>\nwsearrow</code>	\hookdownarrow	<code>\hookdownarrow</code>
\Leftrightarrow	<code>\Leftrightarrow</code>	\hooknearrow, \hknearrow	<code>\hooknearrow, \hknearrow</code>
\Uparrow	<code>\Uparrow</code>	\hooknwarrow	<code>\hooknwarrow</code>
\nearrow	<code>\Neswarrow</code>	\hookswarrow, \hkswarrow	<code>\hookswarrow, \hkswarrow</code>
\nwarrow	<code>\Nwsearrow</code>	\hooksearrow	<code>\hooksearrow</code>
\rightarrow	<code>\twoheadrightarrow</code>	\rightarrow	<code>\rightarrow</code>
\uparrow	<code>\twoheaduparrow</code>	\rightarrow	<code>\rightarrow</code>
\leftarrow	<code>\twoheadleftarrow</code>	\rightarrow	<code>\rightarrow</code>
\downarrow	<code>\twoheaddownarrow</code>	\rightarrow	<code>\rightarrow</code>
\nearrow	<code>\twoheadnearrow</code>	\rightarrow	<code>\rightarrow</code>
\nwarrow	<code>\twoheadnwarrow</code>	\rightarrow	<code>\rightarrow</code>
\swarrow	<code>\twoheadswarrow</code>	\rightarrow	<code>\rightarrow</code>
\searrow	<code>\twoheadsearrow</code>	\rightarrow	<code>\rightarrow</code>
\rightarrow	<code>\rightarrowtail</code>	\rightarrow	<code>\rightarrow</code>
\uparrow	<code>\uparrowtail</code>	\rightarrow	<code>\rightarrow</code>
\leftarrow	<code>\leftarrowtail</code>	\rightarrow	<code>\rightarrow</code>
\downarrow	<code>\downarrowtail</code>	\rightarrow	<code>\rightarrow</code>
\nearrow	<code>\nearrowtail</code>	\rightarrow	<code>\rightarrow</code>
\nwarrow	<code>\nwarrowtail</code>	\rightarrow	<code>\rightarrow</code>
\swarrow	<code>\swarrowtail</code>	\rightarrow	<code>\rightarrow</code>
\searrow	<code>\searrowtail</code>	\rightarrow	<code>\rightarrow</code>
\mapsto	<code>\rightmapsto, \mapsto</code>	\rightarrow	<code>\rightarrow</code>
\uparrow	<code>\upmapsto, \mapsto</code>	\rightarrow	<code>\rightarrow</code>
\leftarrow	<code>\leftmapsto, \mapsto</code>	\rightarrow	<code>\rightarrow</code>
\downarrow	<code>\downmapsto, \mapsto</code>	\rightarrow	<code>\rightarrow</code>
\nearrow	<code>\nemapsto</code>	\rightarrow	<code>\rightarrow</code>
\nwarrow	<code>\nwmapsto</code>	\rightarrow	<code>\rightarrow</code>
\swarrow	<code>\swmapsto</code>	\rightarrow	<code>\rightarrow</code>
\searrow	<code>\semapsto</code>	\rightarrow	<code>\rightarrow</code>
\hookrightarrow	<code>\hookrightarrow, \hookrightarrow</code>	\rightarrow	<code>\rightarrow</code>
\uparrow	<code>\hookuparrow</code>	\rightarrow	<code>\rightarrow</code>
































































\Updownarrow	<code>\updownharpoons,</code> <code>\updownharpoonsleftright</code>	\nwarrow	<code>\nwsearrows</code>
\nearrow	<code>\neswharpoons</code>	\Leftrightarrow	<code>\leftrightharpoons</code>
\searrow	<code>\senwharpoons</code>	\Uparrow	<code>\downuparrows</code>
\Leftrightarrow	<code>\leftrightharpoons</code>	\swarrow	<code>\swnearrows</code>
\Downarrow	<code>\downupharpoons,</code> <code>\downupharpoonsleftright</code>	\searrow	<code>\senwarrows</code>
\swarrow	<code>\swneharpoons</code>	\rightsquigarrow	<code>\rightlsquigarrow, \leadsto,</code> <code>\rightsquigarrow</code>
\nwarrow	<code>\nwseharpoons</code>	\Uparrow	<code>\uplsquigarrow</code>
\rightarrow	<code>\rightbkarrow,</code> <code>\dashrightarrow, \dasharrow</code>	\leftarrow	<code>\leftlsquigarrow</code>
\uparrow	<code>\upbkarrow</code>	\downarrow	<code>\downlsquigarrow</code>
\leftarrow	<code>\leftbkarrow, \dashleftarrow</code>	\rightarrow	<code>\righttrsquigarrow,</code> <code>\uprsquigarrow</code>
\downarrow	<code>\downbkarrow</code>	\leftarrow	<code>\lefttrsquigarrow,</code> <code>\leftsquigarrow</code>
\nearrow	<code>\nebkarrow</code>	\downarrow	<code>\downrsquigarrow</code>
\nwarrow	<code>\nwbkarrow</code>	\leftrightarrow	<code>\leftrightsquigarrow</code>
\swarrow	<code>\swbkarrow</code>	\Updownarrow	<code>\updownsquigarrow</code>
\searrow	<code>\sebkarrow</code>	\leftrightarrow	<code>\rightleftsquigarrow</code>
\rightarrow	<code>\rightspoon, \multimap</code>	\Updownarrow	<code>\downupsquigarrow</code>
\uparrow	<code>\upspoon, \circim</code>	\rightsquigarrow	<code>\rightlcurvearrow,</code> <code>\curvearrowright</code>
\leftarrow	<code>\leftspoon, \multimapinv</code>	\uparrow	<code>\uplcurvearrow</code>
\downarrow	<code>\downspoon, \midcir</code>	\leftarrow	<code>\leftlcurvearrow</code>
\rightarrow	<code>\rightblackspoon</code>	\downarrow	<code>\downlcurvearrow,</code> <code>\cwrightarcarrow</code>
\uparrow	<code>\upblackspoon</code>	\rightarrow	<code>\nelcurvearrow</code>
\leftarrow	<code>\leftblackspoon</code>	\curvearrowleft	<code>\nwlcurvearrow</code>
\downarrow	<code>\downblackspoon</code>	\swarrow	<code>\swlcurvearrow,</code> <code>\cwundercurvearrow</code>
\rightarrow	<code>\rightpitchfork</code>	\rightarrow	<code>\selcurvearrow</code>
\uparrow	<code>\uppitchfork, \pitchfork</code>	\rightarrow	<code>\righttrcurvearrow,</code> <code>\acwunderarcarrow</code>
\leftarrow	<code>\leftpitchfork</code>	\uparrow	<code>\uprcurvearrow</code>
Ψ	<code>\downpitchfork</code>	\leftarrow	<code>\lefttrcurvearrow,</code> <code>\curvearrowleft,</code> <code>\acwoverarcarrow</code>
\Rightarrow	<code>\rightrightarrows</code>	\downarrow	<code>\downrcurvearrow,</code> <code>\acwleftarcarrow</code>
\Uparrow	<code>\upuparrows</code>	\rightarrow	<code>\nercurvearrow</code>
\Leftarrow	<code>\leftleftarrows</code>	\nwarrow	<code>\nwrcurvearrow</code>
\Downarrow	<code>\downdownarrows</code>	\swarrow	<code>\swrcurvearrow</code>
\nearrow	<code>\nenearrows</code>		
\nwarrow	<code>\nwnwarrows</code>		
\swarrow	<code>\swswarrows</code>		
\searrow	<code>\sesearrows</code>		
\rightleftarrows	<code>\rightleftarrows</code>		
\updownarrows	<code>\updownarrows</code>		
\neswarrows	<code>\neswarrows</code>		

\curvearrowright	<code>\sercurvearrow,</code>	\longleftrightarrow	<code>\Longlefttrightarrow</code>
	<code>\ccwundercurvearrow</code>	\mapsto	<code>\longmapsto</code>
\leftrightsquigarrow	<code>\leftrightcurvearrow</code>	\spoon	<code>\emptyblackspoon, \origof</code>
\updowncurvearrow	<code>\updowncurvearrow</code>	\spoonwithdot	<code>\filledemptyspoon, \imageof</code>
\rightleftarrows	<code>\rightleftcurvearrow</code>	\spoonwithdot	<code>\leftrightspoon, \dualmap</code>
\downupcurvearrow	<code>\downupcurvearrow</code>	\spoonwithdot	<code>\leftrightblackspoon</code>
\neswcurvearrow	<code>\neswcurvearrow</code>	\vdash	<code>\rightvdash, \vdash, \assert</code>
\nwsecurvearrow	<code>\nwsecurvearrow</code>	\perp	<code>\upvdash, \perp</code>
\swnecurvearrow	<code>\swnecurvearrow</code>	\dashv	<code>\leftvdash, \dashv</code>
\senwcurvearrow	<code>\senwcurvearrow</code>	\dashv	<code>\downvdash</code>
\leftfootline	<code>\leftfootline, \vlongdash</code>	\models	<code>\rightvDash, \vDash, \models</code>
\rightfootline	<code>\rightfootline, \longdashv</code>	\Vdash	<code>\upvDash, \Vdash</code>
\circlearrowup	<code>\acwcirclearrowup</code>	\dashv	<code>\leftvDash, \Dashv</code>
\circlearrowleft	<code>\acwcirclearrowleft,</code>	\dashv	<code>\downvDash, \bar{V}</code>
	<code>\circlearrowleft,</code>	\dashv	<code>\rightVdash, \Vdash</code>
	<code>\acwopencirclearrow</code>	\perp	<code>\upVdash</code>
\circlearrowdown	<code>\acwcirclearrowdown,</code>	\dashv	<code>\leftVdash, \dashv</code>
	<code>\acwgapcirclearrow</code>	\dashv	<code>\downVdash</code>
\circlearrowright	<code>\acwcirclearrowright</code>	\dashv	<code>\rightVdash, \Vdash</code>
\circlearrowdown	<code>\cwcirclearrowdown,</code>	\perp	<code>\upVDash</code>
	<code>\cwgapcirclearrow</code>	\dashv	<code>\leftVDash, \DashV</code>
\circlearrowright	<code>\cwcirclearrowright,</code>	\dashv	<code>\downVDash</code>
	<code>\circlearrowright,</code>	\dashv	<code>\Vdash</code>
	<code>\cwopencirclearrow</code>	\neq	<code>\nequal, \neq, \neq</code>
\circlearrowup	<code>\cwcirclearrowup</code>	\nequiv	<code>\nequiv</code>
\circlearrowleft	<code>\cwcirclearrowleft</code>	\nsim	<code>\nsim</code>
\Rightarrow	<code>\Rrightarrow</code>	\nbacksim	<code>\nbacksim</code>
\Uparrow	<code>\Uparrow</code>	\approx	<code>\approx</code>
\Leftarrow	<code>\Lleftarrow</code>	\ntriplesim	<code>\ntriplesim, \napproxident</code>
\Downarrow	<code>\Ddownarrow</code>	\nsimeq	<code>\nsimeq, \nsime</code>
\Lsh	<code>\Lsh</code>	\nbacksimeq	<code>\nbacksimeq</code>
\Rsh	<code>\Rsh</code>	\neqsim	<code>\neqsim</code>
\Ldsh	<code>\Ldsh</code>	\ncong	<code>\ncong</code>
\Rdsh	<code>\Rdsh</code>	\nbackcong	<code>\nbackcong</code>
\looparrowright	<code>\looparrowright</code>	\approx	<code>\approx</code>
\looparrowleft	<code>\looparrowleft</code>	\bumpeq	<code>\bumpeq</code>
\rightarrow	<code>\longrightarrow</code>	\bumpeq	<code>\bumpeq</code>
\leftarrow	<code>\longleftarrow</code>	\bumpeq	<code>\bumpeq</code>
\longleftrightarrow	<code>\longleftrightarrow</code>	\doteq	<code>\doteq</code>
\Rightarrow	<code>\Longrightarrow</code>	\neqdot	<code>\neqdot</code>
\Leftarrow	<code>\Longleftarrow</code>	\nDoteq	<code>\nDoteq</code>

\nfallingdotseq	$\ngtrclosed, \ntrianglerightright$
\nrisingdotseq	$\nleqclosed, \ntrianglelefteq$
\nsmile	$\ngeqclosed,$
\nfrown	\ntrianglerightrighteq
\nsmilefrown, \nasympt	\nlesscc, \nltcc
\nfrownsmile, \nclosure	\ngtrcc, \ngtcc
\nsmileeq	\nleqslcc, \nlescc
\nfrowneq, \narceq	\ngeqslcc, \ngescc
\neqcirc	\nsubset
\ncirceq	\nsupset
\nwedgeq, \nhateq	\nsubseteq
\nveeeq	\nsupseteq
\nstareq	\nsubsetteq
\ntriangleleeq	\nsupseteq
\nin, \notin	\nsubseteq
\nowns, \nni	\nsubseteqeq
\nless	\nsubseteqeq
\ngtr	\nsubseteqeq
\nleq	\nsubseteqeq
\ngeq	\nsubseteqeq
\nleqslant	\nsubseteqeq
\ngeqslant	\nsubseteqeq
\nleqq	\nsubseteqeq
\ngeqq	\nsubseteqeq
\nlesssim	\nsubseteqeq
\ngtrsim	\nsubseteqeq
\nlessapprox	\nsubseteqeq
\ngtrapprox	\nsubseteqeq
\nlessgtr	\nsubseteqeq
\ngtrless	\nsubseteqeq
\nlesseqgtr	\nsubseteqeq
\ngtreqlless	\nsubseteqeq
\nlesseqqgtr	\nsubseteqeq
\ngtreqqless	\nsubseteqeq
\nlesseqgtrslant	\nsubseteqeq
\ngtreqqlesslslant	\nsubseteqeq
\nll	\nsubseteqeq
\ngg	\nsubseteqeq
\nlll	\nsubseteqeq
\nggg	\nsubseteqeq
$\nlessclosed, \ntriangleleft$	\nsubseteqeq
	\ngtrdot
	\nleqdot
	\ngeqdot
	\nleqslantdot, \nlesdot

