

January 26, 2010  
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This file is at <http://www.rasmusen.org/a/latex-rasmusen.pdf>.

These notes are tips and tricks that I have found useful or thought might be useful. I wrote these for my own use and have not tried to make them clear for others, but some other people will find them useful.

The source file is: <http://www.rasmusen.org/a/latex-rasmusen.tex>.

My email address is [erasmuse@indiana.edu](mailto:erasmuse@indiana.edu)

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## FONTS

Latex has some very impressive calligraphy and cursive fonts at:

<http://www.tug.dk/FontCatalogue/calligraphicalfonts.html>

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For BEAMER, the way to make a latex file into a presentation PDF similar to powerpoint, see <http://www.rasmusen.org/a/beamer-rasmusen.tex> and <http://www.rasmusen.org/a/beamer-rasmusen.pdf>

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## RUNNING WITHOUT STOPPING FOR ERRORS

Insert the command `\batchmode` to run without error messages and without stopping for errors. The \*.log file will still be created with all the errors listed in it.

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## NO AUX FILE OR OTHER SUCH CREATED

`\nofiles` is the command for that.

The \*.log file gets created anyway, though.

---

## DELETING FILES FROM WITHIN LATEX

My next task is to figure out how to have Latex clean up after itself, deleting the \*.log, \*.aux, temptex.txt, \*.out files unless told not to.

To do this, which I haven't figured out yet, one uses the `write18` command. Here are some examples of how to use it generally

```
\write18erase temp1.*
```

```
\write18erase temp1.log ( doesn't work- new log created anyway.)
```

```
\write18copy temp.tex realname.tex
```

The `write18` command doesn't work unless you alter your latex operating files, though. The designers were fearful of security breaches, since the `write18` command would allow a \*.tex file to

have commands which could take over your computer and, for example, download virus files.

So here is how to enable the write18 command:

```
EnableWrite18=t
```

Command execution either happens at \output time or right away, according to the absence or presence of the \immediate prefix.

<http://wiki.contextgarden.net/texmf.cnf>

```
in texmf.cnf set
```

```
shell_escape=t
```

In Miktex it is totally different. Follow the instructions in:

<http://wiki.contextgarden.net/write18>

In the DOS Shell run:

```
initexmf --edit-config-file=miktex\config\pdftex.ini
```

and put in the new empty file that creates,

```
EnableWrite18=t
```

Or, I think this would work: create a new file:

```
C:\Documents and Settings\All Users\Application  
Data\MiKTeX\2.7\miktex\config\pdftex.ini
```

Its only content should be

```
EnableWrite18=t
```

This will be a local supplement to the pdftex.ini file which is in wherever your Miktex2.7 main directory is, and I think it will not be erased when Miktex updates itself.

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MOVING AUXILIARY STUFF INTO THE \*.TEX FILE, BUT IN THE MIDDLE.

This takes a bunch of fancy stuff, but is not too hard. Here is an example file:

```
\documentclass[12pt]{article}
```

```

\batchmode
% Thus no error messages--see the *.log file for them.

\usepackage{filecontents}

\newif\ifauxfileexists \IfFileExists{temptex.txt}
{\global\auxfileexiststrue}{\global\auxfileexistsfalse}
\ifauxfileexists %Do nothing if ifauxfileexists=TRUE.

\else \begin{filecontents}{temptex.txt}
%% %%%
%% This is just filler.
%% %%%
\end{filecontents} \fi %The end of the ELSE instructions.

\input{temptex.txt}
%The real temptex.txt. created later, has all the auxiliary files in it.
%Run this *.tex file through latex twice or thrice to fix the style.

%%%%%%%%%%

\begin{document}

\huge \url{http://Rasmusen.org}

\begin{filecontents}{temptex.txt}

\usepackage{hyperref}
\hypersetup{colorlinks= true, urlcolor=blue}

\end{filecontents}

\end{document}

```

I figured this out with lots of help from peopel at [http://groups.google.com/group/comp.text.tex/browse\\_thread/thread/94ff34113e8c57e/a358fc38446c4762#a358fc38446c4762](http://groups.google.com/group/comp.text.tex/browse_thread/thread/94ff34113e8c57e/a358fc38446c4762#a358fc38446c4762), and from Erik Quaeghebeur and Scott Pakin in particular.

Maybe also see: <http://www-hep2.fzu.cz/tex/texmf-dist/doc/latex/filecontents/filecontents.pdf> and <http://carroll.aset.psu.edu/pub/CTAN/support/bundledoc/arllatex.pdf>.

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## A USER'S GROUP FOR QUESTIONS

A latex user group that has easy registration and very active readership is at:

[http://groups.google.com/group/comp.text.tex/browse\\_thread/thread/094ff34113e8c57e#](http://groups.google.com/group/comp.text.tex/browse_thread/thread/094ff34113e8c57e#)

---

## GOOD PACKAGES AND FORMAT:

```

\usepackage[T1]{fontenc}
  \usepackage{lmodern}
&\usepackage{garamond}
%\usepackage{palatino}
% \usepackage{mathpazo}

\usepackage{verbatim}      % verbatim classes
\usepackage{url} % appropriately display url's
\usepackage{hyperref} \hypersetup{breaklinks=true, pagecolor= white, colorlinks=
  \usepackage{longtable}
\usepackage{graphicx}
\usepackage{amsmath}

\reversemarginpar
\topmargin -.3in \oddsidemargin -.1in
\textheight 8in \textwidth 6in
\baselineskip 16pt
\parindent 12pt \parskip 10pt

