

L<sup>A</sup>T<sub>E</sub>X

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# L<sup>A</sup>T<sub>E</sub>X and *AMS*-L<sup>A</sup>T<sub>E</sub>X Symbols

Emre Sermutlu

March 17, 2008

# Introduction I

## About This Document

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- This document lists symbols in standard LaTeX,  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X and a few additional packages.
- The document is optimized for viewing on a computer. I recommend using it full screen (Ctrl+L for Acrobat) and then navigating by clicking the sidebar.
- You may reach the latest version of this file (and also another file using Txfonts) at [academic.cankaya.edu.tr/~sermutlu](http://academic.cankaya.edu.tr/~sermutlu).

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# Introduction II

## Note About Packages

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- I did not separate the the  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X symbols from the standard ones. Do not forget the include `\usepackage{amsmath,amssymb,latexsym}` before `\begin{document}` to be able to use these symbols.
- In the section Extra, I have included the packages `Textcomp`, `Marvosym`, `Pifont` and `Chemarrow` to give a taste of the rich world of L<sup>A</sup>T<sub>E</sub>X. You need to install packages and then write `\usepackage{packagename}` to access these symbols. (If you are using MiKTeX, it will install packages automatically at first usage.)
- There are many more packages and thousands of symbols not included here. I recommend Scott Pakin's `The Comprehensive LaTeX Symbol List` for a complete listing. (It can be reached at [www.ctan.org](http://www.ctan.org)).

# Introduction III

About the Author

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- Prepared by Dr. Emre Sermetlu, Department of Mathematics and Computer Science, Çankaya University, Ankara-Turkey.
- I started this project for my personal needs, as it was unfeasible to browse books or search the internet every time I needed an unfamiliar symbol. I am using a computer whenever I am using L<sup>A</sup>T<sub>E</sub>X, so I needed a file optimized for viewing on screen, not printing on paper.
- I am a fan of Beamer, which is a wonderful class for preparing Power-Point like presentations in L<sup>A</sup>T<sub>E</sub>X. You are currently seeing the power of Beamer. You can learn more about it at:  
<http://latex-beamer.sourceforge.net>
- Please report errors, omissions, suggestions and any other kind of feedback to [sermetlu@cankaya.edu.tr](mailto:sermetlu@cankaya.edu.tr).

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$\$$	<code>\\$</code>	$\ddot{U}$	<code>\"U</code>	$\text{©}$	<code>\copyright</code>
$\&$	<code>\&amp;</code>	$\dot{I}$	<code>\.{I}</code>	$\text{®}$	<code>\circledR</code>
$\#$	<code>\#</code>	$\tilde{G}$	<code>\~{G}</code>	$\text{ⓐ}$	<code>\textcircled{a}</code>
$\%$	<code>\%</code>	$\text{Å}$	<code>\H{A}</code>	$\text{™}$	<code>\texttrademark</code>
$\{$	<code>\{</code>	$\text{Ò}$	<code>\'O</code>	$\checkmark$	<code>\checkmark</code>
$\}$	<code>\}</code>	$\hat{C}$	<code>\^{C}</code>	$\text{£}$	<code>\pounds</code>
		$\check{C}$	<code>\v{C}</code>	$\text{✠}$	<code>\maltese</code>
$\P$	<code>\P</code>	$\text{Ṭ}$	<code>\r{T}</code>	$\bullet$	<code>\textbullet</code>
$\S$	<code>\S</code>	$\text{́P}$	<code>\'P</code>	$\backslash$	<code>\textbackslash</code>
$\dagger$	<code>\dag</code>	$\text{̈́M}$	<code>\u{M}</code>	$ $	<code>\textbar</code>
$\ddagger$	<code>\ddag</code>	$\text{̄N}$	<code>\={N}</code>	$-$	<code>\_</code>
$i$	<code>\i</code>	$\text{E}$	<code>\b{E}</code>	$-$	<code>\textendash</code>
$J$	<code>\j</code>	$\text{S}$	<code>\c{S}</code>	$-$	<code>\textemdash</code>
$\text{BB}$	<code>\t{BB}</code>	$\text{F}$	<code>\d{F}</code>	$<$	<code>\textless</code>
				$>$	<code>\textgreater</code>

# TEXT Symbols II

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...	<code>\dots</code>	~	<code>\textasciitilde</code>
ı	<code>\l</code>	^	<code>\textasciicircum</code>
L	<code>\L</code>	j	<code>\textexclamdown</code>
ø	<code>\o</code>	¿	<code>\textquestiondown</code>
Ø	<code>\O</code>	‘	<code>\textquoteleft</code>
å	<code>\aa</code>	’	<code>\textquoteright</code>
Å	<code>\AA</code>	“	<code>\textquotedblleft</code>
ß	<code>\ss</code>	”	<code>\textquotedblright</code>
SS	<code>\SS</code>	␣	<code>\textvisiblespace</code>
æ	<code>\ae</code>	♂	<code>\textordmasculine</code>
Æ	<code>\AE</code>	♀	<code>\textordfeminine</code>
œ	<code>\oe</code>	*	<code>\textasteriskcentered</code>
Œ	<code>\OE</code>	.	<code>\textperiodcentered</code>