\nrightarrow	<code>\ngeqslantdot, \ngesdot</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\ngeqslantless</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\ngeqslantgtr</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\ncurlyeqprec</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\ncurlyeqsucc</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\simneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\backsimneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\lneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\gneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\lneqq, \lvertneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\gneqq, \gvertneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\lnsim</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\gnsim</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\lnapprox</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\gnapprox</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\lessneqqgtr</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\gtrneqqless</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\sqsubsetneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\sqsupsetneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\sqsubsetneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\sqsupsetneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\subsetneq, \varsubsetneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\supsetneq, \varsupsetneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\subsetneqq, \varsubsetneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\supsetneqq, \varsupsetneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\precneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\succneq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\precneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\succneqq</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\precnsim</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\succnsim</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\precnapprox</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\succnapprox</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nrightarrow, \nto</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nrightarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nrightarrow, \ngets</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\ndownarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nnearrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nnwarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nswarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nsearrow</code>	\nrightarrow	<code>\nrightarrow</code>

\curvearrowright	<code>\nlhookrightarrow,</code> <code>\nhookrightarrow</code>	\nwarrow	<code>\nneswharpoonsenw</code>
\upharpoonright	<code>\nlhookuparrow</code>	\nwarrow	<code>\nnwseharpoonswne</code>
\curvearrowleft	<code>\nlhookleftarrow</code>	\leftharpoonup	<code>\nrightleftharpoons</code>
\downarrow	<code>\nlhookdownarrow</code>	\nupdownharpoons	<code>\nupdownharpoonsleftright</code>
\nearrow	<code>\nlhooknearrow</code>	\nwarrow	<code>\nneswharpoons</code>
\nwarrow	<code>\nlhooknwarrow, \nhknwarrow</code>	\nwarrow	<code>\nsenwharpoons</code>
\nearrow	<code>\nlhookswarrow</code>	\leftharpoonup	<code>\nleftrightharpoons</code>
\nwarrow	<code>\nlhooksearrow, \nhksearrow</code>	\nupdownharpoons	<code>\ndownupharpoons,</code> <code>\ndownupharpoonsleftright</code>
\curvearrowright	<code>\nrhookrightarrow</code>	\nwarrow	<code>\nswneharpoons</code>
\upharpoonright	<code>\nrhookuparrow</code>	\nwarrow	<code>\nnwseharpoons</code>
\curvearrowleft	<code>\nrhookleftarrow,</code> <code>\nhookleftarrow</code>	\rightarrow	<code>\nrightbkarrow, \ndasharrow,</code> <code>\ndashrightarrow</code>
\downarrow	<code>\nrhookdownarrow</code>	\nrightarrow	<code>\nupbkarrow</code>
\nearrow	<code>\nrhooknearrow, \nhknearrow</code>	\leftarrow	<code>\nleftbkarrow,</code> <code>\ndashleftarrow</code>
\nwarrow	<code>\nrhooknwarrow</code>	\downarrow	<code>\ndownbkarrow</code>
\nearrow	<code>\nrhookswarrow, \nhkswarrow</code>	\nearrow	<code>\nnebkarrow</code>
\nwarrow	<code>\nrhooksearrow</code>	\nwarrow	<code>\nnwbkarrow</code>
\rightarrow	<code>\nrightharpoonup</code>	\nwarrow	<code>\nswbkarrow</code>
\upharpoonright	<code>\nupharpoonleft</code>	\nwarrow	<code>\nsebkarrow</code>
\rightarrow	<code>\nleftharpoondown</code>	\rightarrow	<code>\nrightrightarrow, \nmultimap</code>
\upharpoonright	<code>\ndownharpoonright</code>	\upharpoonright	<code>\nupspoon, \ncirmid</code>
\nwarrow	<code>\nneharpoonnw</code>	\rightarrow	<code>\nleftspoon, \nmultimapinv</code>
\nwarrow	<code>\nnwharpoonsw</code>	\upharpoonright	<code>\ndownspoon, \nmidcir</code>
\nwarrow	<code>\nswharpoonse</code>	\rightarrow	<code>\nrightblackspoon</code>
\nwarrow	<code>\nseharpoonse</code>	\upharpoonright	<code>\nupblackspoon</code>
\rightarrow	<code>\nrightharpoonright,</code> <code>\nrestriction</code>	\rightarrow	<code>\nleftblackspoon</code>
\rightarrow	<code>\nleftharpoonup</code>	\upharpoonright	<code>\ndownblackspoon</code>
\upharpoonright	<code>\ndownharpoonleft</code>	\rightarrow	<code>\nrightpitchfork</code>
\nwarrow	<code>\nneharpoonse</code>	\rightarrow	<code>\nuppitchfork, \npitchfork</code>
\nwarrow	<code>\nnwharpoonse</code>	\rightarrow	<code>\nleftpitchfork</code>
\nwarrow	<code>\nswharpoonnw</code>	\rightarrow	<code>\ndownpitchfork</code>
\nwarrow	<code>\nseharpoonsw</code>	\rightarrow	<code>\nrightrightarrows</code>
\rightarrow	<code>\nleftrightharpoonupdown</code>	\rightarrow	<code>\nupuparrows</code>
\upharpoonright	<code>\nupdownharpoonleftright</code>	\rightarrow	<code>\nleftleftarrows</code>
\nwarrow	<code>\nneswharpoonnwse</code>	\rightarrow	<code>\ndowndownarrows</code>
\nwarrow	<code>\nnwseharpoonsesw</code>	\rightarrow	<code>\nnenearrows</code>
\rightarrow	<code>\nleftrightharpoonupdown</code>	\rightarrow	<code>\nnwnwarrows</code>
\rightarrow	<code>\nupdownharpoonrightleft</code>	\rightarrow	<code>\nswswarrows</code>

	<code>\nsearrow</code>		<code>\downrcurvecarrow,</code>
	<code>\rightleftarrows</code>		<code>\nacwleftarcarrow</code>
	<code>\nupdownarrows</code>		<code>\nnercurvecarrow</code>
	<code>\nneswarrows</code>		<code>\nnwrcurvecarrow</code>
	<code>\nnwsearrows</code>		<code>\nswrcurvecarrow</code>
	<code>\nlefttrightarrows</code>		<code>\nsercurvecarrow,</code>
	<code>\ndownuparrows</code>		<code>\nccwundercurvecarrow</code>
	<code>\nswnearrows</code>		<code>\nleftrightcurvecarrow</code>
	<code>\nsenwarrows</code>		<code>\nupdowncurvecarrow</code>
	<code>\nrightlsquigarrow,\nleadsto,</code>		<code>\nrightleftcurvecarrow</code>
	<code>\nrightsquigarrow</code>		<code>\ndownupcurvecarrow</code>
	<code>\nuplsquigarrow</code>		<code>\nneswcurvecarrow</code>
	<code>\nleftlsquigarrow</code>		<code>\nnwsecurvecarrow</code>
	<code>\ndownlsquigarrow</code>		<code>\nswnecurvecarrow</code>
	<code>\nrightrsquigarrow</code>		<code>\nsenwcurvecarrow</code>
	<code>\nuprsquigarrow</code>		<code>\nleftfootline,\nvlongdash</code>
	<code>\nleftrsquigarrow,</code>		<code>\nrightfootline,\nlongdashv</code>
	<code>\nleftsquigarrow</code>		<code>\nacwcirculararrowup</code>
	<code>\ndownrsquigarrow</code>		<code>\nacwcirculararrowleft,</code>
	<code>\nlefttrightsquigarrow</code>		<code>\ncirculararrowleft,</code>
	<code>\nupdownsquigarrow</code>		<code>\nacwopencirculararrow</code>
	<code>\nrightleftsquigarrow</code>		<code>\nacwcirculararrowdown,</code>
	<code>\ndownupsquigarrow</code>		<code>\nacwgapcirculararrow</code>
	<code>\nrightlcurvecarrow,</code>		<code>\nacwcirculararrowright</code>
	<code>\ncurvecarrowright</code>		<code>\ncwcirculararrowdown,</code>
	<code>\nuplcurvecarrow</code>		<code>\ncwgapcirculararrow</code>
	<code>\nleftlcurvecarrow</code>		<code>\ncwcirculararrowright,</code>
	<code>\ndownlcurvecarrow,</code>		<code>\ncirculararrowright,</code>
	<code>\ncwrightarcarrow</code>		<code>\ncwopencirculararrow</code>
	<code>\nnelcurvecarrow</code>		<code>\ncwcirculararrowup</code>
	<code>\nnwlcurvecarrow</code>		<code>\ncwcirculararrowleft</code>
	<code>\nswlcurvecarrow,</code>		<code>\nRrightarrow</code>
	<code>\ncwundercurvecarrow</code>		<code>\nUuparrow</code>
	<code>\nsecurvecarrow</code>		<code>\nLleftarrow</code>
	<code>\nrightrcurvecarrow,</code>		<code>\nDdownarrow</code>
	<code>\nacwunderarcarrow</code>		<code>\nrightvdash,\nvdash,</code>
	<code>\nuprcurvecarrow</code>		<code>\nassert</code>
	<code>\nlefttrcurvecarrow,</code>		<code>\nupvdash,\nperp</code>
	<code>\ncurvecarrowleft,</code>		<code>\nleftvdash,\ndashv</code>
	<code>\nacwoverarcarrow</code>		<code>\ndownvdash</code>

$\#$	\backslash nrightvDash, \backslash nvDash, \backslash nmodels	\rtimes	\backslash rJoin
$\#$	\backslash nupvDash, \backslash nVbar	\ltimes	\backslash lJoin
$\#$	\backslash nleftvDash, \backslash nDashv	\bowtie	\backslash bowtie, \backslash Join
$\#$	\backslash ndownvDash, \backslash nbarV	\propto	\backslash propto, \backslash varpropto
$\#$	\backslash nrightVdash, \backslash nVdash	∞	\backslash backpropto, propfrom
\pm	\backslash nupVdash	\times	\backslash crossing
$\#$	\backslash nleftVdash, \backslash ndashV	\emptyset	\backslash between
$\#$	\backslash ndownVdash	$\)($	\backslash separated
$\#$	\backslash nrightVDash, \backslash nVDash	$ $	\backslash shortmid
\pm	\backslash nupVDash	$ $	\backslash mid, \backslash divides
$\#$	\backslash nleftVDash, \backslash nDashV	\dagger	\backslash nshortmid
$\#$	\backslash ndownVDash	\dagger	\backslash nmid, \backslash ndivides
$:$	\backslash mathratio	\parallel	\backslash shortparallel
$::$	\backslash Colon	\parallel	\backslash parallel
$-$	\backslash relbar	$\#$	\backslash nshortparallel
		$\#$	\backslash nparallel

4.4 Punctuation symbols

\cdot	\backslash cdotp	$:$	\backslash colon, \backslash mathcolon
---------	--------------------	-----	--

4.5 Large operators

$+$	$+$	\backslash bigplus	\cup	\cup	\backslash bigcup
\times	\times	\backslash bigtimes	\cap	\cap	\backslash bigcapdot
\wedge	\wedge	\backslash bigwedge	\cup	\cup	\backslash bigcupdot
\vee	\vee	\backslash bigvee	\cap	\cap	\backslash bigcapplus
\wedge	\wedge	\backslash bigwedgedot	\cup	\cup	\backslash bigcupplus, \backslash biguplus
\vee	\vee	\backslash bigveedot	\sqcap	\sqcap	\backslash bigsqcap
\wedge	\wedge	\backslash bigdoublewedge, \backslash conjquant	\sqcup	\sqcup	\backslash bigsqcup
\vee	\vee	\backslash bigdoublevee, \backslash disjquant	\cap	\cap	\backslash bigsqcapdot
\wedge	\wedge	\backslash bigcurlywedge	\cup	\cup	\backslash bigsqcupdot
\vee	\vee	\backslash bigcurlyvee	\cap	\cap	\backslash bigsqcapplus
\wedge	\wedge	\backslash bigcurlywedgedot	\cup	\cup	\backslash bigsqcupplus
\vee	\vee	\backslash bigcurlyveedot	\oplus	\oplus	\backslash bigoplus
\wedge	\wedge	\backslash bigdoublecurlywedge	\otimes	\otimes	\backslash bigotimes
\vee	\vee	\backslash bigdoublecurlyvee	\odot	\odot	\backslash bigodot
\cap	\cap	\backslash bigcap	\otimes	\otimes	\backslash bigotimes
			\prod	\prod	\backslash prod

$\langle\langle\langle\langle$	<code>\langle</code>	\llllllllll	<code>\lVvert</code>
$\rangle\rangle\rangle\rangle$	<code>\rangle</code>	\llllllllll	<code>\rVvert</code>
$\langle\langle\langle\langle\langle$	<code>\lAngle</code>	$\cdot\cdot\cdot\cdot\cdot$	<code>\arrowvert</code>
$\rangle\rangle\rangle\rangle\rangle$	<code>\rAngle</code>	$\cdot\cdot\cdot\cdot\cdot$	<code>\Arrowvert</code>
$\langle\cdot\cdot\cdot\cdot\langle$	<code>\langedot</code>	$\left[\left[\left[\left[\right.$	<code>\lgroup</code>
$\rangle\cdot\cdot\cdot\cdot\rangle$	<code>\rangedot</code>	$\right)\right)\right)\right]$	<code>\rgroup</code>
$///\backslash$	<code>/, \mathslash</code>	$\int\int\int\int$	<code>\lmoustache</code>
$\backslash\backslash\backslash\backslash$	<code>\backslashslash</code>	$\backslash\backslash\backslash\backslash$	<code>\rmoustache</code>
$\lvert\lvert\lvert\lvert$	<code>l, \vert</code>	$\lvert\lvert\lvert\lvert$	<code>\bracevert</code>
$\lvert\lvert\lvert\lvert$	<code>\lvert</code>	$\uparrow\uparrow\uparrow\uparrow$	<code>\uparrow</code>
$\lvert\lvert\lvert\lvert$	<code>\rvert</code>	$\downarrow\downarrow\downarrow\downarrow$	<code>\downarrow</code>
$\lvert\lvert\lvert\lvert\lvert\lvert$	<code>\Vert, \lvert</code>	$\updownarrow\updownarrow\updownarrow$	<code>\updownarrow</code>
$\lvert\lvert\lvert\lvert\lvert\lvert$	<code>\lVert</code>	$\Uparrow\Uparrow\Uparrow\Uparrow$	<code>\Uparrow</code>
$\lvert\lvert\lvert\lvert\lvert\lvert$	<code>\rVert</code>	$\Downarrow\Downarrow\Downarrow\Downarrow$	<code>\Downarrow</code>
$\lvert\lvert\lvert\lvert\lvert\lvert\lvert\lvert\lvert$	<code>\Vvert</code>	$\Updownarrow\Updownarrow\Updownarrow\Updownarrow$	<code>\Updownarrow</code>
\widehat{xxx}	<code>\overbrace</code>	\overline{xxx}	<code>\overline{xxx}</code>
\underbrace{xxx}	<code>\underbrace</code>	\overleftarrow{xxx}	<code>\overleftarrow{xxx}</code>
\overgroup{xxx}	<code>\overgroup</code>	\overrightarrow{xxx}	<code>\overrightarrow{xxx}</code>
\undergroup{xxx}	<code>\undergroup</code>	\underline{xxx}	<code>\underline{xxx}</code>
\sqrt{b}	<code>\sqrt{b}</code>	\vec{b}	<code>\vec{b}</code>
\widehat{xxx}	<code>\widehat{xxx}</code>	\bar{b}	<code>\middlebar{b}</code>
\widetilde{xxx}	<code>\widetilde{xxx}</code>	$\text{\textit{b}}$	<code>\middleslash{b}</code>
\wideparen{xxx}	<code>\wideparen{xxx}</code>	$\text{\textit{b}}$	<code>\strokethrough{b}</code>

4.7 Faked symbols

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

\dagger	<code>\dagger</code>	\Re	<code>\Re</code>
\ddagger	<code>\ddagger</code>	\Im	<code>\Im</code>
\P	<code>\mathparagraph</code>	\hbar	<code>\hbar</code>
\S	<code>\mathsection</code>	\hslash	<code>\hslash</code>
$\$$	<code>\mathdollar</code>	\textcircled{R}	<code>\circledR</code>
\pounds	<code>\mathsterling</code>	\textcircled{S}	<code>\circledS</code>
\yen	<code>\yen</code>		

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.