```

---

## PUTTING EVERYTHING INTO ONE \*.TEX FILE

The filecontents environment will do this. It puts a section of text into a new file. If you want to overwrite a file name, or use this in the middle of a \*.tex document instead of at the very beginning, though, you need to use the filecontents package. See <http://www.ctan.org/tex-archive/macros/latex/contrib/filecontents/>.

```

\usepackage{filecontents}

%The next section creates the file garamond.sty.
\begin{filecontents}{garamond.sty}
%%
%% This is file `garamond.sty`
%%
%% This file is under the public domain.
%% Original author: Gael Varoquaux
%%      gael dot varoquaux at normalesup dot org
\pdfmapfile{=ugm.map}
\let\rmdefault@garamond\rmdefault%

\newcommand{\garamond}{%
\renewcommand{\rmdefault}{ugm}\normalfont%
}

\newcommand{\ungaramond}{%
\renewcommand{\rmdefault}{\rmdefault@garamond}\normalfont%
}
\end{filecontents}

```

---

## FOR LOOKING UP LATEX SYMBOLS:

This is great! <http://detexify.kirelabs.org> and [http://detexifyblog.kirelabs.org/past/2009/7/19/detexify\\_explained](http://detexifyblog.kirelabs.org/past/2009/7/19/detexify_explained)

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### 1. Introduction

If you try `{\heading1 1.Introduction}` that will NOT work.

---

### MATH MACROS

(1)  $f^{-1}$  is better than  $f^{-1}$ .

(2)  $f:A \rightarrow B$  is better than  $f : A \rightarrow B$ .

(3)  $f \circ g$  is better than  $f \circ g$ .

(4)  $\mathbb{C}^2$  and  $\mathbb{R}^3$  and  $\nabla f(x)$

```
\newcommand{\toarrow }{\hspace{-4pt}\to \hspace{-3pt } }
\newcommand{\suchthat }{\hspace{-4pt} : \hspace{-2pt } }
\newcommand{\smallcircle}{ {\scriptstyle \circ } }
\newcommand{\of}{ \hspace{-1pt} \smallcircle \hspace{-1pt} }
```

```
\newcommand{\C}{\mathbb{C}}
\newcommand{\R}{\mathbb{R}} %For real numbers
\newcommand{\grad}{\nabla}
```

```
% For margin comments in small font
\newcommand{\marginlabel}[1]
  {\mbox{} \marginpar{\raggedleft \hspace{0pt} #1}}
\newcommand{\marg}[1]
  {\mbox{} \marginpar{\tiny \hspace{0pt} #1}}
\newcommand{\numeq}[1]{\begin{align}\begin{split} #1
\end{split}\end{align}}
```

(1)  $f^{\scriptscriptstyle -1}$  \prime \prime is better than  $f^{-1}$ ''.

(2)  $f \suchthat A \toarrow B$  is better than  $f : A \rightarrow B$ .

(3)  $f \of g$  is better than  $f \circ g$ .

(4)  $\mathbb{C}^2$  and  $\mathbb{R}^3$  and  $\grad f(x)$  \marg{Here is a marginal comment. It is

---

<http://www.economics.utoronto.ca/osborne/latex/PMAKEUP.HTM> has notes on page makeup by TeX author Martin J. Osborne

Something important to keep in mind in using Latex is that it is designed for professional typesetters typesetting books, not for scholars writing papers. This means that its code aims at a good-looking, readable, final product, not good-looking, readable input code. Not being WYSIWYG is the result of this. I actually prefer that as a scholar. It means that I can be sloppy about spacing when I type in text and formulas, and I can cut-and-paste with ease. But it means that anything requiring labelling is hard to read in the code. The identity of Section 3, equation (10), and Figure 4a keeps changing. It is much clearer to assign.

---

## FIGURES AND YOUR OWN COUNTERS

How do we make figures not go at the top of a page, but rather next to where they are referenced? Don't use the `begin figure` end `figure` environment. Instead typeset the figures yourself, and use your own counter.

The following creates the new counter named `figurecounter` and starts it at 0. It immediately is stepped up to 1, and the label `fig11` is associated with 1.

(1) "I will use Figure 1"

(2) ' 'I will use Figure 2 ' '

This was generated by:

```
\newcounter{figurecounter}
\setcounter{figurecounter}{0}
\refstepcounter{figurecounter} \label{fig11}

(1) ``I will use Figure \ref{fig11}''

\refstepcounter{figurecounter} \label{fig22}

(2) ' `I will use Figure \ref{fig22} ' '
```

---

## PDF and LATEX

PDF: Foxit Reader. . When I process in Latex, I can process and produce a new PDF even while the old one is open. I then need to close it in Foxit and reopen it to see the new one, though— there is no RELOAD command.

---

## MICROSOFT WORD and LATEX and PDF

Acrobat 9 pro will convert PDF to WORD, so I can do everything in latex and convert later.

---

## FONTS

<http://www.tug.org/fonts/special-s.pdf>

<http://www.tug.dk/FontCatalogue/mathfonts.html>"Fonts with Math Support" and other fonts too.