# Common Math Symbols

Some of these symbols may appear at other tables for user convenience

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$\neq$	<code>\neq</code>	$\pm$	<code>\pm</code>	$\rightarrow$	<code>\to</code>
$\leqslant$	<code>\leqslant</code>	$\mp$	<code>\mp</code>	$\iff$	<code>\iff</code>
$\geqslant$	<code>\geqslant</code>	$\times$	<code>\times</code>	$\$$	<code>\\$</code>
$\approx$	<code>\approx</code>	$\div$	<code>\div</code>	$\pounds$	<code>\pounds</code>
$\equiv$	<code>\equiv</code>	$\cup$	<code>\cup</code>	$\%$	<code>\%</code>
$\cong$	<code>\cong</code>	$\cap$	<code>\cap</code>	$\&$	<code>\&amp;</code>
$\simeq$	<code>\simeq</code>	$\in$	<code>\in</code>	$\{$	<code>\{</code>
$\partial$	<code>\partial</code>	$\notin$	<code>\notin</code>	$\}$	<code>\}</code>
$\infty$	<code>\infty</code>	$\setminus$	<code>\setminus</code>	$-$	<code>\_</code>
$\nabla$	<code>\nabla</code>	$\emptyset$	<code>\varnothing</code>	$\P$	<code>\P</code>
$\aleph$	<code>\aleph</code>	$\subset$	<code>\subset</code>	$\S$	<code>\S</code>
$\ell$	<code>\ell</code>	$\supset$	<code>\supset</code>	$\ast$	<code>\ast</code>
$\vee$	<code>\vee</code>	$\cdot$	<code>\cdot</code>	$\dagger$	<code>\dagger</code>
$\wedge$	<code>\wedge</code>	$\cdot$	<code>\centerdot</code>	$\ddagger$	<code>\ddagger</code>
$\forall$	<code>\forall</code>	$\copyright$	<code>\copyright</code>	$\bullet$	<code>\bullet</code>
$\exists$	<code>\exists</code>	$\maltese$	<code>\maltese</code>	$\wr$	<code>\wr</code>

# Greek Letters

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$\alpha$  `\alpha`

$\beta$  `\beta`

$\gamma$  `\gamma`

$\delta$  `\delta`

$\lambda$  `\lambda`

$\omega$  `\omega`

$\psi$  `\psi`

$\chi$  `\chi`

$\rho$  `\rho`

$\epsilon$  `\epsilon`

$\kappa$  `\kappa`

$\pi$  `\pi`

$\phi$  `\phi`

$\sigma$  `\sigma`

$\theta$  `\theta`

$\upsilon$  `\upsilon`

$\xi$  `\xi`

$\tau$  `\tau`

$\iota$  `\iota`

$\eta$  `\eta`

$\zeta$  `\zeta`

$\mu$  `\mu`

$\nu$  `\nu`

$\varrho$  `\varrho`

$\varepsilon$  `\varepsilon`

$\varkappa$  `\varkappa`

$\varpi$  `\varpi`

$\varphi$  `\varphi`

$\varsigma$  `\varsigma`

$\vartheta$  `\vartheta`



# Greek and Hebrew Letters

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$\Gamma$	<code>\Gamma</code>	$\Gamma$	<code>\varGamma</code>
$\Delta$	<code>\Delta</code>	$\Delta$	<code>\varDelta</code>
$\Lambda$	<code>\Lambda</code>	$\Lambda$	<code>\varLambda</code>
$\Omega$	<code>\Omega</code>	$\Omega$	<code>\varOmega</code>
$\Pi$	<code>\Pi</code>	$\Pi$	<code>\varPi</code>
$\Phi$	<code>\Phi</code>	$\Phi$	<code>\varPhi</code>
$\Psi$	<code>\Psi</code>	$\Psi$	<code>\varPsi</code>
$\Sigma$	<code>\Sigma</code>	$\Sigma$	<code>\varSigma</code>
$\Theta$	<code>\Theta</code>	$\Theta$	<code>\varTheta</code>
$\Upsilon$	<code>\Upsilon</code>	$\Upsilon$	<code>\varUpsilon</code>
$\Xi$	<code>\Xi</code>	$\Xi$	<code>\varXi</code>
$\digamma$	<code>\digamma</code>		

$\aleph$	<code>\aleph</code>	$\beth$	<code>\gimel</code>
$\beth$	<code>\beth</code>	$\daleth$	<code>\daleth</code>