<code>\mho</code>	<code>\varkappa</code>	<code>\lhook</code>
<code>\nabla</code>	<code>\Bbbk</code>	<code>\rhook</code>
<code>\eth</code>	<code>\backepsilon</code>	<code>\diagup</code>
<code>\digamma</code>	<code>\mapstochar</code>	<code>\diagdown</code>

5 Implementation

```
1 \langle *style\rangle
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}{%
11   \ifcase\@tempb\relax
12     \renewcommand{\fdsy@mweight}{Book}
```

```

13   \renewcommand\fdsy@msweight{Book}
14   \or
15   \renewcommand\fdsy@mweight{Regular}
16   \renewcommand\fdsy@msweight{Regular}
17   \or
18   \renewcommand\fdsy@mweight{Book}
19   \renewcommand\fdsy@msweight{Regular}
20 \fi
21 }
22 \define@choicekey*{fdsymbol.sty}{boldweight}[\@tempa\@tempb]{medium,bold,auto}{%
23   \ifcase\@tempb\relax
24     \renewcommand\fdsy@bweight{Medium}
25     \renewcommand\fdsy@bsweight{Medium}
26   \or
27     \renewcommand\fdsy@bweight{Bold}
28     \renewcommand\fdsy@bsweight{Bold}
29   \or
30     \renewcommand\fdsy@bweight{Medium}
31     \renewcommand\fdsy@bsweight{Bold}
32 \fi
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
41   \renewcommand{\Big}{\bBigg@{1.25}}
42   \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{%
53   \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}{\mathrel{\text{\boldmath$\m@th\approx$}}}
62 \let\hbar\undefined
63 \let\hslash\undefined
64 \DeclareRobustCommand{\hbar}{\middlebar h}
65 \DeclareRobustCommand{\hslash}{\middleslash h}
66 \DeclareRobustCommand{\veebar}{\mathbin{\underline{vee}}}
67 \DeclareRobustCommand{\barwedge}{\mathbin{\overline{\wedge}}}
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{\oalign{$\div$\cr$\times$}}}

```

Unneeded partial symbols.

```

72 \let\mapstochar\undefined
73 \let\lhook\undefined
74 \let\rhook\undefined

```

Short hands 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}
78
79 \newcommand\fdsy@@DeclareSymbol[4]{\DeclareMathSymbol{#2}{#3}{#4}{#1}}
80 \newcommand\fdsy@DeclareSymbol[3]{%
81   \if\relax\noexpand#1\let#1\undefined\fi
82   \expandafter\fdsy@@DeclareSymbol\expandafter{\the\@tempcnta}{#1}{#3}{#2}%
83   \fdsy@nextslot
84 }
85 \newcommand\fdsy@DeclareAlias[3]{\fdsy@prevslot\fdsy@DeclareSymbol{#1}{#2}{#3}}
86 \newcommand\fdsy@DeclareOperator[3]{\def#1{\DOTSB#3\limits@}}
87 \newcommand\fdsy@DeclareIntegral[3]{\def#1{\DOTSI#3\limits@}}
88 \newcommand\fdsy@DeclareDelimiter[4]{%
89   \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}{}
100
101 \DeclareFontShape{U}{FdSymbolA}{m}{n}{
102     <-7.1> s * [\fdsy@scale] FdSymbolA-\fdsy@msweight
103     <7.1-> s * [\fdsy@scale] FdSymbolA-\fdsy@mweight
104 }{}
105 \DeclareFontShape{U}{FdSymbolA}{b}{n}{
106     <-7.1> s * [\fdsy@scale] FdSymbolA-\fdsy@bsweight
107     <7.1-> s * [\fdsy@scale] FdSymbolA-\fdsy@bweight
108 }{}
109 \DeclareFontShape{U}{FdSymbolB}{m}{n}{
110     <-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
115     <7.1-> s * [\fdsy@scale] FdSymbolB-\fdsy@bweight
116 }{}
117 \DeclareFontShape{U}{FdSymbolC}{m}{n}{
118     <-7.1> s * [\fdsy@scale] FdSymbolC-\fdsy@msweight
119     <7.1-> s * [\fdsy@scale] FdSymbolC-\fdsy@mweight
120 }{}
121 \DeclareFontShape{U}{FdSymbolC}{b}{n}{
122     <-7.1> s * [\fdsy@scale] FdSymbolC-\fdsy@bsweight
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
127     <7.1-> s * [\fdsy@scale] FdSymbolD-\fdsy@mweight
128 }{}
129 \DeclareFontShape{U}{FdSymbolD}{b}{n}{
130     <-7.1> s * [\fdsy@scale] FdSymbolD-\fdsy@bsweight
131     <7.1-> s * [\fdsy@scale] FdSymbolD-\fdsy@bweight
132 }{}
133 \DeclareFontShape{U}{FdSymbolE}{m}{n}{
134     <-7.1> s * [\fdsy@scale] FdSymbolE-\fdsy@msweight
135     <7.1-> s * [\fdsy@scale] FdSymbolE-\fdsy@mweight
136 }{}
137 \DeclareFontShape{U}{FdSymbolE}{b}{n}{
```

```

138 <-7.1> s * [\fdsy@scale] FdSymbolE-\fdsy@bsweight
139 <7.1-> s * [\fdsy@scale] FdSymbolE-\fdsy@bweight
140 {}{}
141 \DeclareFontShape{U}{FdSymbolF}{m}{n}{
142 <-7.1> s * [\fdsy@scale] FdSymbolF-\fdsy@msweight
143 <7.1-> s * [\fdsy@scale] FdSymbolF-\fdsy@mweight
144 }{}
145 \DeclareFontShape{U}{FdSymbolF}{b}{n}{
146 <-7.1> s * [\fdsy@scale] FdSymbolF-\fdsy@bsweight
147 <7.1-> s * [\fdsy@scale] FdSymbolF-\fdsy@bweight
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}
155 \DeclareSymbolFont{delimiters}{U}{FdSymbolF}{m}{n}
156 \SetSymbolFont{symbols}{bold}{U}{FdSymbolA}{b}{n}
157 \SetSymbolFont{relations}{bold}{U}{FdSymbolB}{b}{n}
158 \SetSymbolFont{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}
163 \SetMathAlphabet{\mathcal}{bold}{OMS}{cmsy}{b}{n}

```

A command to take math symbols from text fonts.

```

164 \newcommand\fdsy@bold{bold}
165 \newcommand\fdsy@text[1]{%
166 \ifx\fdsy@bold\math@version
167 \text{\bfseries#1}%
168 \else
169 \text{\mdseries#1}%
170 \fi
171 }

```

FdSymbolA: binary operators and ordinary symbols

```

172 \fdsy@setslot{0}
173 \fdsy@DeclareSymbol{\cdot}{symbols}{\mathbin}
174 \fdsy@DeclareAlias{\cdotp}{symbols}{\mathpunct}
175 \fdsy@DeclareSymbol{\hdotdot}{symbols}{\mathbin}
176 \fdsy@DeclareSymbol{\vdotdot}{symbols}{\mathbin}
177 \fdsy@DeclareAlias{\colon}{symbols}{\mathpunct}
178 \fdsy@DeclareAlias{\mathcolon}{symbols}{\mathpunct}

```

```

179 \fdsy@DeclareAlias{\mathratio}{symbols}{\mathrel}
180 \fdsy@DeclareSymbol{\udotdot}{symbols}{\mathbin}
181 \fdsy@DeclareSymbol{\ddotdot}{symbols}{\mathbin}
182 \fdsy@DeclareSymbol{\hdots}{symbols}{\mathord}
183 \fdsy@DeclareAlias{@cdots}{symbols}{\mathinner}
184 \let\cdots\@cdots
185 \fdsy@DeclareSymbol{\vdots}{symbols}{\mathord}
186 \DeclareRobustCommand{\vdots}{\ifmmode\vdots\else\hbox{$\vdots$}\fi}
187 \fdsy@DeclareSymbol{\udots}{symbols}{\mathord}
188 \fdsy@DeclareAlias{\adots}{symbols}{\mathord}
189 \fdsy@DeclareSymbol{\ddots}{symbols}{\mathord}
190 \fdsy@DeclareSymbol{\righttherefore}{symbols}{\mathord}
191 \fdsy@DeclareSymbol{\uptherefore}{symbols}{\mathord}
192 \fdsy@DeclareAlias{\therefore}{symbols}{\mathord}
193 \fdsy@DeclareSymbol{\lefttherefore}{symbols}{\mathord}
194 \fdsy@DeclareSymbol{\downtherefore}{symbols}{\mathord}
195 \fdsy@DeclareAlias{\because}{symbols}{\mathord}
196 \fdsy@DeclareSymbol{\squaredots}{symbols}{\mathord}
197 \fdsy@DeclareAlias{\Colon}{symbols}{\mathrel}
198 \fdsy@DeclareSymbol{\minus}{symbols}{\mathbin}
199 \fdsy@DeclareSymbol{\medslash}{symbols}{\mathbin}
200 \fdsy@DeclareAlias{\smalldivslash}{symbols}{\mathbin}
201 \fdsy@DeclareSymbol{\medbackslash}{symbols}{\mathbin}
202 \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{\dotminusdots}{symbols}{\mathbin}
212 \fdsy@DeclareSymbol{\div}{symbols}{\mathbin}
213 \fdsy@DeclareSymbol{\neg}{symbols}{\mathord}
214 \fdsy@DeclareAlias{\lnot}{symbols}{\mathord}
215 \fdsy@DeclareAlias{\minushookdown}{symbols}{\mathbin}
216 \fdsy@DeclareSymbol{\backneg}{symbols}{\mathord}
217 \fdsy@DeclareAlias{\hookdownminus}{symbols}{\mathbin}
218 \fdsy@DeclareAlias{\invneg}{symbols}{\mathord}
219 \fdsy@DeclareAlias{\invnot}{symbols}{\mathord}
220 \fdsy@DeclareSymbol{\intprod}{symbols}{\mathbin}
221 \fdsy@DeclareAlias{\minushookup}{symbols}{\mathbin}
222 \fdsy@DeclareAlias{\turnedneg}{symbols}{\mathord}
223 \fdsy@DeclareAlias{\turnednot}{symbols}{\mathord}

```

```

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}
230 \fdsy@DeclareAlias{\btimes}{symbols}{\mathbin}
231 \fdsy@DeclareSymbol{\rtimes}{symbols}{\mathbin}
232 \fdsy@DeclareAlias{\rJoin}{symbols}{\mathrel}
233 \fdsy@DeclareSymbol{\utimes}{symbols}{\mathbin}
234 \fdsy@DeclareAlias{\ttimes}{symbols}{\mathbin}
235 \fdsy@DeclareSymbol{\ltimes}{symbols}{\mathbin}
236 \fdsy@DeclareAlias{\lJoin}{symbols}{\mathrel}
237 \fdsy@DeclareSymbol{\bowtie}{symbols}{\mathrel}
238 \fdsy@DeclareAlias{\Join}{symbols}{\mathrel}
239 \fdsy@DeclareAlias{\lrtimes}{symbols}{\mathbin}
240 \fdsy@DeclareSymbol{\upbowtie}{symbols}{\mathbin}
241 \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}
247 \fdsy@DeclareAlias{\land}{symbols}{\mathbin}
248 \fdsy@DeclareSymbol{\vee}{symbols}{\mathbin}
249 \fdsy@DeclareAlias{\lor}{symbols}{\mathbin}
250 \fdsy@DeclareSymbol{\wedgedot}{symbols}{\mathbin}
251 \fdsy@DeclareSymbol{\veedot}{symbols}{\mathbin}
252 \fdsy@DeclareSymbol{\doublewedge}{symbols}{\mathbin}
253 \fdsy@DeclareAlias{\wedgeonwedge}{symbols}{\mathbin}
254 \fdsy@DeclareSymbol{\doublevee}{symbols}{\mathbin}
255 \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}
265 \fdsy@DeclareAlias{\Cup}{symbols}{\mathbin}
266 \fdsy@DeclareSymbol{\doublecap}{symbols}{\mathbin}
267 \fdsy@DeclareAlias{\Cap}{symbols}{\mathbin}
268 \fdsy@DeclareSymbol{\cupdot}{symbols}{\mathbin}

```