Seventh Circuit: <http://www.ca7.uscourts.gov/Rules/type.pdf>

Mathpazo, New Century, Palatino, Garamond are all good. The palatino font used in Mathpazo has stupid quotation marks that are like double primes and do not distinguish between starting and ending quotation marks. So Garamond is better. Lmodern is pretty good too (Latin Modern).

See <http://gael-varoquaux.info/computers/garamond/index.html>

To use the command `\garamond`, make sure garamond fonts are in a folder in the same directory as this main \*.tex file, and that the file `garamond.sty` is in the same directory as the main \*.tex file (NOT just in the font directory). Garamond is better than mathpazo or palatino because it has true quotation marks. Also, put the following commands before BEGIN DOCUMENT:

```
\usepackage[T1]{fontenc}
\usepackage{lmodern}
\usepackage{garamond}
```

Then to use `garamond`, do this:

```
\garamond
```

This text is in Garamond font.

```
\ungaramond
```

This text is in Computer Modern

---

Use `\equiv` instead of  $\equiv$ , so it is  $\stackrel{\text{def}}{=}$ .

$$x \equiv y \quad x \stackrel{\text{def}}{=} y$$

Use `\newcommand{\eqbydefinition}{\rm \stackrel{def}{=} }` instead of `\equiv`

`\equiv`, so it is `\eqbydefinition`.

```
$$
x \equiv y \quad \qquad x \eqbydefinition y
$$
```

---

To MAke text all cpaital letters: 3. A MODEL WITH THE SOCIAL PLANNER AS PROSECUTOR

ENDNOTE: THis package does not work with the package that makes `sdfsf` commands, so you need to replace all underscores with `_`.

---

## DOUBLE SPACING

Use package setspace

OR, if you don't want to doublespace footnotes, tables, etc. TRY:

---

p. 144. p. 168 TeXBook INTEGRALS

$$\int_0^{\pi} \quad \int_0^{\pi} \quad \int_0^{\pi} \quad \sum_{n=1}^9 \quad \sum_{n=1}^9 \quad \sum_{n=1}^9$$

$$\int_0^{\pi} f(x)dx \quad \int_0^{\pi} f(x) dx$$

$$\frac{52!}{12!40!} \quad \frac{52!}{12! 30! 10!}$$

$$\sqrt{2}x \quad \sqrt{2} x$$

$$\sqrt{\log x} \quad \sqrt{\log x}$$

$$x^2/2 \quad x^2/2$$

$$n/\log n \quad n/\log n$$

$$\Gamma_2 + \Delta^2 \quad \Gamma_2 + \Delta^2$$

$$\int \int_D dx dy \quad \iint_D dx dy$$

---

FROM THE TEXBOOK, JANUARY 7

INPUT FILE APPEARANCE

Replace the default space command with the equivalent .

There should be some space in the middle of this sentence.

SLANTS AND ITALICS

p. 13 of The TeXBook: This is slanted Roman typeface.

p. 14 of The TeXBook: The slant of italic supposedly creates problems if there is a switch back to roman. Therefore, Knuth suggests we put a new control sequence in at the transition back point, like this:

I am switching from italics to roman. If I do it this way it does not work as well, he thinks, but I think it is better. On the other hand: (The trick is perhaps helpful for punctuation.) (Otherwise we get this.) But both look the same to me in this last example.

## QUOTES WITHIN QUOTES

He said, “She replied, ‘I will go home’”.  
versus  
He said, “She replied, ‘I will go home’ ”.

## CALLIGRAPHIC LAGRANGIAN LETTERS

$\mathcal{L}$  versus  $\mathcal{L}$ . Both of these look the same.

p. 32. Type H at an error message, or look in the log file, to get an expanded error message.

p. 73, 91. To avoid line breaks, insert a tilde like this: Mr Rasmusen.

p. 74. If you don’t want to have extra spaces after periods and other punctuations, use frenchspacing. It would look like: this. No extra space. No, it doesn’t seem to work.

p. 94. Here is a way to have one output line per input line without putting after each line. Somehow it put blanks in between, though.

This is one line.

This is one line.

This is one line.

This is one line.

## DOUBLE SUPERSCRIPT

Here is how to do one:  $x^y^2$ . We can have an empty subscript or superscript too:  $_3$  and  $^{superscript}$ .

## GETTING SQUARE ROOTS TO LINE UP

p. 131. What is worse is  $\sqrt{x} + \sqrt{y} + \sqrt{d}$  because the  $y$  dips down and the  $d$  goes up. What is better is  $\sqrt{x} + \sqrt{y} + \sqrt{d}$ . The mathstrut is a box.

Maybe just redefine the commands that are always too narrow:

```
\renewcommand{\hat}{\widehat}
```

p. 135. Variables  $\check{x}$  and  $\dot{x}$  and  $\ddot{x}$  and  $\tilde{x}$  and  $\hat{x}$  and  $\check{x}$ . For overlining,  $\bar{x}$  is a line of flexible length, whereas  $\bar{x}$  is always short.