# Binary Operations I

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$\oplus$  `\oplus`

$\ominus$  `\ominus`

$\otimes$  `\otimes`

$\odot$  `\odot`

$\oslash$  `\oslash`

$\circ$  `\circ`

$\bigcirc$  `\bigcirc`

$\odot$  `\circledcirc`

$\ominus$  `\circleddash`

$\ast$  `\circledast`

$\amalg$  `\amalg`

$\cup$  `\cup`

$\Cup$  `\Cup`

$\sqcup$  `\sqcup`

$\leftthreetimes$  `\leftthreetimes`

$\uplus$  `\uplus`

$\boxplus$  `\boxplus`

$\boxminus$  `\boxminus`

$\boxtimes$  `\boxtimes`

$\boxdot$  `\boxdot`

$\divideontimes$  `\divideontimes`

$\intercal$  `\intercal`

$\dot{+}$  `\dotplus`

$\setminus$  `\setminus`

$\smallsetminus$  `\smallsetminus`

$\cdot$  `\centerdot`

$\diamond$  `\diamond`

$\cap$  `\cap`

$\Cap$  `\Cap`

$\sqcap$  `\sqcap`

$\rightthreetimes$  `\rightthreetimes`

$\varepsilon$  `\backepsilon`

# Binary Operations II

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$\vee$  `\vee`

$\curlyvee$  `\curlyvee`

$\underline{\vee}$  `\veebar`

$\ltimes$  `\ltimes`

$\rtimes$  `\rtimes`

$\dashv$  `\dashv`

$\vdash$  `\vdash`

$\Vdash$  `\Vdash`

$\Vdash$  `\Vdash`

$\models$  `\models`

$\Vdash$  `\Vdash`

$\bowtie$  `\bowtie`

$\Join$  `\Join`

$\because$  `\because`

$\therefore$  `\therefore`

$\&$  `\And`

$\wedge$  `\wedge`

$\curlywedge$  `\curlywedge`

$\bar{\wedge}$  `\barwedge`

$\overline{\overline{\wedge}}$  `\doublebarwedge`

$\dagger$  `\dagger`

$\ddagger$  `\ddagger`

$\nvdash$  `\nvdash`

$\nVdash$  `\nVdash`

$\nVdash$  `\nVdash`

$\nVDash$  `\nVDash`

$\pitchfork$  `\pitchfork`

$\smile$  `\smile`

$\smile$  `\smallsmile`

$\frown$  `\frown`

$\frown$  `\smallfrown`

$\bullet$  `\bullet`

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$\cong$	<code>\cong</code>	$\not\cong$	<code>\ncong</code>
$\preccurlyeq$	<code>\preccurlyeq</code>	$\succcurlyeq$	<code>\succcurlyeq</code>
$\curlyeqprec$	<code>\curlyeqprec</code>	$\curlyeqsucc$	<code>\curlyeqsucc</code>
$\prec$	<code>\prec</code>	$\nprec$	<code>\nprec</code>
$\preceq$	<code>\preceq</code>	$\npreceq$	<code>\npreceq</code>
$\preccurlyeq$	<code>\preccurlyeq</code>	$\preccurlyeq$	<code>\preccurlyeq</code>
$\precsim$	<code>\precsim</code>	$\precsim$	<code>\precsim</code>
$\succ$	<code>\succ</code>	$\nsucc$	<code>\nsucc</code>
$\succeq$	<code>\succeq</code>	$\nsucceq$	<code>\nsucceq</code>
$\succcurlyeq$	<code>\succcurlyeq</code>	$\succcurlyeq$	<code>\succcurlyeq</code>
$\succsim$	<code>\succsim</code>	$\succsim$	<code>\succsim</code>

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	<code>\mid</code>	†	<code>\nmid</code>
	<code>\shortmid</code>	‡	<code>\nshortmid</code>
	<code>\parallel</code>	∥	<code>\nparallel</code>
=	<code>\shortparallel</code>	≠	<code>\nshortparallel</code>
~	<code>\sim</code>	≈	<code>\nsim</code>
~	<code>\thicksim</code>	≐	<code>\doteq</code>
≈	<code>\simeq</code>	≑	<code>\doteqdot</code>
∿	<code>\backsim</code>	∕	<code>\between</code>
∿	<code>\backsimeq</code>	∕	<code>\asymp</code>
≈	<code>\approx</code>	≐	<code>\fallingdotseq</code>
≈	<code>\thickapprox</code>	≐	<code>\risingdotseq</code>
≈	<code>\approxeq</code>	⊂	<code>\bumpeq</code>
≡	<code>\equiv</code>	⊃	<code>\Bumpeq</code>
∝	<code>\propto</code>	⊆	<code>\circeq</code>
∝	<code>\varpropto</code>	⊇	<code>\eqcirc</code>
⊖	<code>\multimap</code>	⊥	<code>\perp</code>

# Subset Relations

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$\subset$  `\subset`

$\subseteq$  `\subseteq`

$\subseteqq$  `\subseteqq`

$\sqsubset$  `\sqsubset`

$\sqsubseteq$  `\sqsubseteq`

$\Subset$  `\Subset`

$\not\subset$  `\not\subset`

$\subsetneq$  `\subsetneq`

$\varsubsetneq$  `\varsubsetneq`

$\not\subseteq$  `\not\subseteq`

$\subsetneqq$  `\subsetneqq`

$\varsubsetneqq$  `\varsubsetneqq`

$\supset$  `\supset`

$\supseteq$  `\supseteq`

$\supseteqq$  `\supseteqq`

$\sqsupset$  `\sqsupset`

$\sqsupseteq$  `\sqsupseteq`

$\Supset$  `\Supset`

$\not\supset$  `\not\supset`

$\supsetneq$  `\supsetneq`

$\varsupsetneq$  `\varsupsetneq`

$\not\supseteq$  `\not\supseteq`

$\supsetneqq$  `\supsetneqq`

$\varsupsetneqq$  `\varsupsetneqq`

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$<$  `<`

$>$  `>`

$\leqslant$  `\leqslant`

$\geqslant$  `\geqslant`

$\leq$  `\leq`

$\geq$  `\geq`

$\leqq$  `\leqq`

$\geqq$  `\geqq`

$\leqslantless$  `\leqslantless`

$\leqslantgtr$  `\leqslantgtr`

$\lneq$  `\lneq`

$\gneq$  `\gneq`

$\nless$  `\nless`

$\ngtr$  `\ngtr`

$\nleqslant$  `\nleqslant`

$\ngeqslant$  `\ngeqslant`

$\nleq$  `\nleq`

$\ngeq$  `\ngeq`

$\nleqq$  `\nleqq`

$\ngeqq$  `\ngeqq`

$\lneqq$  `\lneqq`

$\gneqq$  `\gneqq`

$\lvertneqq$  `\lvertneqq`

$\gvertneqq$  `\gvertneqq`

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$\ll$  `\ll`

$\gg$  `\gg`

$\lesssim$  `\lesssim`

$\gtrsim$  `\gtrsim`

$\lesapprox$  `\lesapprox`

$\gtrapprox$  `\gtrapprox`

$\lessgtr$  `\lessgtr`

$\gtrless$  `\gtrless`

$\lesseqgtr$  `\lesseqgtr`

$\gtreqless$  `\gtreqless`

$\lll$  `\lll`

$\ggg$  `\ggg`

$\lnsim$  `\lnsim`

$\gnsim$  `\gnsim`

$\lnapprox$  `\lnapprox`

$\gnapprox$  `\gnapprox`

$\lessdot$  `\lessdot`

$\gtrdot$  `\gtrdot`

$\lesseqqgtr$  `\lesseqqgtr`

$\gtreqqless$  `\gtreqqless`



# Triangular Relations

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$\triangle$	<code>\bigtriangleup</code>
$\triangleright$	<code>\triangleright</code>
$\blacktriangleright$	<code>\ntriangleright</code>
$\vartriangleright$	<code>\vartriangleright</code>
$\rhd$	<code>\rhd</code>
$\unrhd$	<code>\unrhd</code>
$\trianglerighteq$	<code>\trianglerighteq</code>
$\blacktrianglerighteq$	<code>\ntrianglerighteq</code>
$\blacktriangleright$	<code>\blacktriangleright</code>
$\triangleq$	<code>\triangleq</code>