```

269 \fdsy@DeclareSymbol{\capdot}{symbols}{\mathbin}
270 \fdsy@DeclareSymbol{\cupplus}{symbols}{\mathbin}
271 \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}
276 \fdsy@DeclareAlias{\Sqcup}{symbols}{\mathbin}
277 \fdsy@DeclareSymbol{\doublesqcap}{symbols}{\mathbin}
278 \fdsy@DeclareAlias{\Sqcap}{symbols}{\mathbin}
279 \fdsy@DeclareSymbol{\sqcupdot}{symbols}{\mathbin}
280 \fdsy@DeclareSymbol{\sqcapdot}{symbols}{\mathbin}
281 \fdsy@DeclareSymbol{\sqcupplus}{symbols}{\mathbin}
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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}
294 \fdsy@DeclareAlias{\triangleright}{symbols}{\mathbin}
295 \fdsy@DeclareSymbol{\medtriangleup}{symbols}{\mathbin}
296 \fdsy@DeclareAlias{\triangle}{symbols}{\mathbin}
297 \fdsy@DeclareAlias{\vartriangle}{symbols}{\mathbin}
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311 \fdsy@DeclareAlias{\bigtriangleup}{symbols}{\mathbin}
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313 \fdsy@DeclareAlias{\bigtriangledown}{symbols}{\mathbin}

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```

314 \fdsy@DeclareSymbol{\smallcircle}{symbols}{\mathbin}
315 \fdsy@DeclareAlias{\circ}{symbols}{\mathbin}
316 \fdsy@DeclareAlias{\smwhtcircle}{symbols}{\mathbin}
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318 \fdsy@DeclareAlias{\bullet}{symbols}{\mathbin}
319 \fdsy@DeclareAlias{\smbkcircle}{symbols}{\mathbin}
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321 \fdsy@DeclareAlias{\mdlgwhtcircle}{symbols}{\mathbin}
322 \fdsy@DeclareSymbol{\medblackcircle}{symbols}{\mathbin}
323 \fdsy@DeclareAlias{\mdlgblkcircle}{symbols}{\mathbin}
324 \fdsy@DeclareSymbol{\ominus}{symbols}{\mathbin}
325 \fdsy@DeclareSymbol{\overt}{symbols}{\mathbin}
326 \fdsy@DeclareAlias{\circledvert}{symbols}{\mathbin}
327 \fdsy@DeclareSymbol{\oslash}{symbols}{\mathbin}
328 \fdsy@DeclareSymbol{\obackslash}{symbols}{\mathbin}
329 \fdsy@DeclareAlias{\obslash}{symbols}{\mathbin}
330 \fdsy@DeclareSymbol{\oplus}{symbols}{\mathbin}
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336 \fdsy@DeclareAlias{\circledast}{symbols}{\mathbin}
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345 \fdsy@DeclareSymbol{\largecircle}{symbols}{\mathord}
346 \fdsy@DeclareAlias{\bigcirc}{symbols}{\mathord}
347 \fdsy@DeclareAlias{\lgwhtcircle}{symbols}{\mathord}
348 \fdsy@DeclareSymbol{\largeblackcircle}{symbols}{\mathord}
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353 \fdsy@DeclareAlias{\smbksquare}{symbols}{\mathbin}
354 \fdsy@DeclareSymbol{\medsquare}{symbols}{\mathbin}
355 \fdsy@DeclareAlias{\square}{symbols}{\mathbin}
356 \fdsy@DeclareAlias{\Box}{symbols}{\mathbin}
357 \fdsy@DeclareAlias{\mdlgwhtsquare}{symbols}{\mathbin}
358 \fdsy@DeclareAlias{\mdwhtsquare}{symbols}{\mathbin}

```

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359 \fdsy@DeclareSymbol{\medblacksquare}{symbols}{\mathbin}
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367 \fdsy@DeclareSymbol{\boxbackslash}{symbols}{\mathbin}
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371 \fdsy@DeclareSymbol{\boxdot}{symbols}{\mathbin}
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379 \fdsy@DeclareAlias{\smwhtdiamond}{symbols}{\mathbin}
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385 \fdsy@DeclareAlias{\mdlgwhtdiamond}{symbols}{\mathbin}
386 \fdsy@DeclareAlias{\mdwhtdiamond}{symbols}{\mathbin}
387 \fdsy@DeclareSymbol{\medblackdiamond}{symbols}{\mathbin}
388 \fdsy@DeclareAlias{\mdlgbldiamond}{symbols}{\mathbin}
389 \fdsy@DeclareAlias{\mdblkdiamond}{symbols}{\mathbin}
390 \fdsy@DeclareSymbol{\diamondminus}{symbols}{\mathbin}
391 \fdsy@DeclareSymbol{\diamondvert}{symbols}{\mathbin}
392 \fdsy@DeclareSymbol{\diamondslash}{symbols}{\mathbin}
393 \fdsy@DeclareSymbol{\diamondbackslash}{symbols}{\mathbin}
394 \fdsy@DeclareAlias{\diamondbslash}{symbols}{\mathbin}
395 \fdsy@DeclareSymbol{\diamondplus}{symbols}{\mathbin}
396 \fdsy@DeclareSymbol{\diamondtimes}{symbols}{\mathbin}
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398 \fdsy@DeclareAlias{\diamondcdot}{symbols}{\mathbin}
399 \fdsy@DeclareSymbol{\diamondddiamond}{symbols}{\mathbin}
400 \fdsy@DeclareSymbol{\smalllozenge}{symbols}{\mathord}
401 \fdsy@DeclareAlias{\smwhtlozenge}{symbols}{\mathord}
402 \fdsy@DeclareSymbol{\smallblacklozenge}{symbols}{\mathord}
403 \fdsy@DeclareAlias{\smbllklozenge}{symbols}{\mathord}

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404 \fdsy@DeclareSymbol{\medlozenge}{symbols}{\mathord}
405 \fdsy@DeclareAlias{\lozenge}{symbols}{\mathord}
406 \fdsy@DeclareAlias{\mdlgwhtlozenge}{symbols}{\mathord}
407 \fdsy@DeclareAlias{\mdwhtlozenge}{symbols}{\mathord}
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410 \fdsy@DeclareAlias{\mdlgblklozenge}{symbols}{\mathord}
411 \fdsy@DeclareAlias{\mdblklozenge}{symbols}{\mathord}
412 \fdsy@DeclareSymbol{\lozengeminus}{symbols}{\mathord}
413 \fdsy@DeclareSymbol{\smallwhitestar}{symbols}{\mathbin}
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415 \fdsy@DeclareSymbol{\smallblackstar}{symbols}{\mathbin}
416 \fdsy@DeclareAlias{\star}{symbols}{\mathbin}
417 \fdsy@DeclareSymbol{\medwhitestar}{symbols}{\mathbin}
418 \fdsy@DeclareSymbol{\medblackstar}{symbols}{\mathbin}
419 \fdsy@DeclareAlias{\medstar}{symbols}{\mathbin}
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421 \fdsy@DeclareSymbol{\largeblackstar}{symbols}{\mathord}
422 \fdsy@DeclareAlias{\bigstar}{symbols}{\mathord}
423 \fdsy@DeclareSymbol{\ast}{symbols}{\mathbin}
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425 \fdsy@DeclareSymbol{\propto}{symbols}{\mathrel}
426 \fdsy@DeclareAlias{\varpropto}{symbols}{\mathrel}
427 \fdsy@DeclareSymbol{\backpropto}{symbols}{\mathrel}
428 \fdsy@DeclareAlias{\propfrom}{symbols}{\mathrel}
429 \fdsy@DeclareSymbol{\crossing}{symbols}{\mathrel}
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436 \fdsy@DeclareAlias{\wr}{symbols}{\mathbin}
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443 \fdsy@DeclareSymbol{\sphericalangleup}{symbols}{\mathord}
444 \fdsy@DeclareSymbol{\sphericalangleleft}{symbols}{\mathord}
445 \fdsy@DeclareAlias{\revsphericalangle}{symbols}{\mathord}
446 \fdsy@DeclareAlias{\gtlpar}{symbols}{\mathord}
447 \fdsy@DeclareSymbol{\sphericalangledown}{symbols}{\mathord}
448 \fdsy@DeclareSymbol{\rightangle}{symbols}{\mathord}

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449 \fdsy@DeclareSymbol{\measuredrightangle}{symbols}{\mathord}
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452 \fdsy@DeclareSymbol{\measuredrightangledot}{symbols}{\mathord}
453 \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}
458 \fdsy@DeclareAlias{\amalg}{symbols}{\mathbin}
459 \fdsy@DeclareSymbol{\smallint}{symbols}{\mathop}
460 \fdsy@DeclareSymbol{\checkmark}{symbols}{\mathord}
461 \fdsy@DeclareSymbol{\lightning}{symbols}{\mathord}
462 \fdsy@DeclareAlias{\downzigzagarrow}{symbols}{\mathord}
463 \fdsy@DeclareSymbol{\diamondsuit}{symbols}{\mathord}
464 \fdsy@DeclareSymbol{\vardiamondsuit}{symbols}{\mathord}
465 \fdsy@DeclareSymbol{\heartsuit}{symbols}{\mathord}
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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}
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473 \fdsy@DeclareSymbol{\exists}{symbols}{\mathord}
474 \fdsy@DeclareSymbol{\nexists}{symbols}{\mathord}
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476 \fdsy@DeclareSymbol{\Game}{symbols}{\mathord}
477 \fdsy@DeclareSymbol{\complement}{symbols}{\mathord}
478 \fdsy@DeclareSymbol{\flat}{symbols}{\mathord}
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481 \fdsy@DeclareSymbol{\aleph}{symbols}{\mathord}
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483 \fdsy@DeclareSymbol{\gimel}{symbols}{\mathord}
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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}

