A Sample Foils Document

Jim Hafner

IBM Research Division

Almaden Research Center

`hafner@almaden.ibm.com`

September 20, 2016

Abstract

This is where an abstract might go if you want one. There is usually not a lot of room for much here.

Colors

FoilTeX (version 2) is fully integrated with LaTeX2_ε so that the supported `color` package (part of the `graphics` package) is the preferred way to use colors.

For examples, see the `graphics` package documentation.

You can still use the old `colordvi` package that comes with Rokicki's `dvips`, but some things won't work exactly as expected (except in compatibility mode).

Itemize

- This is the first level of an itemize.

  - Here we jump to second level
    * Even third level (and there is a fourth level as well).
    * The second item at third level.
  - The second item at second level.
  - A third item at second level.

- The second item at first level.

- A third item at first level.

  Note that we have turned off the logo on this page. It returns on the next page.

This should be a *new foil* with no header, followed by a quote:

. . . it's a good idea to make your input file as easy to read as possible.

and some enumerating:

1. this is enumerated

2. this is also enumerated

> Above, we used \emph{new foil} instead of the old {\em new foil\/}!

On the following page we decided to stop the headers from appearing and move the date to the footline.

Fonts

- This shows *italics*, *slanted*, **boldface**, `typewriter`, roman, and SMALL CAPS.

- Unslanted *emphasize* and *slanted* emphasize.

- `\textrm` means roman and `\textsf` means sans serif.

- size changing from <small>tiny</small>, <small>scriptsize</small>, <small>footnotesize</small>, small, normalsize, large, Large, LARGE, huge, and Huge.

- 12pt is the smallest preloaded.

- 43pt is the largest preloaded in compatibility mode.

- 51pt is the largest preloaded in normal mode.

Special Characters and Accents

- Here is a list of accents:

  – ò, ó, ô, ö, õ, ō, ȯ, ǒ, ǒ, ő, o͡o, ọ, o̧, o̲.

- First in paragraph mode (with \copyright):

  – †, ‡, §, ¶, £, 0123456789, ©

- Then in math mode: (numerals are different!)

  – †, ‡, §, ¶, £, 0123456789

- Here are more non-english language symbols:

– œ, Œ, æ, Æ, å, Å, ø, Ø, ł, Ł, ß, ¿, ¡

- TEX's special symbols: #, $, %, &, _, {, }.

Some Mathematics

$$\mathcal{F} \cdots \frac{x+y}{1 + \frac{y}{z+1}} = \sqrt{x+y} \times \sqrt[n]{2}$$

Here are some funny math symbols (we needed the `latexsym` package for a couple of these):

$$\forall \exists \flat \natural \sharp \partial \angle \Re \mho \jmath \aleph$$

$$\infty \diamond \clubsuit \Diamond \spadesuit \heartsuit \ell$$

$$\cap \cup \vee \wedge \odot \otimes \oplus \uplus \sum \prod \amalg \int \oint$$

$$\sum_{i=1}^{n} x_i = \int_0^1 f[x]dx.$$

and $\gcd(m,n)$ and $x \equiv y \pmod{a+b}$.

More Math: arrays

$$
\begin{array}{cccr}
a+b+c & uv & x-y & 27 \\
a+b & u+v & z & 134 \\
a & 3u+vw & xyz & 2,978
\end{array}
$$

$$
\left(
\begin{vmatrix}
x_{11} & x_{12} \\
x_{21} & x_{22}
\end{vmatrix}
\atop
\begin{array}{c}
y \\
z
\end{array}
\right)
$$

$$
x = \left\{
\begin{array}{ll}
y & \text{if } y > 0 \\
z+y & \text{otherwise}
\end{array}
\right.
$$

More Math: equation and array Numbering

Here is a numbered equation

$$E = mc^2 \tag{1}$$

and a numbered array

$$
\begin{array}{rcl}
x & = & 17y \tag{2} \\
y & > & a + b + c + d + e + f + \\
& & k + l + m + n + o + p \tag{3}
\end{array}
$$

More math accents: $\hat{a}$, $\check{a}$, $\breve{a}$, $\acute{a}$, $\grave{a}$, $\tilde{a}$, $\bar{a}$, $\vec{a}$, $\dot{a}$, $\ddot{a}$.