$\nabla$	<code>\bigtriangledown</code>
$\triangleleft$	<code>\triangleleft</code>
$\blacktriangleleft$	<code>\ntriangleleft</code>
$\vartriangleleft$	<code>\vartriangleleft</code>
$\lhd$	<code>\lhd</code>
$\unlhd$	<code>\unlhd</code>
$\trianglelefteq$	<code>\trianglelefteq</code>
$\blacktrianglelefteq$	<code>\ntrianglelefteq</code>
$\blacktriangleleft$	<code>\blacktriangleleft</code>

$\rightarrow$	<code>\rightharpoonup</code>
$\rightarrow$	<code>\rightharpoondown</code>
$\Rightarrow$	<code>\rightleftharpoons</code>
$\upharpoonright$	<code>\upharpoonright</code>
$\downharpoonright$	<code>\downharpoonright</code>

$\leftarrow$	<code>\leftharpoonup</code>
$\leftarrow$	<code>\leftharpoondown</code>
$\Leftrightarrow$	<code>\leftrightharpoons</code>
$\upharpoonleft$	<code>\upharpoonleft</code>
$\downharpoonleft$	<code>\downharpoonleft</code>

# Arrows I

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$\rightarrow$	<code>\rightarrow</code>	$\leftarrow$	<code>\leftarrow</code>
$\Rightarrow$	<code>\Rightarrow</code>	$\Leftarrow$	<code>\Leftarrow</code>
$\longrightarrow$	<code>\longrightarrow</code>	$\longleftarrow$	<code>\longleftarrow</code>
$\Longrightarrow$	<code>\Longrightarrow</code>	$\Longleftarrow$	<code>\Longleftarrow</code>
$\uparrow$	<code>\uparrow</code>	$\downarrow$	<code>\downarrow</code>
$\Uparrow$	<code>\Uparrow</code>	$\Downarrow$	<code>\Downarrow</code>
$\nrightarrow$	<code>\nrightarrow</code>	$\nleftarrow$	<code>\nleftarrow</code>
$\nRightarrow$	<code>\nRightarrow</code>	$\nLeftarrow$	<code>\nLeftarrow</code>
$\updownarrow$	<code>\updownarrow</code>	$\leftrightsquigarrow$	<code>\leftrightsquigarrow</code>
$\Updownarrow$	<code>\Updownarrow</code>	$\Leftrightarrow$	<code>\Leftrightarrow</code>
$\nearrow$	<code>\nearrow</code>	$\leftleftrightarrow$	<code>\leftleftrightarrow</code>
$\nwarrow$	<code>\nwarrow</code>	$\Longleftarrow\rightarrow$	<code>\Longleftarrow\rightarrow</code>
$\swarrow$	<code>\swarrow</code>	$\Longleftarrow\rightleftarrows$	<code>\Longleftarrow\rightleftarrows</code>
$\searrow$	<code>\searrow</code>	$\Leftrightarrow\rightsquigarrow$	<code>\Leftrightarrow\rightsquigarrow</code>
$\iff$	<code>\iff</code>		

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$\Rightarrow$  `\rightrightarrows`

$\Leftrightarrow$  `\rightleftarrows`

$\Rrightarrow$  `\Rrightarrow`

$\hookrightarrow$  `\hookrightarrow`

$\rightarrowtail$  `\rightarrowtail`

$\looparrowright$  `\looparrowright`

$\twoheadrightarrow$  `\twoheadrightarrow`

$\curvearrowright$  `\curvearrowright`

$\circlearrowright$  `\circlearrowright`

$\dashrightarrow$  `\dashrightarrow`

$\Rsh$  `\Rsh`

$\Uparrow$  `\upuparrows`

$\mapsto$  `\mapsto`

$\longmapsto$  `\longmapsto`

$\Leftleftarrow$  `\leftleftarrows`

$\Leftrightarrow$  `\leftrightharrows`

$\Lleftarrow$  `\Lleftarrow`

$\hookleftarrow$  `\hookleftarrow`

$\leftarrowtail$  `\leftarrowtail`

$\looparrowleft$  `\looparrowleft`

$\twoheadleftarrow$  `\twoheadleftarrow`

$\curvearrowleft$  `\curvearrowleft`

$\circlearrowleft$  `\circlearrowleft`

$\dashleftarrow$  `\dashleftarrow`

$\Lsh$  `\Lsh`

$\Downarrow$  `\downdownarrows`

$\rightsquigarrow$  `\rightsquigarrow`

$\leadsto$  `\leadsto`

# Mathematical Operators

The following operators have two different sizes

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$\prod$	$\prod$	<code>\prod</code>	$\coprod$	$\coprod$	<code>\coprod</code>
$\sum$	$\sum$	<code>\sum</code>	$\bigcup$	$\bigcup$	<code>\bigcup</code>
$\int$	$\int$	<code>\int</code>	$\bigcap$	$\bigcap$	<code>\bigcap</code>
$\oint$	$\oint$	<code>\oint</code>	$\biguplus$	$\biguplus$	<code>\biguplus</code>
$\iint$	$\iint$	<code>\iint</code>	$\bigsqcup$	$\bigsqcup$	<code>\bigsqcup</code>
$\iiint$	$\iiint$	<code>\iiint</code>	$\bigvee$	$\bigvee$	<code>\bigvee</code>
$\iiiiint$	$\iiiiint$	<code>\iiiiint</code>	$\bigwedge$	$\bigwedge$	<code>\bigwedge</code>
$\int \dots \int$	$\int \dots \int$	<code>\int \dots \int</code>	$\bigoplus$	$\bigoplus$	<code>\bigoplus</code>
			$\bigotimes$	$\bigotimes$	<code>\bigotimes</code>
			$\bigodot$	$\bigodot$	<code>\bigodot</code>

# Mathematical Functions I

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## Pure Functions

Please note that  $\sin x$  (`\sin x`) and  $\sin x$  (`\sin x`) look totally different.