□ and □ and ●

p. 135. For double overlines and hats, try this:  $\overline{\bar{x}}$  or  $\overline{\hat{x}}$  and  $\widehat{\hat{x}}$  or  $\widehat{\overline{\bar{x}}}$

p. 135. It’s a good idea to makes lots of macros for common notation, e.g.???

p. 142. To keep bits of fractions from being too small, use struts. Compare

$$(1) \quad a_0 + \frac{1}{\frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_r}}}}$$

and

$$(2) \quad a_0 + \frac{1}{\frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_r}}}}$$

p. 143. Fractionlike things:

$$(3) \quad \frac{x}{y+2}$$

$$(4) \quad \left( \frac{x}{y+2} \right)$$

$$\frac{\frac{x}{y+2}}{\frac{a}{b}}$$

$$\frac{\frac{x}{y+2}}{\frac{a}{b}}$$

p. 147. TeXBook. DELIMITERS

(((((

p. 147. TeXBook EXTRA SPACE IN CONDITIONALS

TeX does conditionals like this:

$$Prob(x|y) = .56$$

That is better than closing up with negative space, but sometimes TeX does put in too much space.

$$Prob(\!|y) = .56$$

## NEGATIVE SPACE

p. 166. TWO FORMULAS ON ONE LINE

$$f(x) = 3x^2 \quad n \geq 15$$

---

## LIMITS AND MAXIMIZATION

p. 145 TexBook. DOUBLE INDEXES FOR SUMS

$$\sum_{\substack{0 \leq i \leq M \\ 0 \leq j \leq N}} P(i, j)$$

p. 162. TexBook

$$\Pr_{y \rightarrow 0}(g(y) < 5) = \exp 2 + \log(x) - \max_{1 \leq a \leq B}(a, x) + \lim_{x \rightarrow \infty} g(x)$$

The supposed LiMIT and MAX command are a cheat. They just write Lim or Max and then subscript with the arrow or whatever.

$$\lim_{x \rightarrow \infty} f(x) = 0$$

$$\max_{0 \leq x \leq 1} x(1-x) = 1/4$$

Instead use stackrel, like this:

$$\lim_{x \rightarrow \infty} f(x) = 534z + \frac{3}{y}$$

and like  $\max_x x(1-x)$ , for maximization.

I should probably make those into macros, since they take so many commands.

```
\define \limminmax{arg1}{arg2} = \stackrel{\displaystyle arg1}{\scriptscriptstyle arg2}
```

p. 145 TexBook. DOUBLE INDEXES FOR SUMS

```
$$  
\sum_{\scriptstyle 0 \leq i \leq M \atop \scriptstyle 0 \leq j \leq N} P(i, j)  
$$
```

p. 162. TexBook

\$\$

`\Pr_{y \to 0}(g(y) < 5) = \exp 2 + \log (x) - \max_{1 \leq a \leq B}`  
`(a, x) + \lim_{x \to \infty} g(x)`  
`$$`

The supposed `LiMIT` and `MAX` command are a cheat. They just write `Lim` or `Max` and then subscript with the arrow or whatever.

`$$\lim_{x\to\infty} f(x)=0$`

`$$\max_{0\le x\le 1}x(1-x)=1/4$`

Instead use `stackrel`, like this:

`$$`  
`\stackrel{\rm \displaystyle \lim }{\scriptscriptstyle x\to\infty}`  
`f(x) = 534z + \frac{3}{y}`  
`$$`

and like

`$$\stackrel{\rm \displaystyle \max}{\scriptstyle x} x(1-x) $`, for maximization.

I should probably make those into macros, since they take so many commands.

This is my bold  $\beta$ , or you can do it like this

*$\beta$  is bold but not  $\beta$*

Or try this `boldsymbol` method:

$\mathbf{5}x \neq 5x \quad \mathbf{\theta}y \neq \theta y$

A dash has three marks like— this.

A hyphen has two marks quasi-linked like that.

$\bar{a} \check{a}$

$\overbrace{a + b + \dots + z} \quad \underbrace{a + b + \dots + z}$

$f(x) \stackrel{\text{def}}{=} x^2 - 3$

---

## ROMAN TEXT INSIDE MATH

Use mbox like this:

$$x = y \text{ if and only if } z = 90$$

---

How do I put a box around an entire equation, including the equation number?

$$5 = x^2 \quad \boxed{24v = 6\alpha t + (1 - \alpha)g^7} \quad 67 = \int_0^8$$

---

## VERBATIM

`_`indicates `_`where `_`blanks `_`are. `_``_`Here `_`is  
some `_`text. `_``*``*``*``_``$``$``$``$`

---

## FOOTNOTES INSIDE TABLES AND MATH

Use the footnotemark command to insert the footnote number. To insert the footnote itself, use

$$x = y^1$$

lattice	$d$	$q$	last column <sup>2</sup>
square	2	4	1.763

---

## DECIMAL POINTS

The following input:      3.14159  
                                 16.2  
                                 123.456

`*@*`

Here is a table with partial hrule, not going all the way across, and partial vrules too.

Cancer	$\theta P(\text{cancer} \text{rad})$
Healthy	$\gamma P(\text{healthy} \text{rad})$

---

<sup>0</sup>Except when  $x = 8$ .

<sup>1</sup> That's two words in that entry.

---

\*@\*

There are three ways to do comments in Latex.

1. There is a comment hidden on this line.
  2. There is a multiline comment hidden on the next lines using a command from the verbatim package I inserted at the start of this file.
  3. There is a comment hidden here, just after the comma, using the new comments command I create at the start of this file.
- 

He had submitted a bid ceiling of \$2,100 for a custom-made analog stereo amplifier, and the highest anybody else had submitted was \$1,400, so he was sure to win. disaster struck.

text that I want to box, such as a game description, goes here.