```

```

493 \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}
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500 \fdsy@DeclareSymbol{\bumpeq}{relations}{\mathrel}
501 \fdsy@DeclareSymbol{\bumpeqeq}{relations}{\mathrel}
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503 \fdsy@DeclareSymbol{\doteq}{relations}{\mathrel}
504 \fdsy@DeclareSymbol{\eqdot}{relations}{\mathrel}
505 \fdsy@DeclareSymbol{\Doteq}{relations}{\mathrel}
506 \fdsy@DeclareAlias{\doteqdot}{relations}{\mathrel}
507 \fdsy@DeclareSymbol{\fallingdotseq}{relations}{\mathrel}
508 \fdsy@DeclareSymbol{\risingdotseq}{relations}{\mathrel}
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510 \fdsy@DeclareAlias{\smallsmile}{relations}{\mathrel}
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512 \fdsy@DeclareAlias{\smallfrown}{relations}{\mathrel}
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514 \fdsy@DeclareAlias{\asymp}{relations}{\mathrel}
515 \fdsy@DeclareSymbol{\frownsmile}{relations}{\mathrel}
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537 \fdsy@DeclareSymbol{\leqslant}{relations}{\mathrel}

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567 \fdsy@DeclareAlias{\trianglelefteq}{relations}{\mathrel}
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582 \fdsy@DeclareSymbol{\sqsupseteq}{relations}{\mathrel}

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583 \fdsy@DeclareSymbol{\sqsubseteq}{relations}{\mathrel}
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613 \fdsy@DeclareSymbol{\geqslantdot}{relations}{\mathrel}
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617 \fdsy@DeclareSymbol{\curlyeqprec}{relations}{\mathrel}
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621 \fdsy@DeclareAlias{\ne}{relations}{\mathrel}
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623 \fdsy@DeclareSymbol{\nsim}{relations}{\mathrel}
624 \fdsy@DeclareSymbol{\nbacksimeq}{relations}{\mathrel}
625 \fdsy@DeclareSymbol{\napprox}{relations}{\mathrel}
626 \fdsy@DeclareSymbol{\ntriplesim}{relations}{\mathrel}
627 \fdsy@DeclareAlias{\napproxident}{relations}{\mathrel}

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629 \fdsy@DeclareAlias{\nsime}{relations}{\mathrel}
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634 \fdsy@DeclareSymbol{\napproxeq}{relations}{\mathrel}
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636 \fdsy@DeclareSymbol{\nbumpeq}{relations}{\mathrel}
637 \fdsy@DeclareSymbol{\nBumpeq}{relations}{\mathrel}
638 \fdsy@DeclareSymbol{\ndoteq}{relations}{\mathrel}
639 \fdsy@DeclareSymbol{\neqdot}{relations}{\mathrel}
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658 \fdsy@DeclareSymbol{\ntriangleeq}{relations}{\mathrel}
659 \fdsy@DeclareSymbol{\nin}{relations}{\mathrel}
660 \fdsy@DeclareAlias{\notin}{relations}{\mathrel}
661 \fdsy@DeclareSymbol{\nowns}{relations}{\mathrel}
662 \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}
667 \fdsy@DeclareSymbol{\nleqslant}{relations}{\mathrel}
668 \fdsy@DeclareSymbol{\ngeqslant}{relations}{\mathrel}
669 \fdsy@DeclareSymbol{\nleqq}{relations}{\mathrel}
670 \fdsy@DeclareSymbol{\ngeqq}{relations}{\mathrel}
671 \fdsy@DeclareSymbol{\nlesssim}{relations}{\mathrel}
672 \fdsy@DeclareSymbol{\ngtrsim}{relations}{\mathrel}

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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{\ngtreqlless}{relations}{\mathrel}
679 \fdsy@DeclareSymbol{\nlesseqqgtr}{relations}{\mathrel}
680 \fdsy@DeclareSymbol{\ngtreqqless}{relations}{\mathrel}
681 \fdsy@DeclareSymbol{\nlesseqgtrslant}{relations}{\mathrel}
682 \fdsy@DeclareSymbol{\ngtreqllessslant}{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 \fdsy@DeclareSymbol{\nlessclosed}{relations}{\mathrel}
688 \fdsy@DeclareAlias{\ntriangleleft}{relations}{\mathrel}
689 \fdsy@DeclareSymbol{\ngtrclosed}{relations}{\mathrel}
690 \fdsy@DeclareAlias{\ntriangleright}{relations}{\mathrel}
691 \fdsy@DeclareSymbol{\nleqclosed}{relations}{\mathrel}
692 \fdsy@DeclareAlias{\ntrianglelefteq}{relations}{\mathrel}
693 \fdsy@DeclareSymbol{\ngeqclosed}{relations}{\mathrel}
694 \fdsy@DeclareAlias{\ntrianglerighteq}{relations}{\mathrel}
695 \fdsy@DeclareSymbol{\nlesscc}{relations}{\mathrel}
696 \fdsy@DeclareAlias{\nltcc}{relations}{\mathrel}
697 \fdsy@DeclareSymbol{\ngtrcc}{relations}{\mathrel}
698 \fdsy@DeclareAlias{\ngtcc}{relations}{\mathrel}
699 \fdsy@DeclareSymbol{\nleqslcc}{relations}{\mathrel}
700 \fdsy@DeclareAlias{\nlescc}{relations}{\mathrel}
701 \fdsy@DeclareSymbol{\ngeqslcc}{relations}{\mathrel}
702 \fdsy@DeclareAlias{\ngescc}{relations}{\mathrel}
703 \fdsy@DeclareSymbol{\nqsubset}{relations}{\mathrel}
704 \fdsy@DeclareSymbol{\nqsupset}{relations}{\mathrel}
705 \fdsy@DeclareSymbol{\nqsubseteq}{relations}{\mathrel}
706 \fdsy@DeclareSymbol{\nqsupseteq}{relations}{\mathrel}
707 \fdsy@DeclareSymbol{\nqsubseteqq}{relations}{\mathrel}
708 \fdsy@DeclareSymbol{\nqsupseteqq}{relations}{\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}
732 \fdsy@DeclareSymbol{\ngtrdot}{relations}{\mathrel}
733 \fdsy@DeclareSymbol{\nleqdot}{relations}{\mathrel}
734 \fdsy@DeclareSymbol{\ngeqdot}{relations}{\mathrel}
735 \fdsy@DeclareSymbol{\nleqslantdot}{relations}{\mathrel}
736 \fdsy@DeclareAlias{\nlesdot}{relations}{\mathrel}
737 \fdsy@DeclareSymbol{\ngeqslantdot}{relations}{\mathrel}
738 \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}
748 \fdsy@DeclareAlias{\lvertneqq}{relations}{\mathrel}
749 \fdsy@DeclareSymbol{\gneqq}{relations}{\mathrel}
750 \fdsy@DeclareAlias{\gvertneqq}{relations}{\mathrel}
751 \fdsy@DeclareSymbol{\lnsim}{relations}{\mathrel}
752 \fdsy@DeclareSymbol{\gnsim}{relations}{\mathrel}
753 \fdsy@DeclareSymbol{\lnapprox}{relations}{\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}
762 \fdsy@DeclareAlias{\varsubsetneq}{relations}{\mathrel}

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```

763 \fdsy@DeclareSymbol{\supsetneq}{relations}{\mathrel}
764 \fdsy@DeclareAlias{\varsupsetneq}{relations}{\mathrel}
765 \fdsy@DeclareSymbol{\subsetneqq}{relations}{\mathrel}
766 \fdsy@DeclareAlias{\varsubsetneqq}{relations}{\mathrel}
767 \fdsy@DeclareSymbol{\supsetneqq}{relations}{\mathrel}
768 \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}
777
778 \DeclareRobustCommand{\coloneq}{\mathrel{\{\vdotdot\}\{equal\}}}
779 \let\coloneqq\coloneq

FdSymbolC: arrows
780 \fdsy@setslot{0}
781 \fdsy@DeclareSymbol{\rightarrow}{arrows}{\mathrel}
782 \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{\leftrightharpoonup}{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{\rightrightarrows}{arrows}{\mathrel}
824 \fdsy@DeclareAlias{\mapsto}{arrows}{\mathrel}
825 \fdsy@DeclareSymbol{\upmapsto}{arrows}{\mathrel}
826 \fdsy@DeclareAlias{\mapsto}{arrows}{\mathrel}
827 \fdsy@DeclareSymbol{\leftmapsto}{arrows}{\mathrel}
828 \fdsy@DeclareAlias{\mapsto}{arrows}{\mathrel}
829 \fdsy@DeclareSymbol{\downmapsto}{arrows}{\mathrel}
830 \fdsy@DeclareAlias{\mapsto}{arrows}{\mathrel}
831 \fdsy@DeclareSymbol{\nrightarrow}{arrows}{\mathrel}
832 \fdsy@DeclareSymbol{\nrightarrow}{arrows}{\mathrel}
833 \fdsy@DeclareSymbol{\swarrow}{arrows}{\mathrel}
834 \fdsy@DeclareSymbol{\searrow}{arrows}{\mathrel}
835 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
836 \fdsy@DeclareAlias{\hookrightarrow}{arrows}{\mathrel}
837 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
838 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
839 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
840 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
841 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
842 \fdsy@DeclareAlias{\hookrightarrow}{arrows}{\mathrel}
843 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
844 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
845 \fdsy@DeclareAlias{\hookrightarrow}{arrows}{\mathrel}
846 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
847 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
848 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
849 \fdsy@DeclareAlias{\hookrightarrow}{arrows}{\mathrel}
850 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}
851 \fdsy@DeclareSymbol{\hookrightarrow}{arrows}{\mathrel}

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```

852 \fdsy@DeclareAlias{\hknearrow}{arrows}{\mathrel}
853 \fdsy@DeclareSymbol{\rhoonknearrow}{arrows}{\mathrel}
854 \fdsy@DeclareSymbol{\rhoonksvarrow}{arrows}{\mathrel}
855 \fdsy@DeclareAlias{\hkswarrow}{arrows}{\mathrel}
856 \fdsy@DeclareSymbol{\rhoonkssearrow}{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{\seharpoonse}{arrows}{\mathrel}
864 \fdsy@DeclareSymbol{\seharpoonne}{arrows}{\mathrel}
865 \fdsy@DeclareSymbol{\rightharpoondown}{arrows}{\mathrel}
866 \fdsy@DeclareSymbol{\upharpoonright}{arrows}{\mathrel}
867 \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{\seharpoonnw}{arrows}{\mathrel}
873 \fdsy@DeclareSymbol{\seharpoonsw}{arrows}{\mathrel}
874 \fdsy@DeclareSymbol{\leftrightharpoonupdown}{arrows}{\mathrel}
875 \fdsy@DeclareSymbol{\updownharpoonleftright}{arrows}{\mathrel}
876 \fdsy@DeclareSymbol{\neswarpoonnwse}{arrows}{\mathrel}
877 \fdsy@DeclareSymbol{\nwseharpoonnesw}{arrows}{\mathrel}
878 \fdsy@DeclareSymbol{\leftrightharpoondownup}{arrows}{\mathrel}
879 \fdsy@DeclareSymbol{\updownharpoonrightleft}{arrows}{\mathrel}
880 \fdsy@DeclareSymbol{\neswarpoonsew}{arrows}{\mathrel}
881 \fdsy@DeclareSymbol{\nwseharpoonswne}{arrows}{\mathrel}
882 \fdsy@DeclareSymbol{\rightleftharpoons}{arrows}{\mathrel}
883 \fdsy@DeclareSymbol{\updownharpoons}{arrows}{\mathrel}
884 \fdsy@DeclareAlias{\updownharpoonsleftright}{arrows}{\mathrel}
885 \fdsy@DeclareSymbol{\neswarpoons}{arrows}{\mathrel}
886 \fdsy@DeclareSymbol{\senwarpoons}{arrows}{\mathrel}
887 \fdsy@DeclareSymbol{\leftrightharpoons}{arrows}{\mathrel}
888 \fdsy@DeclareSymbol{\downupharpoons}{arrows}{\mathrel}
889 \fdsy@DeclareAlias{\downupharpoonsleftright}{arrows}{\mathrel}
890 \fdsy@DeclareSymbol{\swneharpoons}{arrows}{\mathrel}
891 \fdsy@DeclareSymbol{\nwseharpoons}{arrows}{\mathrel}
892 \fdsy@DeclareSymbol{\rightbkarrow}{arrows}{\mathrel}
893 \fdsy@DeclareAlias{\dasharrow}{arrows}{\mathrel}
894 \fdsy@DeclareAlias{\dashrightarrow}{arrows}{\mathrel}
895 \fdsy@DeclareSymbol{\upbkarrow}{arrows}{\mathrel}
896 \fdsy@DeclareSymbol{\leftbkarrow}{arrows}{\mathrel}

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897 \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}
904 \fdsy@DeclareAlias{\multimap}{arrows}{\mathrel}
905 \fdsy@DeclareSymbol{\upspoon}{arrows}{\mathrel}
906 \fdsy@DeclareAlias{\ciramid}{arrows}{\mathrel}
907 \fdsy@DeclareSymbol{\leftspoon}{arrows}{\mathrel}
908 \fdsy@DeclareAlias{\multimapinv}{arrows}{\mathrel}
909 \fdsy@DeclareSymbol{\downspoon}{arrows}{\mathrel}
910 \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 \fdsy@DeclareSymbol{\rightpitchfork}{arrows}{\mathrel}
916 \fdsy@DeclareSymbol{\uppitchfork}{arrows}{\mathrel}
917 \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{\nene arrows}{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{\leftrightharrows}{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}
937 \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}

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942 \fdsy@DeclareSymbol{\rightsquigarrow}{arrows}{\mathrel}
943 \fdsy@DeclareSymbol{\uprsquigarrow}{arrows}{\mathrel}
944 \fdsy@DeclareSymbol{\leftrsquigarrow}{arrows}{\mathrel}
945 \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}
952 \fdsy@DeclareAlias{\curvearrowright}{arrows}{\mathrel}
953 \fdsy@DeclareSymbol{\uplcurvearrow}{arrows}{\mathrel}
954 \fdsy@DeclareSymbol{\leftlcurvearrow}{arrows}{\mathrel}
955 \fdsy@DeclareSymbol{\downlcurvearrow}{arrows}{\mathrel}
956 \fdsy@DeclareAlias{\cwrightarccarrow}{arrows}{\mathrel}
957 \fdsy@DeclareSymbol{\nelcurvearrow}{arrows}{\mathrel}
958 \fdsy@DeclareSymbol{\nwlcurvearrow}{arrows}{\mathrel}
959 \fdsy@DeclareSymbol{\swlcurvearrow}{arrows}{\mathrel}
960 \fdsy@DeclareAlias{\cwundercurvearrow}{arrows}{\mathrel}
961 \fdsy@DeclareSymbol{\selcurvearrow}{arrows}{\mathrel}
962 \fdsy@DeclareSymbol{\rightrcurvearrow}{arrows}{\mathrel}
963 \fdsy@DeclareAlias{\acwunderarccarrow}{arrows}{\mathrel}
964 \fdsy@DeclareSymbol{\uprcurvearrow}{arrows}{\mathrel}
965 \fdsy@DeclareSymbol{\leftrcurvearrow}{arrows}{\mathrel}
966 \fdsy@DeclareAlias{\curvearrowleft}{arrows}{\mathrel}
967 \fdsy@DeclareAlias{\acwoverarccarrow}{arrows}{\mathrel}
968 \fdsy@DeclareSymbol{\downrcurvearrow}{arrows}{\mathrel}
969 \fdsy@DeclareAlias{\acwleftarccarrow}{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}
974 \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}
984 \fdsy@DeclareAlias{\vlongdash}{arrows}{\mathrel}
985 \fdsy@DeclareSymbol{\rightfootline}{arrows}{\mathrel}
986 \fdsy@DeclareAlias{\longdashv}{arrows}{\mathrel}

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987 \fdsy@DeclareSymbol{\acwcirculararrowup}{arrows}{\mathrel}
988 \fdsy@DeclareSymbol{\acwcirculararrowleft}{arrows}{\mathrel}
989 \fdsy@DeclareAlias{\circulararrowleft}{arrows}{\mathrel}
990 \fdsy@DeclareAlias{\acwopencirculararrow}{arrows}{\mathrel}
991 \fdsy@DeclareSymbol{\acwcirculararrowdown}{arrows}{\mathrel}
992 \fdsy@DeclareAlias{\acwgapcirculararrow}{arrows}{\mathrel}
993 \fdsy@DeclareSymbol{\acwcirculararrowright}{arrows}{\mathrel}
994 \fdsy@DeclareSymbol{\cwcirculararrowdown}{arrows}{\mathrel}
995 \fdsy@DeclareAlias{\cwgapcirculararrow}{arrows}{\mathrel}
996 \fdsy@DeclareSymbol{\cwcirculararrowright}{arrows}{\mathrel}
997 \fdsy@DeclareAlias{\circulararrowright}{arrows}{\mathrel}
998 \fdsy@DeclareAlias{\cwopencirculararrow}{arrows}{\mathrel}
999 \fdsy@DeclareSymbol{\cwcirculararrowup}{arrows}{\mathrel}
1000 \fdsy@DeclareSymbol{\cwcirculararrowleft}{arrows}{\mathrel}
1001 \fdsy@DeclareSymbol{\Rightarrow}{arrows}{\mathrel}
1002 \fdsy@DeclareSymbol{\Uparrow}{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}
1013 \fdsy@DeclareAlias{\vdash}{arrows}{\mathrel}
1014 \fdsy@DeclareAlias{\assert}{arrows}{\mathrel}
1015 \fdsy@DeclareSymbol{\upvdash}{arrows}{\mathrel}
1016 \fdsy@DeclareAlias{\perp}{arrows}{\mathrel}
1017 \fdsy@DeclareSymbol{\leftvdash}{arrows}{\mathrel}
1018 \fdsy@DeclareAlias{\dashv}{arrows}{\mathrel}
1019 \fdsy@DeclareSymbol{\downvdash}{arrows}{\mathrel}
1020 \fdsy@DeclareSymbol{\rightvDash}{arrows}{\mathrel}
1021 \fdsy@DeclareAlias{\vDash}{arrows}{\mathrel}
1022 \fdsy@DeclareAlias{\models}{arrows}{\mathrel}
1023 \fdsy@DeclareSymbol{\upvDash}{arrows}{\mathrel}
1024 \fdsy@DeclareAlias{\Vbar}{arrows}{\mathrel}
1025 \fdsy@DeclareSymbol{\leftvDash}{arrows}{\mathrel}
1026 \fdsy@DeclareAlias{\Dashv}{arrows}{\mathrel}
1027 \fdsy@DeclareSymbol{\downvDash}{arrows}{\mathrel}
1028 \fdsy@DeclareAlias{\barV}{arrows}{\mathrel}
1029 \fdsy@DeclareSymbol{\rightVdash}{arrows}{\mathrel}
1030 \fdsy@DeclareAlias{\Vdash}{arrows}{\mathrel}
1031 \fdsy@DeclareSymbol{\upVdash}{arrows}{\mathrel}

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1032 \fdsy@DeclareSymbol{\leftVdash}{arrows}{\mathrel}
1033 \fdsy@DeclareAlias{\dashV}{arrows}{\mathrel}
1034 \fdsy@DeclareSymbol{\downVdash}{arrows}{\mathrel}
1035 \fdsy@DeclareSymbol{\rightVdash}{arrows}{\mathrel}
1036 \fdsy@DeclareAlias{\VDash}{arrows}{\mathrel}
1037 \fdsy@DeclareSymbol{\upVdash}{arrows}{\mathrel}
1038 \fdsy@DeclareSymbol{\leftVDash}{arrows}{\mathrel}
1039 \fdsy@DeclareAlias{\DashV}{arrows}{\mathrel}
1040 \fdsy@DeclareSymbol{\downVDash}{arrows}{\mathrel}
1041 \fdsy@DeclareSymbol{\Vvdash}{arrows}{\mathrel}
1042
1043 \DeclareRobustCommand{\relbar}{\mathrel{\smash{-}}}
1044 \DeclareRobustCommand{\Relbar}{\mathrel{=}}
1045 \let\joinrel\undefined
1046 \DeclareRobustCommand\joinrel{\mathrel{\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}
1063 \fdsy@DeclareAlias{\nto}{narrows}{\mathrel}
1064 \fdsy@DeclareSymbol{\nuparrow}{narrows}{\mathrel}
1065 \fdsy@DeclareSymbol{\nleftarrow}{narrows}{\mathrel}