<code>sin</code>	<code>\sin</code>	<code>arcsin</code>	<code>\arcsin</code>	<code>sinh</code>	<code>\sinh</code>
<code>cos</code>	<code>\cos</code>	<code>arccos</code>	<code>\arccos</code>	<code>cosh</code>	<code>\cosh</code>
<code>tan</code>	<code>\tan</code>	<code>arctan</code>	<code>\arctan</code>	<code>tanh</code>	<code>\tanh</code>
<code>cot</code>	<code>\cot</code>	<code>arg</code>	<code>\arg</code>	<code>coth</code>	<code>\coth</code>
<code>sec</code>	<code>\sec</code>	<code>m mod n</code>	<code>m\mod n</code>	<code>lg</code>	<code>\lg</code>
<code>csc</code>	<code>\csc</code>	<code>m mod n</code>	<code>m\bmod n</code>	<code>log</code>	<code>\log</code>
<code>ln</code>	<code>\ln</code>	<code>m (mod n)</code>	<code>m\pmod n</code>	<code>exp</code>	<code>\exp</code>
<code>dim</code>	<code>\dim</code>	<code>m (n)</code>	<code>m\pod n</code>	<code>hom</code>	<code>\hom</code>
<code>deg</code>	<code>\deg</code>			<code>ker</code>	<code>\ker</code>

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## Functions with Limits

The following functions may take limits below:  $\lim_{x \rightarrow 0}$

This is written as: `\lim_{x \to 0}`

min	<code>\min</code>	lim inf	<code>\liminf</code>
max	<code>\max</code>	$\underline{\lim}$	<code>\varliminf</code>
inf	<code>\inf</code>	lim sup	<code>\limsup</code>
sup	<code>\sup</code>	$\overline{\lim}$	<code>\varlimsup</code>
det	<code>\det</code>	inj lim	<code>\injlim</code>
gcd	<code>\gcd</code>	$\lim_{\rightarrow}$	<code>\varinjlim</code>
Pr	<code>\Pr</code>	proj lim	<code>\projlim</code>
lim	<code>\lim</code>	$\lim_{\leftarrow}$	<code>\varprojlim</code>

# Miscellaneous Symbols I

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$\Im$  `\Im`

$\Re$  `\Re`

$\wp$  `\wp`

$\top$  `\top`

$\perp$  `\bot`

$\forall$  `\forall`

$\exists$  `\exists`

$\nexists$  `\nexists`

$\neg$  `\neg`

$\in$  `\in`

$\notin$  `\notin`

$\ni$  `\ni`

$\complement$  `\complement`

$\hbar$  `\hbar`

$\hslash$  `\hslash`

$\ell$  `\ell`

$\partial$  `\partial`

$\eth$  `\eth`

$\imath$  `\imath`

$\jmath$  `\jmath`

$\Bbbk$  `\Bbbk`

$\Finv$  `\Finv`

$\Game$  `\Game`

$\infty$  `\infty`

$\emptyset$  `\emptyset`

$\varnothing$  `\varnothing`

$\sphericalangle$  `\sphericalangle`

$\sphericalangle$  `\sphericalangle`

$\sphericalangle$  `\sphericalangle`

$\int$  `\int`

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$\nabla$	<code>\nabla</code>	$\backslash$	<code>\backslash</code>
$\mho$	<code>\mho</code>	$\diagdown$	<code>\diagdown</code>
$\square$	<code>\square</code>	$\diagup$	<code>\diagup</code>
$\square$	<code>\Box</code>	$\blacksquare$	<code>\blacksquare</code>
$\triangle$	<code>\triangle</code>	$\diamond$	<code>\Diamond</code>
$\triangle$	<code>\vartriangle</code>	$\blacktriangle$	<code>\blacktriangle</code>
$\nabla$	<code>\triangledown</code>	$\blacktriangledown$	<code>\blacktriangledown</code>
$\diamond$	<code>\lozenge</code>	$\blacklozenge$	<code>\blacklozenge</code>
$\surd$	<code>\surd</code>	$\heartsuit$	<code>\heartsuit</code>
$\checkmark$	<code>\checkmark</code>	$\diamondsuit$	<code>\diamondsuit</code>
$\sharp$	<code>\sharp</code>	$\spadesuit$	<code>\spadesuit</code>
$\natural$	<code>\natural</code>	$\clubsuit$	<code>\clubsuit</code>
$\flat$	<code>\flat</code>	$\star$	<code>\star</code>
$\prime$	<code>\prime</code>	$\bigstar$	<code>\bigstar</code>
$\backprime$	<code>\backprime</code>	$\textcircled{R}$	<code>\circledR</code>
$\mapsto$	<code>\mapsto</code>	$\textcircled{S}$	<code>\circledS</code>



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*ABCDEFGHIJKLMN*  
*OPQRSTUVWXYZ*  
*abcdefghijklmnopqrstu*  
*vwxyz*  
1234567890

`\mathnormal{...}`

ABCDEFGHIJKLMN  
OPQRSTUVWXYZ  
abcdefghijklmnopqrstu  
vwxyz  
1234567890

`\mathrm{...}`

ABCDEFGHIJKLMN  
OPQRSTUVWXYZ  
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`\mathsf{...}`

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**ABCDEFGHIJKLMN**

**OPQRSTUVWXYZ**

**abcdefghijklmnopqrstuvwxy**

**1234567890**

`\mathbf{...}`

*ABCDEFGHIJKLMN*

*OPQRSTUVWXYZ*

*abcdefghijklmnopqrstuvwxy*

*1234567890*

`\mathit{...}`

ABCDEFGHIJKLMN

OPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxy

1234567890

`\mathtt{...}`

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*A B C D E F G H I J K L M N*

*O P Q R S T U V W X Y Z*

*a b c d e f g h i j k l m n o p q r s t u v w x y z*

*1 2 3 4 5 6 7 8 9 0*

`\mathfrak{...}`

***A B C D E F G H I J K L M N***

***O P Q R S T U V W X Y Z***

***a b c d e f g h i j k l m n o p q r s t u v w x y z***

***1 2 3 4 5 6 7 8 9 0***

`\boldsymbol{...}`

*$\alpha \beta \pi \theta \Phi \Psi \Omega \dots$*

*$\in \hbar \partial \nabla \leftarrow \infty \emptyset \square \dots$*

# Mathematical Alphabets IV

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*A B C D E F G H I J K L M N*