He had submitted a bid ceiling of \$2,100 for a custom-made analog stereo amplifier, and the highest anybody else had submitted was \$1,400, so he was sure to win. disaster struck.

---

$$\underset{x}{\text{Maximize}} x^2 - x \text{ or } \underset{x}{\text{Maximize}} x^2 - x$$

$$\begin{aligned} \pi_1^d &= -c + \int_0^{Eu} \left( \int_v^z (u-v)f(u)du \right) g(v) + \int_{Eu}^v \left( \int_v^z (u-v)f(u)du \right) g(v)dv. \\ (5) \quad &= -c + A_1 + A_2. \quad \left\{ \sum_{i=1}^3 x_i \left( \left( \left( \left( \right. \right. \right. \right. \right. \right. \end{aligned}$$

Equation (5) is nonsense. But so are (6) and (7).

$$(6) \quad F(x) = 3x^2$$

$$(7) \quad = 4z$$

$$(8)$$

$$\pi_i = \begin{cases} V - x_i & \text{if } T(x_i) < \text{Min}\{T(x_j), T(x_k)\} \quad (\text{Firm } i \text{ gets the patent}) \\ \frac{V}{2} - x_i & \text{if } T(x_i) = \text{Min}\{T(x_j), T(x_k)\} \quad (\text{Firm } i \text{ shares the patent}) \end{cases}$$

$$\max_x x(1-x) \quad (1-35) \quad \Delta \dot{x}, \ddot{x}$$

$$\lim_{x \rightarrow \infty} f(x) \quad \int_0^{\infty} x f(x) dx, \quad \text{not,} \quad \int_0^{\infty} x f(x) dx,$$

The two standard ways are the overline,  $\overline{U}_i$ , and the bar,  $\bar{U}_i$ . Try this:  $\bar{U}$  or try this:  $\bar{U}$ . Here is 12345 Or  $\sim$  sometimes.  $\sim$  sped is for a high tilde. For  $\tilde{\text{Tilde}}$  in text. Put  $\blacksquare$  at the end of the proof.<sup>1</sup>  
 How to make  $x_j^i$  different from  $x_j^i$ . Use  $X_i^j$  and  $X_i^j$

This also restarts the numbering to 1. Do you know that a table in on page 2?

Here is

some

Unformatted

text with & \ \ #

Variable	Minimum	25th percentile	Median	Mean	75th percentile	Maximum
Crimerate	0.56	3.48	5.36	5.97	7.76	22.08
Murderfraction	0.00	0.00	0.00	0.36	0.58	2.50
Pop	1.16	16.76	40.27	116.82	98.72	9329.99

undo the commenting to get the figure inserted.

Figure 2: Some Stuff

Table 11: IMF Aid

		Debtor	
		Reform	Waste
IMF	Aid	3,2	-1,3
	No Aid	-1,1	0,0

Payoffs to: (IMF, Debtor).

---

10pt Default 11pt Option 12pt Option

5pt 6pt 6pt

7pt 8pt 8pt

8pt 9pt 10pt

9pt 10pt 11pt

10pt 11pt 12pt

12pt 12pt 14pt

14pt 14pt 17pt

17pt 17pt 20pt

20pt 20pt 25pt

25pt 25pt 25pt

$$y = x^2 + \pi, y = x^2 + \pi, y = x^2 + \pi, y = x^2 + \pi$$

---

Left side text

right side

Left side text .....right side

---

Here's is one<sup>‡</sup> and here is a second.<sup>§</sup>Here is a third.<sup>¶</sup>

To do asterisk footnotes, do this:\*

---

## List of Figures

## List of Tables

1	The World in 1812	iii
---	-------------------	-----

---

Oranges: a fruit that Amelia likes a lot, just as she likes grapes and pickles.

Lettuce: something Amelia does not like.

This is the first line of a poem

Here is the second, hwich is so long that it runs over on to the next line, where it will  
be indented.

And here is the third.

---

The command @ kills the space between columns in a table and replaces it with whatever is in curly brackets. It can be used to cleverly align tables around decimal points, thus:

The table is on page **iii**.

---



---

<sup>‡</sup>starred note

<sup>§</sup> Daggered footnote

<sup>¶</sup>The third footnote.

<sup>\*</sup> Here is the footnote.

Variable	Mean.
X	1.234
Y	23.1
Z	1456.34567

Table 1: The World in 1812

The World...

one be due to differences,  
one to reputation the sort

---

$$\begin{aligned} De(s) &= 0 && \text{if } s < p \\ Pr(s) &= \frac{(1)g(p)}{g(p)+m(p)[1-G(s^*)]} = \frac{g(p)}{g(p)+\frac{g(p)}{G(\bar{p}_h)}[1-G(s^*)]} = \frac{G(\bar{p}_h)}{1-[G(s^*)-G(\bar{p}_h)]} && \text{if } s = p \\ (9) \quad De(s) &= 0 && \text{if } s \in (p, s^*) \\ De(s) &= \frac{m(p)g(s)}{g(p)+m(p)[1-G(s^*)]} = \frac{\frac{g(p)}{G(\bar{p}_h)}g(s)}{g(p)+\frac{g(p)}{G(\bar{p}_h)}[1-G(s^*)]} = \frac{g(s)}{1-[G(s^*)-G(\bar{p}_h)]} && \text{if } s \geq s^* \end{aligned}$$

---

## Notes

<sup>1</sup>Here it is.