1066 \fdsy@DeclareAlias{\ngets}{narrows}{\mathrel}
1067 \fdsy@DeclareSymbol{\ndownarrow}{narrows}{\mathrel}
1068 \fdsy@DeclareSymbol{\nnearrow}{narrows}{\mathrel}
1069 \fdsy@DeclareSymbol{\nnwarrow}{narrows}{\mathrel}
1070 \fdsy@DeclareSymbol{\nswarrow}{narrows}{\mathrel}
1071 \fdsy@DeclareSymbol{\nsearrow}{narrows}{\mathrel}
1072 \fdsy@DeclareSymbol{\nRightarrow}{narrows}{\mathrel}
1073 \fdsy@DeclareSymbol{\nUparrow}{narrows}{\mathrel}
1074 \fdsy@DeclareSymbol{\nLeftarrow}{narrows}{\mathrel}
1075 \fdsy@DeclareSymbol{\nDownarrow}{narrows}{\mathrel}

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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{\nlefttrightharpoonrightarrow}{narrows}{\mathrel}
1081 \fdsy@DeclareSymbol{\nupdownarrow}{narrows}{\mathrel}
1082 \fdsy@DeclareSymbol{\nneswarrow}{narrows}{\mathrel}
1083 \fdsy@DeclareSymbol{\nnwsearrow}{narrows}{\mathrel}
1084 \fdsy@DeclareSymbol{\nLefttrightharpoonrightarrow}{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{\nrightarrowtail}{narrows}{\mathrel}
1105 \fdsy@DeclareAlias{\nmapsto}{narrows}{\mathrel}
1106 \fdsy@DeclareSymbol{\nupmapsto}{narrows}{\mathrel}
1107 \fdsy@DeclareAlias{\nmapsup}{narrows}{\mathrel}
1108 \fdsy@DeclareSymbol{\nleftmapsto}{narrows}{\mathrel}
1109 \fdsy@DeclareAlias{\nmapfrom}{narrows}{\mathrel}
1110 \fdsy@DeclareSymbol{\ndownmapsto}{narrows}{\mathrel}
1111 \fdsy@DeclareAlias{\nmapdown}{narrows}{\mathrel}
1112 \fdsy@DeclareSymbol{\nnemapsto}{narrows}{\mathrel}
1113 \fdsy@DeclareSymbol{\nnwmapsto}{narrows}{\mathrel}
1114 \fdsy@DeclareSymbol{\nswmapsto}{narrows}{\mathrel}
1115 \fdsy@DeclareSymbol{\nsemapsto}{narrows}{\mathrel}
1116 \fdsy@DeclareSymbol{\nlhookrightarrow}{narrows}{\mathrel}
1117 \fdsy@DeclareAlias{\nhookrightarrow}{narrows}{\mathrel}
1118 \fdsy@DeclareSymbol{\nlhookuparrow}{narrows}{\mathrel}
1119 \fdsy@DeclareSymbol{\nlhookleftarrow}{narrows}{\mathrel}
1120 \fdsy@DeclareSymbol{\nlhookdownarrow}{narrows}{\mathrel}

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1121 \fdsy@DeclareSymbol{\nlhooknearrow}{narrows}{\mathrel}
1122 \fdsy@DeclareSymbol{\nlhooknwarrow}{narrows}{\mathrel}
1123 \fdsy@DeclareAlias{\nhknwarrow}{narrows}{\mathrel}
1124 \fdsy@DeclareSymbol{\nlhookswarrow}{narrows}{\mathrel}
1125 \fdsy@DeclareSymbol{\nlhooksearrow}{narrows}{\mathrel}
1126 \fdsy@DeclareAlias{\nhksearrow}{narrows}{\mathrel}
1127 \fdsy@DeclareSymbol{\nrhookrightarrow}{narrows}{\mathrel}
1128 \fdsy@DeclareSymbol{\nrhookuparrow}{narrows}{\mathrel}
1129 \fdsy@DeclareSymbol{\nrhookleftarrow}{narrows}{\mathrel}
1130 \fdsy@DeclareAlias{\nhookleftarrow}{narrows}{\mathrel}
1131 \fdsy@DeclareSymbol{\nrhookdownarrow}{narrows}{\mathrel}
1132 \fdsy@DeclareSymbol{\nrhooknearrow}{narrows}{\mathrel}
1133 \fdsy@DeclareAlias{\nhknearrow}{narrows}{\mathrel}
1134 \fdsy@DeclareSymbol{\nrhooknwarrow}{narrows}{\mathrel}
1135 \fdsy@DeclareSymbol{\nrhookswarrow}{narrows}{\mathrel}
1136 \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}
1148 \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}
1153 \fdsy@DeclareSymbol{\nswharpoonnw}{narrows}{\mathrel}
1154 \fdsy@DeclareSymbol{\nseharpoonsw}{narrows}{\mathrel}
1155 \fdsy@DeclareSymbol{\nleftrightharpoonupdown}{narrows}{\mathrel}
1156 \fdsy@DeclareSymbol{\nupdownharpoonleftright}{narrows}{\mathrel}
1157 \fdsy@DeclareSymbol{\nneswharpoonnwse}{narrows}{\mathrel}
1158 \fdsy@DeclareSymbol{\nnwseharpoonnesw}{narrows}{\mathrel}
1159 \fdsy@DeclareSymbol{\nleftrightharpoondownup}{narrows}{\mathrel}
1160 \fdsy@DeclareSymbol{\nupdownharpoonrightleft}{narrows}{\mathrel}
1161 \fdsy@DeclareSymbol{\nneswharpoonsenw}{narrows}{\mathrel}
1162 \fdsy@DeclareSymbol{\nnwseharpoonswne}{narrows}{\mathrel}
1163 \fdsy@DeclareSymbol{\nrightrightarpoons}{narrows}{\mathrel}
1164 \fdsy@DeclareSymbol{\nupdownharpoons}{narrows}{\mathrel}
1165 \fdsy@DeclareAlias{\nupdownharpoonsleftright}{narrows}{\mathrel}

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1166 \fdsy@DeclareSymbol{\nneswharpoons}{narrows}{\mathrel}
1167 \fdsy@DeclareSymbol{\nsenwharpoons}{narrows}{\mathrel}
1168 \fdsy@DeclareSymbol{\nleltrightharpoons}{narrows}{\mathrel}
1169 \fdsy@DeclareSymbol{\ndownupharpoons}{narrows}{\mathrel}
1170 \fdsy@DeclareAlias{\ndownupharpoonsleftright}{narrows}{\mathrel}
1171 \fdsy@DeclareSymbol{\nswneharpoons}{narrows}{\mathrel}
1172 \fdsy@DeclareSymbol{\nnwseharpoons}{narrows}{\mathrel}
1173 \fdsy@DeclareSymbol{\nrighbtkarrow}{narrows}{\mathrel}
1174 \fdsy@DeclareAlias{\ndasharrow}{narrows}{\mathrel}
1175 \fdsy@DeclareAlias{\ndashrightarrow}{narrows}{\mathrel}
1176 \fdsy@DeclareSymbol{\nupbkarrow}{narrows}{\mathrel}
1177 \fdsy@DeclareSymbol{\nleftbkarrow}{narrows}{\mathrel}
1178 \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{\nrightrightarrow}{narrows}{\mathrel}
1185 \fdsy@DeclareAlias{\nmultimap}{narrows}{\mathrel}
1186 \fdsy@DeclareSymbol{\nupspoon}{narrows}{\mathrel}
1187 \fdsy@DeclareAlias{\ncirmid}{narrows}{\mathrel}
1188 \fdsy@DeclareSymbol{\nleftspoon}{narrows}{\mathrel}
1189 \fdsy@DeclareAlias{\nmultimapinv}{narrows}{\mathrel}
1190 \fdsy@DeclareSymbol{\ndownspoon}{narrows}{\mathrel}
1191 \fdsy@DeclareAlias{\nmidcir}{narrows}{\mathrel}
1192 \fdsy@DeclareSymbol{\nrightrightarrow}{narrows}{\mathrel}
1193 \fdsy@DeclareSymbol{\nupblackspoon}{narrows}{\mathrel}
1194 \fdsy@DeclareSymbol{\nleftblackspoon}{narrows}{\mathrel}
1195 \fdsy@DeclareSymbol{\ndownblackspoon}{narrows}{\mathrel}
1196 \fdsy@DeclareSymbol{\nrightrightarrow}{narrows}{\mathrel}
1197 \fdsy@DeclareSymbol{\nuppitchfork}{narrows}{\mathrel}
1198 \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}
1205 \fdsy@DeclareSymbol{\nnenearrows}{narrows}{\mathrel}
1206 \fdsy@DeclareSymbol{\nnwnwarrows}{narrows}{\mathrel}
1207 \fdsy@DeclareSymbol{\nswswarrows}{narrows}{\mathrel}
1208 \fdsy@DeclareSymbol{\nseesarrows}{narrows}{\mathrel}
1209 \fdsy@DeclareSymbol{\nrightrightarrows}{narrows}{\mathrel}
1210 \fdsy@DeclareSymbol{\nupdownarrows}{narrows}{\mathrel}

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1211 \fdsy@DeclareSymbol{\nneswarrows}{\narrows}{\mathrel}
1212 \fdsy@DeclareSymbol{\nnwsearrows}{\narrows}{\mathrel}
1213 \fdsy@DeclareSymbol{\nleftrightharrows}{\narrows}{\mathrel}
1214 \fdsy@DeclareSymbol{\ndownuparrows}{\narrows}{\mathrel}
1215 \fdsy@DeclareSymbol{\nswnearrows}{\narrows}{\mathrel}
1216 \fdsy@DeclareSymbol{\nsenwarrows}{\narrows}{\mathrel}
1217 \fdsy@DeclareSymbol{\nrightrightarrow}{\narrows}{\mathrel}
1218 \fdsy@DeclareAlias{\nleadsto}{\narrows}{\mathrel}
1219 \fdsy@DeclareAlias{\nrightrightarrow}{\narrows}{\mathrel}
1220 \fdsy@DeclareSymbol{\nuplrightarrow}{\narrows}{\mathrel}
1221 \fdsy@DeclareSymbol{\nleftlrightarrow}{\narrows}{\mathrel}
1222 \fdsy@DeclareSymbol{\ndownlrightarrow}{\narrows}{\mathrel}
1223 \fdsy@DeclareSymbol{\nrightrightarrow}{\narrows}{\mathrel}
1224 \fdsy@DeclareSymbol{\nuprightrightarrow}{\narrows}{\mathrel}
1225 \fdsy@DeclareSymbol{\nleftlrightarrow}{\narrows}{\mathrel}
1226 \fdsy@DeclareAlias{\nleftlrightarrow}{\narrows}{\mathrel}
1227 \fdsy@DeclareSymbol{\ndownrightrightarrow}{\narrows}{\mathrel}
1228 \fdsy@DeclareSymbol{\nleftrightrightarrow}{\narrows}{\mathrel}
1229 \fdsy@DeclareSymbol{\nupdownlrightarrow}{\narrows}{\mathrel}
1230 \fdsy@DeclareSymbol{\nrightrightarrow}{\narrows}{\mathrel}
1231 \fdsy@DeclareSymbol{\ndownuplrightarrow}{\narrows}{\mathrel}
1232 \fdsy@DeclareSymbol{\nrightrightarrow}{\narrows}{\mathrel}
1233 \fdsy@DeclareAlias{\ncurvecarrowright}{\narrows}{\mathrel}
1234 \fdsy@DeclareSymbol{\nuplcurvecarrow}{\narrows}{\mathrel}
1235 \fdsy@DeclareSymbol{\nleftlcurvecarrow}{\narrows}{\mathrel}
1236 \fdsy@DeclareSymbol{\ndownlcurvecarrow}{\narrows}{\mathrel}
1237 \fdsy@DeclareAlias{\ncwrightarcarrow}{\narrows}{\mathrel}
1238 \fdsy@DeclareSymbol{\nnelcurvecarrow}{\narrows}{\mathrel}
1239 \fdsy@DeclareSymbol{\nnwlcurvecarrow}{\narrows}{\mathrel}
1240 \fdsy@DeclareSymbol{\nswlcurvecarrow}{\narrows}{\mathrel}
1241 \fdsy@DeclareAlias{\ncwundercurvecarrow}{\narrows}{\mathrel}
1242 \fdsy@DeclareSymbol{\nselcurvecarrow}{\narrows}{\mathrel}
1243 \fdsy@DeclareSymbol{\nrightrightcurvecarrow}{\narrows}{\mathrel}
1244 \fdsy@DeclareAlias{\nacwunderarcarrow}{\narrows}{\mathrel}
1245 \fdsy@DeclareSymbol{\nuprcurvecarrow}{\narrows}{\mathrel}
1246 \fdsy@DeclareSymbol{\nleftlcurvecarrow}{\narrows}{\mathrel}
1247 \fdsy@DeclareAlias{\ncurvecarrowleft}{\narrows}{\mathrel}
1248 \fdsy@DeclareAlias{\nacwoverarcarrow}{\narrows}{\mathrel}
1249 \fdsy@DeclareSymbol{\ndownrcurvecarrow}{\narrows}{\mathrel}
1250 \fdsy@DeclareAlias{\nacwleftarcarrow}{\narrows}{\mathrel}
1251 \fdsy@DeclareSymbol{\nnercurvecarrow}{\narrows}{\mathrel}
1252 \fdsy@DeclareSymbol{\nnwrcurvecarrow}{\narrows}{\mathrel}
1253 \fdsy@DeclareSymbol{\nswrcurvecarrow}{\narrows}{\mathrel}
1254 \fdsy@DeclareSymbol{\nsercurvecarrow}{\narrows}{\mathrel}
1255 \fdsy@DeclareAlias{\nccwundercurvecarrow}{\narrows}{\mathrel}

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1256 \fdsy@DeclareSymbol{\nletrightcurvedarrow}{narrows}{\mathrel}
1257 \fdsy@DeclareSymbol{\nupdowncurvedarrow}{narrows}{\mathrel}
1258 \fdsy@DeclareSymbol{\nrightrightcurvedarrow}{narrows}{\mathrel}
1259 \fdsy@DeclareSymbol{\ndownupcurvedarrow}{narrows}{\mathrel}
1260 \fdsy@DeclareSymbol{\nneswcurvedarrow}{narrows}{\mathrel}
1261 \fdsy@DeclareSymbol{\nnwsecurvedarrow}{narrows}{\mathrel}
1262 \fdsy@DeclareSymbol{\nswnecurvedarrow}{narrows}{\mathrel}
1263 \fdsy@DeclareSymbol{\nsenwcurvedarrow}{narrows}{\mathrel}
1264 \fdsy@DeclareSymbol{\nleftfootline}{narrows}{\mathrel}
1265 \fdsy@DeclareAlias{\nvlongdash}{narrows}{\mathrel}
1266 \fdsy@DeclareSymbol{\nrightrightfootline}{narrows}{\mathrel}
1267 \fdsy@DeclareAlias{\nlongdashv}{narrows}{\mathrel}
1268 \fdsy@DeclareSymbol{\nacwcirculararrowup}{narrows}{\mathrel}
1269 \fdsy@DeclareSymbol{\nacwcirculararrowleft}{narrows}{\mathrel}
1270 \fdsy@DeclareAlias{\ncirculararrowleft}{narrows}{\mathrel}
1271 \fdsy@DeclareAlias{\nacwopencirculararrow}{narrows}{\mathrel}
1272 \fdsy@DeclareSymbol{\nacwcirculararrowdown}{narrows}{\mathrel}
1273 \fdsy@DeclareAlias{\nacwgapcirculararrow}{narrows}{\mathrel}
1274 \fdsy@DeclareSymbol{\nacwcirculararrowright}{narrows}{\mathrel}
1275 \fdsy@DeclareSymbol{\ncwcirculararrowdown}{narrows}{\mathrel}
1276 \fdsy@DeclareAlias{\ncwgapcirculararrow}{narrows}{\mathrel}
1277 \fdsy@DeclareSymbol{\ncwcirculararrowright}{narrows}{\mathrel}
1278 \fdsy@DeclareAlias{\ncirculararrowright}{narrows}{\mathrel}
1279 \fdsy@DeclareAlias{\ncwopencirculararrow}{narrows}{\mathrel}
1280 \fdsy@DeclareSymbol{\ncwcirculararrowup}{narrows}{\mathrel}
1281 \fdsy@DeclareSymbol{\ncwcirculararrowleft}{narrows}{\mathrel}
1282 \fdsy@DeclareSymbol{\nRrightarrow}{narrows}{\mathrel}
1283 \fdsy@DeclareSymbol{\nUparrow}{narrows}{\mathrel}
1284 \fdsy@DeclareSymbol{\nLleftarrow}{narrows}{\mathrel}
1285 \fdsy@DeclareSymbol{\nDdownarrow}{narrows}{\mathrel}
1286 \fdsy@setslot{224}
1287 \fdsy@DeclareSymbol{\nrightrightvdash}{narrows}{\mathrel}
1288 \fdsy@DeclareAlias{\nvdash}{narrows}{\mathrel}
1289 \fdsy@DeclareAlias{\nassert}{narrows}{\mathrel}
1290 \fdsy@DeclareSymbol{\nupvdash}{narrows}{\mathrel}
1291 \fdsy@DeclareAlias{\nperp}{narrows}{\mathrel}
1292 \fdsy@DeclareSymbol{\nleftvdash}{narrows}{\mathrel}
1293 \fdsy@DeclareAlias{\ndashv}{narrows}{\mathrel}
1294 \fdsy@DeclareSymbol{\ndownvdash}{narrows}{\mathrel}
1295 \fdsy@DeclareSymbol{\nrightrightDash}{narrows}{\mathrel}
1296 \fdsy@DeclareAlias{\nvDash}{narrows}{\mathrel}
1297 \fdsy@DeclareAlias{\nmodels}{narrows}{\mathrel}
1298 \fdsy@DeclareSymbol{\nupvDash}{narrows}{\mathrel}
1299 \fdsy@DeclareAlias{\nVbar}{narrows}{\mathrel}
1300 \fdsy@DeclareSymbol{\nleftvDash}{narrows}{\mathrel}

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1301 \fdsy@DeclareAlias{\nDashv}{\narrows}{\mathrel}
1302 \fdsy@DeclareSymbol{\ndownvDash}{\narrows}{\mathrel}
1303 \fdsy@DeclareAlias{\nbarV}{\narrows}{\mathrel}
1304 \fdsy@DeclareSymbol{\nrighVdash}{\narrows}{\mathrel}
1305 \fdsy@DeclareAlias{\nVdash}{\narrows}{\mathrel}
1306 \fdsy@DeclareSymbol{\nupVdash}{\narrows}{\mathrel}
1307 \fdsy@DeclareSymbol{\nleftVdash}{\narrows}{\mathrel}
1308 \fdsy@DeclareAlias{\ndashV}{\narrows}{\mathrel}
1309 \fdsy@DeclareSymbol{\ndownVdash}{\narrows}{\mathrel}
1310 \fdsy@DeclareSymbol{\nrighVDash}{\narrows}{\mathrel}
1311 \fdsy@DeclareAlias{\nVDash}{\narrows}{\mathrel}
1312 \fdsy@DeclareSymbol{\nupVDash}{\narrows}{\mathrel}
1313 \fdsy@DeclareSymbol{\nleftVDash}{\narrows}{\mathrel}
1314 \fdsy@DeclareAlias{\nDashV}{\narrows}{\mathrel}
1315 \fdsy@DeclareSymbol{\ndownVDash}{\narrows}{\mathrel}

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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}
1330 \fdsy@DeclareAlias{\tconjquant}{\largesymbols}{\mathop}
1331 \fdsy@DeclareSymbol{\dbigdoublewedge}{\largesymbols}{\mathop}
1332 \fdsy@DeclareAlias{\dconjquant}{\largesymbols}{\mathop}
1333 \fdsy@DeclareSymbol{\tbigdoublevee}{\largesymbols}{\mathop}
1334 \fdsy@DeclareAlias{\tdisjquant}{\largesymbols}{\mathop}
1335 \fdsy@DeclareSymbol{\dbigdoublevee}{\largesymbols}{\mathop}
1336 \fdsy@DeclareAlias{\ddisjquant}{\largesymbols}{\mathop}
1337 \fdsy@DeclareSymbol{\tbigcurlywedge}{\largesymbols}{\mathop}
1338 \fdsy@DeclareSymbol{\dbigcurlywedge}{\largesymbols}{\mathop}
1339 \fdsy@DeclareSymbol{\tbigcurlyvee}{\largesymbols}{\mathop}
1340 \fdsy@DeclareSymbol{\dbigcurlyvee}{\largesymbols}{\mathop}
1341 \fdsy@DeclareSymbol{\tbigcurlywedgedot}{\largesymbols}{\mathop}
1342 \fdsy@DeclareSymbol{\dbigcurlywedgedot}{\largesymbols}{\mathop}
1343 \fdsy@DeclareSymbol{\tbigcurlyveedot}{\largesymbols}{\mathop}
1344 \fdsy@DeclareSymbol{\dbigcurlyveedot}{\largesymbols}{\mathop}

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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}
1360 \fdsy@DeclareAlias{\tbiguplus}{largesymbols}{\mathop}
1361 \fdsy@DeclareSymbol{\dbigcupplus}{largesymbols}{\mathop}
1362 \fdsy@DeclareAlias{\dbiguplus}{largesymbols}{\mathop}
1363 \fdsy@DeclareSymbol{\tbigsqcap}{largesymbols}{\mathop}
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}
1370 \fdsy@DeclareSymbol{\dbigsqcupdot}{largesymbols}{\mathop}
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{\tcoproduct}{largesymbols}{\mathop}
1386 \fdsy@DeclareSymbol{\dcoproduct}{largesymbols}{\mathop}
1387 \fdsy@DeclareSymbol{\tsum}{largesymbols}{\mathop}
1388 \fdsy@DeclareSymbol{\dsum}{largesymbols}{\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}
1400 \fdsy@DeclareAlias{\tdotsint}{largesymbols}{\mathop}
1401 \fdsy@DeclareSymbol{\didotsint}{largesymbols}{\mathop}
1402 \fdsy@DeclareAlias{\ddotsint}{largesymbols}{\mathop}
1403 \fdsy@DeclareSymbol{\tlandupint}{largesymbols}{\mathop}
1404 \fdsy@DeclareAlias{\tintclockwise}{largesymbols}{\mathop}
1405 \fdsy@DeclareSymbol{\dlandupint}{largesymbols}{\mathop}
1406 \fdsy@DeclareAlias{\dintclockwise}{largesymbols}{\mathop}
1407 \fdsy@DeclareSymbol{\tlanddownint}{largesymbols}{\mathop}
1408 \fdsy@DeclareAlias{\tawint}{largesymbols}{\mathop}
1409 \fdsy@DeclareAlias{\tintctrlockwise}{largesymbols}{\mathop}
1410 \fdsy@DeclareSymbol{\dlanddownint}{largesymbols}{\mathop}
1411 \fdsy@DeclareAlias{\dawint}{largesymbols}{\mathop}
1412 \fdsy@DeclareAlias{\dintctrlockwise}{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{\trcircularrightint}{largesymbols}{\mathop}
1426 \fdsy@DeclareAlias{\tointctrlockwise}{largesymbols}{\mathop}
1427 \fdsy@DeclareSymbol{\drcircularrightint}{largesymbols}{\mathop}
1428 \fdsy@DeclareAlias{\dointctrlockwise}{largesymbols}{\mathop}
1429 \fdsy@DeclareSymbol{\tlcircularrightint}{largesymbols}{\mathop}
1430 \fdsy@DeclareAlias{\tvarointclockwise}{largesymbols}{\mathop}
1431 \fdsy@DeclareSymbol{\dlcircularrightint}{largesymbols}{\mathop}
1432 \fdsy@DeclareAlias{\dvarointclockwise}{largesymbols}{\mathop}
1433 \fdsy@DeclareSymbol{\trcircleleftint}{largesymbols}{\mathop}
1434 \fdsy@DeclareAlias{\tvarointctrlockwise}{largesymbols}{\mathop}