*O P Q R S T U V W X Y Z*

(Include `\usepackage{mathrsfs}`  
before `\begin{document}`)

`\mathscr{...}`

*A B C D E F G H I J K L M N*

*O P Q R S T U V W X Y Z*

`\mathcal{...}`

A B C D E F G H I J K L M N

O P Q R S T U V W X Y Z

`\mathbb{...}`

# Brackets

These are variable sized

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(	(	)	)
[	[	]	]
	<code>\vert</code>		<code>\Vert</code>
{	<code>\{</code>	}	<code>\}</code>
<	<code>\langle</code>	>	<code>\rangle</code>
⌈	<code>\lceil</code>	⌋	<code>\rceil</code>
⌊	<code>\lfloor</code>	⌋	<code>\rfloor</code>
⏟	<code>\lgroup</code>	⏟	<code>\rgroup</code>
	<code>\lvert</code>		<code>\rvert</code>
	<code>\lVert</code>		<code>\rVert</code>
⎵	<code>\lmoustache</code>	⎴	<code>\rmoustache</code>
	<code>\arrowvert</code>		<code>\Arrowvert</code>
\	<code>\backslash</code>	,	<code>\bracevert</code>

# Brackets - Math Accents

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$\ulcorner$	<code>\ulcorner</code>	$\urcorner$	<code>\urcorner</code>
$\llcorner$	<code>\llcorner</code>	$\lrcorner$	<code>\lrcorner</code>
$\uparrow$	<code>\uparrow</code>	$\Uparrow$	<code>\Uparrow</code>
$\downarrow$	<code>\downarrow</code>	$\Downarrow$	<code>\Downarrow</code>
$\updownarrow$	<code>\updownarrow</code>	$\Updownarrow$	<code>\Updownarrow</code>

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

# Dots

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$\dots$	<code>\ldots</code>	lower dots
$\cdots$	<code>\cdots</code>	center dots
$\ddots$	<code>\ddots</code>	diagonal dots
$\vdots$	<code>\vdots</code>	vertical dots
$\dots\dots\dots$	<code>\dotfill</code>	fill with dots
$\dots$	<code>\dots</code>	lower or center
$\cdots$	<code>\dotscm</code>	multiplication
$\dots$	<code>\dotsi</code>	dots for integrals
$\cdots$	<code>\dotsb</code>	dots for binary op.
$\dots$	<code>\dotsc</code>	dots after commas
$\cdots$	<code>\dotso</code>	other dots
$\cdot$	<code>\ldotp</code>	
$\cdot$	<code>\cdotp</code>	
$:$	<code>\colon</code>	

# Variable Size Constructions

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$\overbrace{abc}$  `\overbrace{abc}`

$\underbrace{abc}$  `\underbrace{abc}`

$\xleftarrow{abc}$  `\xleftarrow{abc}`

$\xrightarrow{abc}$  `\xrightarrow{abc}`

$\sqrt{abc}$  `\sqrt{abc}`

$\widetilde{abc}$  `\widetilde{abc}`

$\widehat{abc}$  `\widehat{abc}`

$\overline{abc}$  `\overline{abc}`

$\underline{abc}$  `\underline{abc}`

$\overrightarrow{abc}$  `\overrightarrow{abc}`

$\overleftarrow{abc}$  `\overleftarrow{abc}`

$\overleftrightarrow{abc}$  `\overleftrightarrow{abc}`

$\underrightarrow{abc}$  `\underrightarrow{abc}`

$\underleftarrow{abc}$  `\underleftarrow{abc}`

$\underleftrightarrow{abc}$  `\underleftrightarrow{abc}`



# Textcomp I

Include `\usepackage{textcomp}` before `\begin{document}`

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$\$$  `\textdollar`

¢ `\textcent`

€ `\texteuro`

¥ `\textyen`

£ `\textsterling`

₺ `\textlira`

฿ `\textbaht`

₵ `\textguarani`

₫ `\textdong`

₦ `\textnaira`

₱ `\textpeso`

₩ `\textwon`

₹ `\textcurrency`

f `\textflorin`

Â `\newtie{A}`

â `\newtie{a}`

$\$$  `\textdollaroldstyle`

¢ `\textcentoldstyle`

€ `\textcolonmonetary`

↓ `\textdownarrow`

→ `\textrightarrow`

← `\textleftarrow`

↑ `\textuparrow`

” `\textacutedbl`

˘ `\textasciicaron`

— `\textasciimacron`

´ `\textasciiacute`

¨ `\textasciidieresis`

” `\textgravedbl`

˘ `\textasciibreve`

` `\textasciigrave`

R `\textrecipe`

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$\textcircled{P}$	<code>\textcircledP</code>	0	<code>\textzerooldstyle</code>
$\textcircled{C}$	<code>\textcopyright</code>	1	<code>\textoneoldstyle</code>
$\textcircled{SM}$	<code>\textservicemark</code>	2	<code>\texttwooldstyle</code>
$\textcircled{C}$	<code>\textcopyleft</code>	3	<code>\textthreeoldstyle</code>
$\textcircled{R}$	<code>\textregistered</code>	4	<code>\textfouroldstyle</code>
$\textcircled{TM}$	<code>\texttrademark</code>	5	<code>\textfiveoldstyle</code>
$\circ$	<code>\textdegree</code>	6	<code>\textsixoldstyle</code>
$\frac{1}{2}$	<code>\textonehalf</code>	7	<code>\textsevenoldstyle</code>
$\frac{1}{4}$	<code>\textonequarter</code>	8	<code>\texteightoldstyle</code>
$\frac{3}{4}$	<code>\textthreequarters</code>	9	<code>\textnineoldstyle</code>
—	<code>\textminus</code>	1	<code>\textonesuperior</code>
±	<code>\textpm</code>	2	<code>\texttwosuperior</code>
÷	<code>\textdiv</code>	3	<code>\textthreesuperior</code>
×	<code>\texttimes</code>	↯	<code>\textlnot</code>
√	<code>\textsurd</code>		