December 10, 2008/Augut 1, 2009.

What is below is from

latex-rasmusen.txt

---

SCIENTIFIC WORKPLACE

Here's what to do to convert a SWP-made latex can process:

1. Delete the line `\input{tcilatex}`  
Workplace will put back in for you auto

2. Change `\frame{` to `{\tt`, which will  
where each figure was, but will allow l  
without trouble.

---

## PICTURES

Latex actually makes pretty good picture  
200x100 mm picture, with 0,0 as its bas  
in direction (1,1) and 50mm long starti

```
\begin{picture} (200,100) (0,0)
```

```
\put (0,0) {\line (1,1) {50}}
```

```
\end{picture}
```

---

## BOLD MATH

LaTeX ignores the `\bf` in stuff like `$$\bf\beta$$` to get around this. Unfortunately, it can't do this in math-mode. But you can get around this by defining each symbol you want boldfaced:

```
\newcommand{\bbeta}{\mbox{\boldmath$\beta$}}
```

This is my bold `$$\bbeta$$`, or you can do `$$\boldmath\beta$$`

`\bbeta` is bold but `\beta` is not bold

Or try this boldsymbol method:

\$\$

$\boldsymbol{5x \neq 5x}$  ; ; ;

\$\$

ROMAN TEXT INSIDE MATH

Use mbox like this:

\$\$

$x=y$  ;  $\mbox{if and only if}$  ;  $z=90$

\$\$

---

\$\$

$\bar{a}$  ; ;  $\breve{a}$

\$\$

\$\$

$\overbrace{a + b + \dots + z}$  ; ; ; ;

\$\$

\$\$

f(x) \overset {\rm def} {=} x^2 - 3

\$\$

-----

\begin{table} does tables as floats, top of pages. \begin{tabular} puts them where skipping everything and going to the next just leaving blank space behind. Thus, is an EXTRA command, though. You still this:

```
\begin{table} \begin{tabular} {ll}
```

```
  First & Second & Third\\
```

```
A new row & Has\footnotemark & New text
```

```
\end{tabular}\end{table}
```

---

## VERBATIM

`\begin{verbatim}` indicates where blank

---

## FOOTNOTES INSIDE TABLES AND MATH

Use the `\footnotemark` command to insert  
insert the footnote itself, use

```
\addtocounter{footnote}{-1}\footnotetext{  
\stepcounter{footnote}}
```

outside the table or math but trying t

\$\$

x = y\footnotemark

\$\$

```
\addtocounter{footnote}{-1}\footnotetext  
\stepcounter{footnote}
```

```
\begin{tabular}{|l|l|r|l|}  
\hline  
lattice & $d$ & $q$ & last column\footnote  
\hline  
square & 2 & 4 & 1.763 \\  
\hline  
\end{tabular}
```

```
\addtocounter{footnote}{-1}\footnotetext  
entry.  }  
\stepcounter{footnote}
```

-----



command can only be used in environment (such as `\begin{equation}`), and you can't add to a counter without having them defined somewhere. So I used TeX programming to create a counter named `\fignum` and then attach it to the command `\number\fignum` and so forth, advancing the counter in the same way as `\edef` because `\edef` inserts the value of the counter into the command while `\def` would repeat the command `\number\fignum` as written.

```
\newcount\fignum\fignum=1
```

```
\edef\1f{\number\fignum}
```

```
\advance\fignum by 1
```

```
\edef\2f{\number\fignum}
```

Example: `\1f` says this. The command `\2f` says something different. Figures `\1f` and `\2f` are different.

This is plain Tex, not Latex.

You need to write `backslash-1-f` rather than `1-f` to be sure why-- it must be that the number 1 is something special to the definition rather than the name.

You have to remember to put your definition before you use the term defined. You can't actually, but then you might forget to do so in the order of the diagrams.

I think you can advance the `fignum` variable to whatever you want to.

---

BIBTEX.

I'm not sure if this is worth using with MikTeX.

1. For your file `myfile.tex`, construct `myfile.bib` with a bunch of entries like

be in alphabetical order:

```
@article{hotelling:1929:ej,  
  author = {Hotelling, Harold},  
  journal = {Economic Journal},  
  month = {mar},  
  number = {153},  
  pages = {41--57},  
  publisher = {Royal Economic Society},  
  title = {Stability in Competition},  
  volume = {39},  
  year = {1929}  
}
```

You can do this from Google Scholar by [clicking on the "Cite" link](#) and checking off towards the bottom the ["Google Scholar" link](#). After you set your preferences, I [click on the "Google Scholar" link](#) for each item a Google Scholar

2. Pick a style file such as `econometri` or `myfile.bib` file into the same directory

3. Wherever you want the references in

```
\bibliographystyle{econometrica} %needs
folder
\bibliography{myfile} %needs myfile.bi

\nocite{*}
```

The nocite command makes sure that all file get put into the references. Other bibtex commands get put in. The bibtex commands to remember and make reading I don't think I'll use them.

4. Change the name of myfile.tex to pla
5. Run myfile through pdflatex. That
6. Run myfile through bibtex. That will econometrica.bst and myfile.bib to crea also myfile.bbl, the bibliography forma
7. Run myfile through pdflatex again.