Over and underline:

$$\overline{x^2 + 1} \qquad a + \overbrace{b + \underbrace{c}_{25} + d}^{16\alpha}$$

Bold Mathematics

The `boldequation` environment, with numbering yields

$$2\sqrt{x}\mathbf{\Pi}^y \sim \boldsymbol{\pi} \times \boldsymbol{x} \tag{4}$$

and without numbering yields

$$2\sqrt{x}\mathbf{\Pi}^y \sim \boldsymbol{\pi} \times \boldsymbol{x}$$

We can reference bold equations like (4).

There is also `\mathbf` and `\bm` in the middle of a formula, with
`\mathbf{a +} a + \bm{a+x\pi-\rho} -\rho`

$$\mathbf{a+}a + \boldsymbol{a} + \boldsymbol{x}\boldsymbol{\pi} - \boldsymbol{\rho} - \rho$$

Note the difference between the two bold "a" in result.

Theorem and Proof Environments

Theorem 1. [TUG'92] *There are some TEX tools that are easier to use than others. This theorem is numbered and has an optional acknowledgement.*

Corollary. *This obvious corollary is not numbered because it uses the *-form.*

Proof. The details of the proof are left to the reader. Note that the environment names are case sensitive. □

We put a header back on the next foil to see that it is correctly rotated.

Rotated Foils

This entire page will (should?) be rotated if we declared the \documentclass option dvips or other supported driver option. (For pdflatex, this works without giving any options!) In the other cases, this is not supported and the user is warned.

The next foil will return to normal. Only foils that begin with \rotatefoilhead will be rotated. If LATEX needs to split a rotated foil into two foils, *both* will be rotated.

Tables and Figures

Here is a short table:

First stuff	Second stuff	Third Stuff
foo	bar	bug
foofoo	barbar	bugbug

Table 1: This is the first table.

The above table is Table 1. It is a "nonfloat", since it doesn't float at all, but appears right where it was placed in the document.
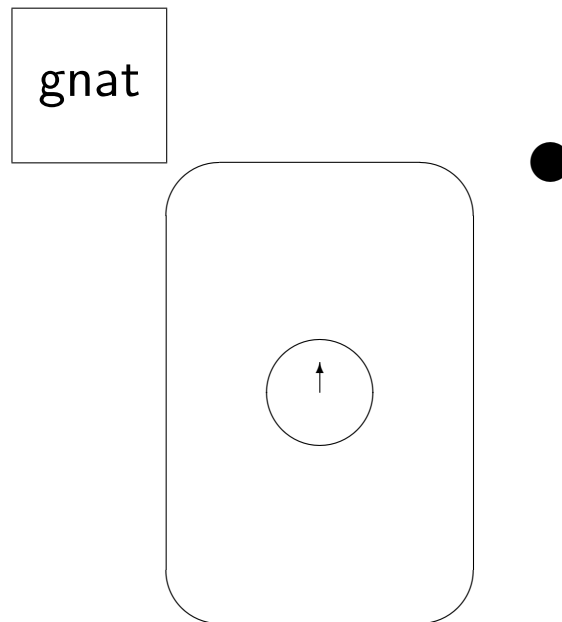
`picture` **Environments**

Figure 1: Isn't this a pretty picture?

`\thicklines` would be nice here but the picture doesn't look as good that way (why?). We should use the `graphics` package to load our graphics pictures here. Note that this Figure doesn't float!

Marginal Notes, Footnotes and Citations

A marginal note[1] is made with the \marginpar command, having the text as its argument. The note is placed in the margin, its first line even with the line of the text containing the command[2].

This is a marginal note

This is shows ┃ frameboxes ┃ at work. We can even cite references like [1] and [2].

References

[1] Rocky and Bullwinkle, Open problems, in *Mr. Know-it-all's Rock Encyclopedia*.

---

[1]This is a footnote.
[2]This is a second footnote.

[2] Bullwinkle, Getting things out of hats, *Annals* **1** (1990BC), 1–2.

Other Features

- `\raggedright` can be used in the preamble to get this effect throughout as we did on this page.

- Access to the AMS Fonts symbols and Euler fonts can easily be obtained with the `amsmath` packages. You might not get fonts at the largest sizes however.

- POSTSCRIPT fonts can used just by adding any of the package files from the PSNFSS package.