```

```

1435 \fdsy@DeclareSymbol{\drcircleleftint}{\largesymbols}{\mathop}
1436 \fdsy@DeclareAlias{\dvarointctrclockwise}{\largesymbols}{\mathop}
1437 \fdsy@DeclareSymbol{\tlcircleleftint}{\largesymbols}{\mathop}
1438 \fdsy@DeclareAlias{\tointclockwise}{\largesymbols}{\mathop}
1439 \fdsy@DeclareSymbol{\dlcircleleftint}{\largesymbols}{\mathop}
1440 \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{\bigconjquant}{\dbigconjquant}{\tbigconjquant}
1454 \fdsy@DeclareOperator{\bigdoublevee}{\dbigdoublevee}{\tbigdoublevee}
1455 \fdsy@DeclareOperator{\bigdisjquant}{\dbigdisjquant}{\tbigdisjquant}
1456 \fdsy@DeclareOperator{\bigcurlywedge}{\dbigcurlywedge}{\tbigcurlywedge}
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}
1470 \fdsy@DeclareOperator{\bigsqcup}{\dbigsqcup}{\tbigsqcup}
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}
1478 \fdsy@DeclareOperator{\bigooast}{\dbigoast}{\tbigooast}
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}{\diiiint}{\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}{\dintctrclockwise}{\tintctrclockwise}
1493 \fdsy@DeclareIntegral{\landdownint}{\dlanddownint}{\tlanddownint}
1494 \fdsy@DeclareIntegral{\intbar}{\dintbar}{\tintbar}
1495 \fdsy@DeclareIntegral{\intBar}{\dintBar}{\tintBar}
1496 \fdsy@DeclareIntegral{\fint}{\dfint}{\tfint}
1497 \fdsy@DeclareIntegral{\oiint}{\doiint}{\toiint}
1498 \fdsy@DeclareIntegral{\oiint}{\doiint}{\toiint}
1499 \fdsy@DeclareIntegral{\rcirclerightint}{\drcirclerightint}{\trcirclerightint}
1500 \fdsy@DeclareIntegral{\ointctrclockwise}{\dointctrclockwise}{\tointctrclockwise}
1501 \fdsy@DeclareIntegral{\lcirclerightint}{\dlcirclerightint}{\tlcirclerightint}
1502 \fdsy@DeclareIntegral{\varointclockwise}{\dvarointclockwise}{\tvarointclockwise}
1503 \fdsy@DeclareIntegral{\rcircleleftint}{\drcircleleftint}{\trcircleleftint}
1504 \fdsy@DeclareIntegral{\varointctrclockwise}{\dvarointctrclockwise}{\tvarointctrclockwise}
1505 \fdsy@DeclareIntegral{\lcircleleftint}{\dlcircleleftint}{\tlcircleleftint}
1506 \fdsy@DeclareIntegral{\ointclockwise}{\dointclockwise}{\tointclockwise}
1507 \fdsy@DeclareIntegral{\sumint}{\dsumint}{\tsumint}
1508
1509 \def\intkern@{\mkern-8.5mu\mathchoice{\mkern-1mu}{}}{}{}{}
1510 \def\intdots@{\mkern-6mu%
1511   \mathchoice{\@cdots}%
1512   {\{\cdotp\mkern0.5mu{\cdotp}\mkern0.5mu{\cdotp}\}}%
1513   {\{\cdotp\}{\cdotp}{\cdotp}\}}%
1514   {\{\cdotp\}{\cdotp}{\cdotp}\}}%
1515   \mkern-6mu}

