Relation Symbols A $\LaTeX 2_{\mathcal{E}}$ Package

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1 Installation

The program termination problem, also known at the uniform halting problem, can be defined as: Using a finite amount of time: determine whether a given program will always finish running or could possibly execute forever.

The Metafont programming and IATEX 2ε package writing and TEXmacro programming (especially the TEXmacro programming) required to produce these symbols looked like it might, itself, never end. It took more than a year of work in fits and starts to understand how the jalopy of bits and pieces go together to make a font work with IATEX. Finally, the first of the symbols is ready. The remaining eight symbols will follow within one month from the time this is approved. The Comprehensive IATEX 2ε Symbol List (http://www.ctan.org/texarchive/info/symbols/comprehensive/) does not currently include this set, but on completion all of these files will be ready to upload in the correct formats for inclusion. These are implemented as a standard TEX math symbol font, implemented with custom Metafont sources, rendered on-the-fly as needed by IATEX 2ε . Symbols are accessed through macros defined in this package.

- First, you need to find the folder texmf-local. To do that, use this: kpsewhich --var-value TEXMFLOCAL
- 2. This package provides the following four files:

esrelation.sty - macro definitions
uesrelation.fd - font description
esrelation10.mf - metafont driver
esrelation.mf - metafont source

3. If you've previously installed this package (like you, Byron) then it's time to clean out the old files first and regenerate. You first have to trash the .tfm (font metrics) and .pk (packed bitmap) files. Do that in one command:

rm -i
/Users/**youruser**/Library/texlive/2011basic/texmf-var/fonts/
tfm/local/public/esrelation/*
/Users/**youruser**/Library/texlive/2011basic/texmf-var/fonts/
pk/ljfour/local/public/esrelation/*

4. Move esrelation.sty and uesrelation.fd where LaTeX stores packages. This varies for different distributions but typically is the local directory tree. For example:

/usr/local/texlive/2011basic/texmf-local/tex/latex/local/public/esrelation/

5. Put esrelation10.mf and esrelation.mf where MetaFonts are stored. This varies for different distributions but is most often the local font directory. For example:

/usr/local/texlive/2011basic/texmf-local/fonts/source/local/public/esrelation/

6. Next, you need to update your LATEX font database. This is called the ls-r and lives in a few places. Fortunately, you can just run this, likely as sudo or root:

mktexlsr

7. Open LATEX, and start relating.

2 Using esrelation

\relationrightproject	$\overrightarrow{A,Z}$
\relationleftproject	A,Z
\relationlifting	A, Z
\restrictwand	i_{\downarrow}
\restrictwandup	i_{\uparrow}
\restrictbarb	R_{\downarrow}
\restrictbarbup	R_{\uparrow}
\restrictmallet	Z_{\downarrow}
\restrictmalletup	Z_{\dagger}

 \overrightarrow{R}



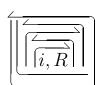
(0,1)

[0, 1]



 $x \times 1$, x = 0





 $X_{\downarrow} \ X_{\downarrow}^2 \ X_{\downarrow}^{\infty}$

 X_{\downarrow}

 X_{\downarrow}

End. Try some more combinations now that it's running.