# Textcomp III

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






























TEXT

MATH

Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
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Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

	<code>\textbrokenbar</code>		<code>\textmusicalnote</code>
	<code>\textbardbl</code>		<code>\textlangle</code>
	<code>\textparagraph</code>		<code>\textrangle</code>
	<code>\textpilcrow</code>		<code>\textlbrackdbl</code>
	<code>\textbigcircle</code>		<code>\textrbrackdbl</code>
	<code>\textblank</code>		<code>\textlquill</code>
	<code>\textdagger</code>		<code>\textrquill</code>
	<code>\textdaggerdbl</code>		<code>\textcelsius</code>
	<code>\textdiscount</code>		<code>\textmu</code>
	<code>\texttildelow</code>		<code>\textohm</code>
	<code>\textnumero</code>		<code>\textmho</code>
	<code>\textestimated</code>		<code>\textborn</code>
	<code>\textsection</code>		<code>\textdivorced</code>
	<code>\textquotesingle</code>		<code>\textmarried</code>
	<code>\textbullet</code>		<code>\textdied</code>
	<code>\textopenbullet</code>		<code>\textleaf</code>

# Textcomp IV

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

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EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

※	<code>\textreferencemark</code>
‰	<code>\textpertenthousand</code>
‱	<code>\textperthousand</code>
*	<code>\textasteriskcentered</code>
.	<code>\textperiodcentered</code>
♀	<code>\textordfeminine</code>
♂	<code>\textordmasculine</code>
/	<code>\textfractionsolidus</code>
=	<code>\textdblhyphen</code>
=	<code>\textdblhyphenchar</code>
	<code>\textquotestraightbase</code>
	<code>\textquotestraightdblbase</code>
‡	<code>\textinterrobang</code>
‡	<code>\textinterrobangdown</code>
—	<code>\textthreequartersemdash</code>
—	<code>\texttwelveudash</code>

# Marvosym I

Include `\usepackage{marvosym}` before `\begin{document}`

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

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EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

€	<code>\EUR</code>
€	<code>\EURdig</code>
€	<code>\EURtm</code>
€	<code>\EURcr</code>
€	<code>\EURhv</code>
ℳ	<code>\Pfund</code>
@	<code>\Ecommerce</code>
\$	<code>\EyesDollar</code>

₮	<code>\Denarius</code>
β	<code>\Shilling</code>
⚡	<code>\Anglesign</code>
·	<code>\Squaredot</code>
≅	<code>\Corresponds</code>
→	<code>\Vectorarrow</code>
→	<code>\Vectorarrowhigh</code>
→	<code>\MVRightarrow</code>

†	<code>\Ankh</code>
†	<code>\Cross</code>
⚡	<code>\Celtcross</code>
♥	<code>\Heart</code>
♠	<code>\Bat</code>
FB	<code>\FHBOlogo</code>
FB	<code>\FHBOLOGO</code>
FB	<code>\FullFHBO</code>

👩	<code>\Womanface</code>
👤	<code>\MartinVogel</code>
🌸	<code>\Bouquet</code>
🌐	<code>\Mundus</code>
☯	<code>\Yinyang</code>
😊	<code>\Smiley</code>
😞	<code>\Frowny</code>
Ⓐ	<code>\CircledA</code>

# Marvosym II

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

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Dots  
Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

0 \MVZero

1 \MVOne

2 \MVTwo

3 \MVThree

4 \MVFour

5 \MVFive

6 \MVSix

7 \MVSeven

8 \MVEight

9 \MVNine

♀ \Female

● \FEMALE

♀♂ \FemaleFemale

♀♂ \FemaleMale

♂♀ \Hermaphrodite

♂ \Male

□ \MALE

♂♂ \MaleMale

○ \Neutral

♂♀ \HERMAPHRODITE

▶ \Forward

◀ \Rewind

▶| \ForwardToEnd

▼ \MoveDown

▲ \MoveUp

▬ \ToTop

▮ \ToBottom

◀◀ \RewindToStart

▶▶ \ForwardToIndex

◀◀ \RewindToIndex

# Marvosym III

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

TEXT

MATH

Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
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Brackets  
Dots  
Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

☿ \Mercury

♀ \Venus

♁ \Earth

♂ \Mars

♃ \Jupiter

♄ \Saturn

♅ \Uranus

♆ \Neptune

♇ \Pluto

☾ \Moon

☼ \Sun

♈ \Aries

♉ \Taurus

♊ \Gemini

♋ \Cancer

♌ \Leo

♍ \Virgo

♎ \Libra

♏ \Scorpio

♐ \Sagittarius

♑ \Capricorn

♒ \Aquarius

♓ \Pisces

✂ \Cutleft

✂ \Cutright

✂ \Leftscissors

✂ \Rightscissors

--- \Cutline

--- \Kutline

# Marvosym IV

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction





TEXT





MATH








Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
Brackets  
Dots  
Var. Size












EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

	<code>\Biohazard</code>
	<code>\CEsign</code>
	<code>\Explosionsafe</code>
	<code>\Radioactivity</code>

	<code>\BSEfree</code>
	<code>\Estatically</code>
	<code>\Stopsign</code>
	<code>\Laserbeam</code>

	<code>\Lsteel</code>
	<code>\Tsteel</code>
	<code>\ITsteel</code>
	<code>\RoundedTsteel</code>
	<code>\RoundedLsteel</code>
	<code>\RoundedTTsteel</code>
	<code>\Force</code>
	<code>\Beam</code>
	<code>\Bearing</code>
	<code>\Fixedbearing</code>
	<code>\Loosebearing</code>
	<code>\Lineload</code>

	<code>\Circsteel</code>
	<code>\Squaresteel</code>
	<code>\Rectsteel</code>
	<code>\Hexasteel</code>
	<code>\Octosteel</code>
	<code>\Flatsteel</code>
	<code>\Circpipe</code>
	<code>\Squarepipe</code>
	<code>\Rectpipe</code>
	<code>\Lefttorque</code>
	<code>\Righttorque</code>