---

## DATES

Put the last revision date of a paper  
1998.

Also, put the commands "pdf'd \today".

---

## SPACES

A single backslash \ will make sure that  
after a word. This is useful after a pe  
sentence, e.g. in Mr. \ Jones, so there  
period.

For a negative space in math mode, use

\hfill and \vfill both put space in up  
borders. Thus, Top of page \vfill Botto

entire page, with blank space in the mi

The command `\sim` is supposed to prevent a

`\mbox` and `\fbox` make boxes without and  
together. There can't be a line break i  
box. For a box that spans multiple line  
what is inside.}

-----  
`\BEGIN{CASES}` FOR EQUATIONS WITH SEVE

This will be useful. It puts a big cur  
sign to enclose the various cases that

```
\begin{equation*}
|x|=
\begin{cases} x & \text{if } x=0, \\
\\
-x & \text{if } x \le 0. \end{cases}
\end{cases}
\end{equation*}
```

-----

Here is a table with partial hrule, using columns 2 and 3, not going all the way partial vrules too.

```

\begin{tabular} {lcc}
  & Radon & Unexposed \\
  & & \\
\cline{2-3}
  & \multicolumn{1}{|c|}{ } & \multicolumn{1}{|c|}{ } \\
  Cancer & \multicolumn{1}{|c|}{\$ \theta } \\
\$} \\
& \multicolumn{1}{|c|}{\$ \theta P (cancer| \\
n(unexposed) \$ } \\
  & \multicolumn{1}{|c|}{ } & \multicolumn{1}{|c|}{ } \\
\cline{2-3}
  & \multicolumn{1}{|c|}{ } & \multicolumn{1}{|c|}{ } \\
  Healthy & \multicolumn{1}{|c|}{\$ \gamma P } \\
} & \multicolumn{1}{|c|}{\$ \gamma P (hea \\
\cdot n(unexposed) \$ }

```

```
& \multicolumn{1}{|c|}{ } & \m  
\cline{2-3}  
\end{tabular}
```

---

## COMMENTS.

There are three ways to do comments in

1. The standard way to do comments put  
the line after it is commented out:

First I have some input, like  $y = x^2$

2. If you put `\usepackage{verbatim}` at  
do multiline comments like this:

```
\begin{comment}  
Here is the first line of the comment  
Here is the second line.  
Here is the third.  
\end{comment}
```

3. If you put `\newcommand{\comments}[1]{`

you

can have the best way of all:

Say  $y = x^2 + \beta$ . `\comments{Here is  
4\phi}`.

Note that if you use `\usepackage{verb}`  
command that makes everything after it  
you write:

`\comment{Here is what I wanted to be my  
writing for my paper}`.

Then not only will the words in the bra  
words after the brackets and on the nex

---

## SPECIAL EQUATION NUMBERING

CURRENT WAY: Put a star after the equa  
numbering, like `\begin{equation*}`... `\e`  
you do that, you can put `\tag{A1}` on a

label as equation (A1) (It adds the par  
`\notag` so there is no equation number  
you can refer to later, put in `\label{A1}`  
to it as equation `\eqref{A1}`, which com  
that `\eqref` puts in the parentheses aut

`\align` replaces `\array`, they say.

HERE IS AN OLD WAY To put in your own e  
changing the standard ordering, do this  
of your equation (after the `\end{array}`)  
to use `$$`, not `\begin{equation}`.

```
$$ \label{e1-35}
    f(x) = x^2+34 \eqno{(1-35)}
$$
```

---

```
\usepackage{hyperref}
```

```
\hypersetup{breaklinks=true,  
pagecolor=white,  
colorlinks=true,  
linkcolor= blue,  
hyperfootnotes= true,  
urlcolor=blue  
}
```

```
\urlstyle{rm}
```

```
%so it doesn't use a typewriter font
```

```
\url{
```

```
http://ihome.ust.hk/~tanjim/verylongadd
```

```
xzxzx
```

```
zxzxsqut_high.pdf}
```

This will use the package hyperref, and  
`\url{sdfd}` into a link, as well as `display`  
`color` (which will look grey when printed).  
address sensibly across lines. The web  
underscore without special control characters.  
tex. Also, references to footnotes, page numbers,  
other `\ref{sdf}` will be links to the

reference to use the correct counter b  
`\ref*{label}` or `\pageref*{label}`.

The manual for hyperref is at:

<http://www.tug.org/applications/hyperref>

`\url{sdfd}` is a separate macro though,  
you don't use hyperref (but you want t  
sensibly, and be able to use underscore

---

## VARIOUS LITTLE COMMANDS

`\pagenumbering{roman}` This also restar

`\not\exists` for an exists symbol with a

A special little extra space is proper  
\$\$

$\int_0^\infty x f(x) dx$ ; not;  
\$\$

To put the limits of the integral above  
rather than at the sides of the top and  
\$\$

$\int\limits_0^1$   
\$\$

I should use notation like  $\dot{x}$  a  
 $\dotfill$  for a long line of dots.

UNDERSCORE, UNDERLINE  $\_$  is ok, no mat

$\begin{verbatim}$

---

---

## ENDNOTES

xxxUsepackageendnotes <sup>2</sup> At the end of the document, put

Notes

<sup>2</sup>Here it is.

to have them print out.

