LTLFonts

Matteo Slanina

July 2006

1 License

LTLFonts is released under the *SIL Open Font License*; please read it carefully and do not use the fonts unless you agree to the terms of the license:

This Font Software is Copyright (c) 2006, Matteo Slanina (`http://theory.stanford.edu/~matteo/ltlfonts/`). All Rights Reserved.

"LTLFonts" is a Reserved Font Name for this Font Software.

This Font Software is licensed under the SIL Open Font License, Version 1.0. No modification of the license is permitted, only verbatim copy is allowed. This license is included in the LTLFonts distribution, and is also available with a FAQ at: `http://scripts.sil.org/OFL`

2 Usage

It's as easy as

```
\usepackage{ltlfonts}
```

Then run your source through LaTeX as usually, and call `dvips` with the option `-u +ltlfonts.map`, or add the line

```
p +ltlfonts.map
```

to your `.dvipsrc`.

If you use a different back-end than `dvips`, you must probably create a similar map file.

3 Glyph Complement

All commands are math-mode only. They are long and inconvenient on purpose: you are supposed to define semantically-oriented command according to your own preferences.

"Regular" Symbols

The following symbols are the ones you are most likely to use. They match well with lower-case math letters:

glyph	command
$\Box$	`\LTLsquare`
$\Diamond$	`\LTLdiamond`
$\bigcirc$	`\LTLcircle`
$\boxminus$	`\LTLsquareminus`
$\diamondminus$	`\LTLdiamondminus`
$\ominus$	`\LTLcircleminus`
$\circledsim$	`\LTLcircletilde`
$\widehat{\Box}$	`\LTLsquarehat`
$\widehat{\Diamond}$	`\LTLdiamondhat`
$\widehat{\boxminus}$	`\LTLsquareminushat`
$\widehat{\diamondminus}$	`\LTLdiamondminushat`

For example, `\LTLsquare \phi` produces

$$\Box\phi$$

and `\LTLdiamondminus \LTLsquareminus (x = 0)` produces

$$\diamondminus\boxminus(x = 0)$$

"Uppercase" Symbols

The following symbols are identical to the previous ones, but raised slightly to make them align better with uppercase math letters. You can use them in specific places to improve the presentation, if you are really picky.

Please notice that LTLFonts are not designed to be used in an "upper-case" prevalent notation, since neither case will align well with operators on the math line such as "$\rightarrow$."

glyph	command
$\Box$	`\LTLsquareuc`
$\Diamond$	`\LTLdiamonduc`
$\bigcirc$	`\LTLcircleuc`
$\boxminus$	`\LTLsquareminusuc`
$\diamondminus$	`\LTLdiamondminusuc`
$\ominus$	`\LTLcircleminusuc`
$\circledsim$	`\LTLcircletildeuc`
$\widehat{\Box}$	`\LTLsquarehatuc`
$\widehat{\Diamond}$	`\LTLdiamondhatuc`
$\widehat{\boxminus}$	`\LTLsquareminushatuc`
$\widehat{\diamondminus}$	`\LTLdiamondminushatuc`

For example, `\LTLsquareuc \Phi` produces

$$\square\Phi$$

(compare with `\LTLsquare \Phi` = $\square\Phi$).

Hat Accent

`\LTLhat` provides a math accent identical to the one on top of `\LTLsquarehat` and company, so you can build matching binary LTL symbols. It comes in one width only, and will look good on top of cursive "U," "W," "S," and "B," but may be off-center on top of other letters, as it wasn't really designed as a generic math accent:

glyph	command
$\widehat{\mathcal{U}}$	`\LTLhat{\mathcal{U}}`

For example, `p \mathbin{\LTLhat{\mathcal{B}}} q` produces

$$p \mathbin{\widehat{\mathcal{B}}} q$$

4 Kerning

The unary operators are declared in `ltlfonts.sty` to be of math class 0 ("Ordinary", `\mathord`). This allows TEX to use kerning information: a few pairs, such as $\Diamond\bigcirc$, are kerned to make the spacing look more uniform. Be aware that, if you redeclare the symbols to be of another type, TEX will not be able to use the kerning tables (if you have to, don't worry, the differences are minimal). The suggested command definition in your document is thus something like

```
\newcommand\Henceforth{\LTLsquare}
```

5 Notes

- Characters with hats extend above the font's declared ascender length. You should thus not set them solid (with `\baselineskip` equal to the type size) or smaller in text longer than a single line.