```

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
1530 \fdsy@DeclareOpen{ }{\delimiters}{01}
1531 \fdsy@DeclareClose{ }{\delimiters}{07}
1532 \fdsy@DeclareOpen{ }{\delimiters}{01}
1533 \fdsy@DeclareClose{ }{\delimiters}{07}
1534 \fdsy@DeclareOpen{ }{\delimiters}{13}
1535 \fdsy@DeclareClose{ }{\delimiters}{19}
1536 \fdsy@DeclareOpen{ }{\delimiters}{13}
1537 \fdsy@DeclareClose{ }{\delimiters}{19}
1538 \fdsy@DeclareOpen{\lfloor}{\delimiters}{1F}
1539 \fdsy@DeclareClose{\rfloor}{\delimiters}{25}
1540 \fdsy@DeclareOpen{\lceil}{\delimiters}{2B}
1541 \fdsy@DeclareClose{\rceil}{\delimiters}{31}
1542 \fdsy@DeclareOpen{\ulcorner}{\delimiters}{37}
1543 \fdsy@DeclareClose{\urcorner}{\delimiters}{3D}
1544 \fdsy@DeclareOpen{\llcorner}{\delimiters}{43}
1545 \fdsy@DeclareClose{\lrcorner}{\delimiters}{49}
1546 \fdsy@DeclareOpen{\ulcorner}{\delimiters}{4F}
1547 \fdsy@DeclareClose{\urcorner}{\delimiters}{55}
1548 \fdsy@DeclareOpen{\lsem}{\delimiters}{61}
1549 \fdsy@DeclareClose{\rsem}{\delimiters}{67}
1550 \fdsy@DeclareOpen{\lBrack}{\delimiters}{61}
1551 \fdsy@DeclareClose{\rBrack}{\delimiters}{67}
1552 \fdsy@DeclareOpen{\lbrace}{\delimiters}{73}
1553 \fdsy@DeclareClose{\rbrace}{\delimiters}{79}
1554 \fdsy@DeclareOpen{<}{\delimiters}{86}
1555 \fdsy@DeclareClose{>}{\delimiters}{8C}
1556 \fdsy@DeclareOpen{\langle}{\delimiters}{86}
1557 \fdsy@DeclareClose{\rangle}{\delimiters}{8C}
1558 \fdsy@DeclareOpen{\lAngle}{\delimiters}{92}
1559 \fdsy@DeclareClose{\rAngle}{\delimiters}{98}
1560 \fdsy@DeclareOpen{\langedot}{\delimiters}{9E}
1561 \fdsy@DeclareClose{\rangledot}{\delimiters}{A4}
1562 \fdsy@DeclareDelimiter{/}{\mathord}{AA}
1563 \fdsy@DeclareDelimiter{\mathslash}{\mathord}{AA}
1564 \DeclareMathSymbol{\divslash}{\mathbin}{AA}
1565 \fdsy@DeclareDelimiter{\backslash}{\mathord}{B0}
1566 \expandafter\DeclareMathDelimiter\@backslashchar%
1567 {\mathord}{B0}{B0}

```

```

1568 \DeclareMathSymbol{\setminus}\mathbin{\delimiters}{B0}
1569 \fdsy@DeclareDelimiter{||}\mathord{\delimiters}{B7}
1570 \fdsy@DeclareDelimiter{\vert}\mathord{\delimiters}{B7}
1571 \fdsy@DeclareOpen{\lvert}\delimiters{B7}
1572 \fdsy@DeclareClose{\rvert}\delimiters{B7}
1573 \DeclareMathSymbol{\mid}\mathrel{\delimiters}{B7}
1574 \DeclareMathSymbol{\nmid}\mathrel{\delimiters}{BA}
1575 \fdsy@DeclareDelimiter{\Vert}\mathord{\delimiters}{BE}
1576 \fdsy@DeclareOpen{\lVert}\delimiters{BE}
1577 \fdsy@DeclareClose{\rVert}\delimiters{BE}
1578 \DeclareMathSymbol{\parallel}\mathrel{\delimiters}{BE}
1579 \DeclareMathSymbol{\nparallel}\mathrel{\delimiters}{C1}
1580 \fdsy@DeclareDelimiter{\Vvert}\mathord{\delimiters}{C4}
1581 \fdsy@DeclareOpen{\lVvert}\delimiters{C4}
1582 \fdsy@DeclareClose{\rVvert}\delimiters{C4}
1583 \else
1584 \fdsy@DeclareOpen{()}\delimiters{00}
1585 \fdsy@DeclareClose{()}\delimiters{06}
1586 \fdsy@DeclareOpen{\lparen}\delimiters{00}
1587 \fdsy@DeclareClose{\rparen}\delimiters{06}
1588 \fdsy@DeclareOpen{[]}\delimiters{12}
1589 \fdsy@DeclareClose{[]}\delimiters{18}
1590 \fdsy@DeclareOpen{\lbrack}\delimiters{12}
1591 \fdsy@DeclareClose{\rbrack}\delimiters{18}
1592 \fdsy@DeclareOpen{\lfloor}\delimiters{1E}
1593 \fdsy@DeclareClose{\rfloor}\delimiters{24}
1594 \fdsy@DeclareOpen{\lceil}\delimiters{2A}
1595 \fdsy@DeclareClose{\rceil}\delimiters{30}
1596 \fdsy@DeclareOpen{\ulcorner}\delimiters{36}
1597 \fdsy@DeclareClose{\urcorner}\delimiters{3C}
1598 \fdsy@DeclareOpen{\llcorner}\delimiters{42}
1599 \fdsy@DeclareClose{\lrcorner}\delimiters{48}
1600 \fdsy@DeclareOpen{\ulcorner}\delimiters{4E}
1601 \fdsy@DeclareClose{\ulrcorner}\delimiters{54}
1602 \fdsy@DeclareOpen{\lsem}\delimiters{60}
1603 \fdsy@DeclareClose{\rsem}\delimiters{66}
1604 \fdsy@DeclareOpen{\lBrack}\delimiters{60}
1605 \fdsy@DeclareClose{\rBrack}\delimiters{66}
1606 \fdsy@DeclareOpen{\lbrace}\delimiters{72}
1607 \fdsy@DeclareClose{\rbrace}\delimiters{78}
1608 \fdsy@DeclareOpen{<}\delimiters{85}
1609 \fdsy@DeclareClose{>}\delimiters{8B}
1610 \fdsy@DeclareOpen{\langle}\delimiters{85}
1611 \fdsy@DeclareClose{\rangle}\delimiters{8B}
1612 \fdsy@DeclareOpen{\lAngle}\delimiters{91}

```

```

1613 \fdsy@DeclareClose{\rAngle}{delimiters}{97}
1614 \fdsy@DeclareOpen{\langedot}{delimiters}{9D}
1615 \fdsy@DeclareClose{\rangledot}{delimiters}{A3}
1616 \fdsy@DeclareDelimiter{/}{\mathord}{delimiters}{A9}
1617 \fdsy@DeclareDelimiter{\mathslash}{\mathord}{delimiters}{A9}
1618 \DeclareMathSymbol{\divslash}{\mathbin}{delimiters}{A9}
1619 \fdsy@DeclareDelimiter{\backslash}{\mathord}{delimiters}{AF}
1620 \expandafter\DeclareMathDelimiter\@backslashchar%
1621     {\mathord}{delimiters}{AF}{delimiters}{AF}
1622 \DeclareMathSymbol{\setminus}{\mathbin}{delimiters}{AF}
1623 \fdsy@DeclareDelimiter{||}{\mathord}{delimiters}{B6}
1624 \fdsy@DeclareDelimiter{\vert}{\mathord}{delimiters}{B6}
1625 \fdsy@DeclareOpen{\lvert}{delimiters}{B6}
1626 \fdsy@DeclareClose{\rvert}{delimiters}{B6}
1627 \DeclareMathSymbol{\mid}{\mathrel}{delimiters}{B6}
1628 \DeclareMathSymbol{\nmid}{\mathrel}{delimiters}{B9}
1629 \fdsy@DeclareDelimiter{\Vert}{\mathord}{delimiters}{BD}
1630 \fdsy@DeclareOpen{\lVert}{delimiters}{BD}
1631 \fdsy@DeclareClose{\rVert}{delimiters}{BD}
1632 \DeclareMathSymbol{\parallel}{\mathrel}{delimiters}{BD}
1633 \DeclareMathSymbol{\nparallel}{\mathrel}{delimiters}{C0}
1634 \fdsy@DeclareDelimiter{\Vvert}{\mathord}{delimiters}{C3}
1635 \fdsy@DeclareOpen{\lVvert}{delimiters}{C3}
1636 \fdsy@DeclareClose{\rVvert}{delimiters}{C3}
1637 \fi
1638 \let\lVert\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}
1660 \DeclareMathDelimiter{\updownarrow}{\mathrel}{arrows}{"11}{delimiters}"C8}
1661 \DeclareMathDelimiter{\Uparrow}{\mathrel}{arrows}{"09}{delimiters}"C9}
1662 \DeclareMathDelimiter{\Downarrow}{\mathrel}{arrows}{"0B}{delimiters}"CA}
1663 \DeclareMathDelimiter{\Updownarrow}{\mathrel}{arrows}{"15}{delimiters}"CB}

```

Horizontal braces.

```

1664 \DeclareMathSymbol{\bracedl}{\mathord}{delimiters}"CC}
1665 \DeclareMathSymbol{\bracerl}{\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}
1671
1672 \def\bracefill@#1#2#3#4#5{$\m@th#5#1\leaders\hbox{$#4$}\hfill#2\leaders\hbox{$#4$}\hfill#3$}
1673 \def\downbracefill@{\bracefill@\bracedl\bracemd\bracerd\bracemid}
1674 \def\upbracefill@{\bracefill@\bracerl\bracemu\braceru\bracemid}
1675 \def\downgroupfill@{\bracefill@\bracedl{\bracerd\bracemid}}
1676 \def\upgroupfill@{\bracefill@\bracerl{\braceru\bracemid}}
1677 \def\linesegmentfill@{\arrowfill@\leftfootline\relbar\rightfootline}
1678 \def\leftharpoonfill@{\arrowfill@\leftharpoondown\relbar\relbar}
1679 \def\rightharpoonfill@{\arrowfill@\relbar\relbar\rightharpoonup}
1680
1681 \DeclareRobustCommand{\overbrace}[1]{\mathop{\mathpalette{\overarrow@\downbracefill@}{#1}}\lrcorner}
1682 \DeclareRobustCommand{\underbrace}[1]{\mathop{\mathpalette{\underarrow@\upbracefill@}{#1}}\lrcorner}
1683 \DeclareRobustCommand{\overgroup}{\mathpalette{\overarrow@\downgroupfill@}}
1684 \DeclareRobustCommand{\undergroup}{\mathpalette{\underarrow@\upgroupfill@}}
1685 \DeclareRobustCommand{\overlinesegment}{\mathpalette{\overarrow@\linesegmentfill@}}
1686 \DeclareRobustCommand{\overleftharpoon}{\mathpalette{\overarrow@\leftharpoonfill@}}
1687 \DeclareRobustCommand{\overrightharpoon}{\mathpalette{\overarrow@\rightharpoonfill@}}
1688 \DeclareRobustCommand{\underlinesegment}{\mathpalette{\underarrow@\linesegmentfill@}}

```

Radical symbols.

```

1689 \iffdsy@largedelims
1690 \DeclareMathRadical{\sqrtsign}{delimiters}"D4}{delimiters}"D4}
1691 \DeclareMathSymbol{\surd}{\mathop}{delimiters}"D4}
1692 \else
1693 \DeclareMathRadical{\sqrtsign}{delimiters}"D3}{delimiters}"D3}
1694 \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).

```

1696 \def\r@t#1#2{\setbox\z@\hbox{$\m@th#1\sqrt{#2}$}%
1697 \dimen@ht\z@ \advance\dimen@-\dp\z@

```



```
1698 \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}
1704 \DeclareMathSymbol{<}{\mathrel}{relations}{22}
1705 \DeclareMathSymbol{>}{\mathrel}{relations}{23}
1706 \iffdsy@largedelims
1707 \DeclareMathSymbol{|}{\mathord}{delimiters}{B6}
1708 \DeclareMathSymbol{(}{\mathopen}{delimiters}{01}
1709 \DeclareMathSymbol{)}{\mathclose}{delimiters}{07}
1710 \DeclareMathSymbol{[}{\mathopen}{delimiters}{13}
1711 \DeclareMathSymbol{]}{\mathclose}{delimiters}{19}
1712 \DeclareMathSymbol{/}{\mathord}{delimiters}{AA}
1713 \else
1714 \DeclareMathSymbol{|}{\mathord}{delimiters}{B5}
1715 \DeclareMathSymbol{(}{\mathopen}{delimiters}{00}
1716 \DeclareMathSymbol{)}{\mathclose}{delimiters}{06}
1717 \DeclareMathSymbol{[}{\mathopen}{delimiters}{12}
1718 \DeclareMathSymbol{]}{\mathclose}{delimiters}{18}
1719 \DeclareMathSymbol{/}{\mathord}{delimiters}{A9}
1720 \fi
```

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

```
1721 \def\c@ncel#1#2{\m@th\oalign{$\hfil#1/\hfil$\cr\cr$#1#2$}}
1722 \def\not#1{\mathrel{\m@th\mathpalette\c@ncel{#1}}}
1723 \</style>
```