# Marvosym V

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

























TEXT







MATH

Common  
Greek  
Binary  
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Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
Brackets  
Dots  
Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

	<code>\Email</code>		<code>\Bicycle</code>
	<code>\fax</code>		<code>\Football</code>
	<code>\Faxmachine</code>		<code>\Pointinghand</code>
	<code>\Lightning</code>		<code>\Checkedbox</code>
	<code>\Pickup</code>		<code>\Gentsroom</code>
	<code>\Emailct</code>		<code>\Ladiesroom</code>
	<code>\FAX</code>		<code>\Wheelchair</code>
	<code>\Letter</code>		<code>\Clocklogo</code>
	<code>\Mobilefone</code>		<code>\Industry</code>
	<code>\Telefon</code>		<code>\Writinghand</code>
	<code>\Info</code>		<code>\Coffeecup</code>
	<code>\MVAt</code>		<code>\Crossedbox</code>

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

# Marvosym VI

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

TEXT

MATH

Common

Greek

Binary

Subsets

Inequalities

Triangles

Arrows

Operators

Functions

Miscel.

Alphabet

Brackets

Dots

Var. Size


EXTRA


Textcomp


Marvosym


Pifont


Chemarrow


 \CleaningA


 \CleaningF


 \CleaningFF


 \CleaningP


 \CleaningPP


 \Tumbler


 \NoTumbler


 \NoChemicalCleaning


 \Bleech


 \NoBleech


 \IroningI


 \IroningII


 \IroningIII


 \NoIroning


 \AtForty


 \AtSixty


 \AtNinetyFive

 \ShortThirty


 \ShortForty


 \ShortFifty


 \ShortSixty


 \ShortNinetyFive

 \SpecialForty

 \WashCotton

 \WashSynthetics

 \WashWool

 \Handwash

 \Dontwash

# Pifont I

Include `\usepackage{pifont}` before `\begin{document}`

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

















































TEXT

MATH

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Greek  
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EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

	<code>\ding{37}</code>		<code>\ding{53}</code>		<code>\ding{69}</code>
	<code>\ding{38}</code>		<code>\ding{54}</code>		<code>\ding{70}</code>
	<code>\ding{39}</code>		<code>\ding{55}</code>		<code>\ding{71}</code>
	<code>\ding{40}</code>		<code>\ding{56}</code>		<code>\ding{72}</code>
	<code>\ding{41}</code>		<code>\ding{57}</code>		<code>\ding{73}</code>
	<code>\ding{42}</code>		<code>\ding{58}</code>		<code>\ding{74}</code>
	<code>\ding{43}</code>		<code>\ding{59}</code>		<code>\ding{75}</code>
	<code>\ding{44}</code>		<code>\ding{60}</code>		<code>\ding{76}</code>
	<code>\ding{45}</code>		<code>\ding{61}</code>		<code>\ding{77}</code>
	<code>\ding{46}</code>		<code>\ding{62}</code>		<code>\ding{78}</code>
	<code>\ding{47}</code>		<code>\ding{63}</code>		<code>\ding{79}</code>
	<code>\ding{48}</code>		<code>\ding{64}</code>		<code>\ding{80}</code>
	<code>\ding{49}</code>		<code>\ding{65}</code>		<code>\ding{81}</code>
	<code>\ding{50}</code>		<code>\ding{66}</code>		<code>\ding{82}</code>
	<code>\ding{51}</code>		<code>\ding{67}</code>		<code>\ding{83}</code>
	<code>\ding{52}</code>		<code>\ding{68}</code>		<code>\ding{84}</code>

# Pifont II

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

















































TEXT

MATH

Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
Brackets  
Dots  
Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

	<code>\ding{85}</code>		<code>\ding{101}</code>		<code>\ding{117}</code>
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	<code>\ding{100}</code>		<code>\ding{116}</code>		<code>\ding{166}</code>

# Pifont III

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction














































TEXT

MATH

Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
Brackets  
Dots  
Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

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	<code>\ding{179}</code>		<code>\ding{195}</code>		<code>\ding{211}</code>
	<code>\ding{180}</code>		<code>\ding{196}</code>		
	<code>\ding{181}</code>		<code>\ding{197}</code>		

# Pifont IV

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction


TEXT


MATH


Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
Brackets  
Dots  
Var. Size


EXTRA


Textcomp  
Marvosym  
Pifont  
Chemarrow


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 `\ding{214}`


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
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
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 `\ding{218}`


 `\ding{219}`


 `\ding{220}`


 `\ding{221}`


 `\ding{222}`


 `\ding{223}`


 `\ding{224}`


 `\ding{225}`


 `\ding{226}`


 `\ding{227}`


 `\ding{228}`


 `\ding{229}`


 `\ding{230}`


 `\ding{231}`


 `\ding{232}`


 `\ding{233}`


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
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
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
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
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 `\ding{244}`


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 `\ding{246}`


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
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
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
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 `\ding{253}`

 `\ding{254}`

 `\ding{33}`

 `\ding{34}`

 `\ding{35}`

 `\ding{36}`

# Chemarrow

Include `\usepackage{chemarrow}` before `\begin{document}`

L<sup>A</sup>T<sub>E</sub>X

Emre  
Sermetlu

Introduction

TEXT

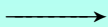
MATH

Common  
Greek  
Binary  
Subsets  
Inequalities  
Triangles  
Arrows  
Operators  
Functions  
Miscel.  
Alphabet  
Brackets  
Dots  
Var. Size

EXTRA

Textcomp  
Marvosym  
Pifont  
Chemarrow

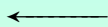
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`\autorightarrow{abc}{def}`

def

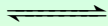
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`\autoleftarrow{abc}{def}`

def

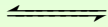
abc



`\autorightleftharpoons{abc}{def}`

def

abc



`\autoleftrightharpoons{abc}{def}`

def



`\chemarrow`