This is for use with the ENDNOTES package.

---

---

## REFERENCE LISTS GOING OVER SEVERAL PAGES

For reference lists, use

Rasmusen, Eric (1980) A Book.

That will generate a list with the first word (Rasmusen) off to the left a bit and the rest indented from it.

If I have a long document, sometimes long multi-

page lists go crazy in latex and won't put in a page-break at the right spot. The solution is to break off the list as a separate document, say, list1.tex. Use `\startpage` to start it at page 522. If there are labels such as page numbers that are needed, they will be in a \*.aux file in the main document. Copy that \*.aux file to the preamble, before `\begin{document}`, of the list1.tex document.

---

## INDEXING

To tag index main entries, i.e. if the work 'Likelihood' tag as next to that word.

For index subentries, use an exclamation point and tag as:

“In some respects the Bayesian formulation is the simpler and in other respects the more difficult.”

Put these commands at the start: `xxx usepackage makeidx xxxmakeindex`

Then use the \*.idx file that is created

`xxxindexentrywords!and|hyperpage1 xxxindexen-`

tryexisting|hyperpage1

to generate something like this:

```
xxxbegintheindex
```

```
xxxitemextendxxxhfill3 xxxitemextension problemxxxh-  
fill3 xxxitemextension of a mapxxxhfill3
```

```
xxxitemhomotopicxxxhfill5 xxxitemhomotopyxxxh-  
fill5
```

```
xxxendtheindex
```

I have an examples of tex input and pdf output,  
with different and better instructions, at

<http://www.rasmusen.org/a/sample-index.tex> and  
<http://www.rasmusen.org/a/sample-index.pdf>

A good reference is:

“MakeIndex: An Index Processor For LaTEX” by  
Leslie Lamport 17 February 1987 <http://tex.loria.fr/bibdex>

Here is an example of how to create an italicized  
index entry. This puts the entry “xxxit Producers–  
The” at the location “producers” would have in the  
index.

The next game, inspired by Mel Brooks’s offbeat

film xxxit The Producers xxxindexproducers@xxxit  
Producers– The, illustrates a peculiarity of optimal  
contracts

My second way to do indexes, the less intelligent  
way (because it will repeat page numbers if more  
than one xxxlabel is on one page, and it won't  
alphabetize) is to just put xxxlabeltermtoindex in  
the text, and xxxpagereftermtoindex in the index.  
Check to see if a label is assigned more than once,  
by mistake. To do that, you can look at the latex  
processing log in \*.log, or you can look at the \*.aux  
file and it will list all the page numbers assigned to  
a label.

---

—- SHADED TABLES:

```
xxxusepackage[table,x11names,svgnames]xcolor
```

```
xxxrowcolors2black!10black!5
```

```
xxxbegin{tabular} | lllll xxxhline xxxrowcolorblack!25
```

```
Variable zzz Minimum zzz 25th percentile zzz Me-  
dian zzz Mean zzz 75th percentile zzz Maximumxxxxxxx  
xxxhline xxxhline Crimerate zzz 0.56 zzz 3.48 zzz  
5.36 zzz 5.97 zzz 7.76 zzz 22.08xxxxxxx Murderfrac-
```

tion zzz 0.00 zzz 0.00 zzz 0.00 zzz 0.36zzz 0.58 zzz2.50xxxxxx  
Pop zzz 1.16 zzz 16.76 zzz 40.27 zzz 116.82 zzz 98.72  
zzz9329.99xxxxxx xxxhline xxxendtabular

---

## HYPERLINKS FROM PDFs

usepackage[bookmarks=true,bookmarksopen=true,colorlinks=  
true,urlcolor=red!60!black,linkcolor=blue!80,pdfview=fit,bookmarksopen=  
hyperref

xxxhrefmailto:erasmuse@indiana.eduerasmuse@indiana.edu

xxxurlhttp://www.rasmusen.org

---

## DIAGRAMS

Diagrams: use alt-PRINT SCREEN to do a screen capture and use PAINT to make a JPG. Or, use powerpoint, and SAVE AS a jpg file.

In miktex, diagrams are simple. Just insert:

xxxbeginfigure xxxcentering xxxincludegraphics[width=8cm]{  
xxxcaptionFigure 2: Pointwise and Extremum Risk-

iness xxxendfigure

or even just

```
xxxincludegraphics[width=80mm]options2.jpg
```

To get the caption not to automatically number, use:

```
usepackagecaption xxxcaptiondelimxxxrenewcommandxxxthefigure xxxrenewcommandxxxfigurename
```

The following is useful to get figures put on the same page with text instead of off on their own pages.

```
xxxrenewcommandxxxfloatpagefraction.9 xxxrenewcommandxxxfracfraction.9 xxxrenewcommandxxxbot-  
tomfraction.9 xxxrenewcommandxxxfracfraction.1 xxxset-  
countertotalnumber50 xxxsetcountertopnumber50 xxxset-  
counterbottomnumber50
```

---

POWERPOINT

<http://www.ecs.soton.ac.uk/~srg/softwaretools/presentation/TeX4PPT/> This is the best of the two tex power-

point programs. Free, and easy to install. Needs Powerpoint 2002.

---

## USING SUBSCRIPTS AND SUPERSCRIPTS TOGETHER

How to make  $x_j^i$  different from  $x_j^i$ .

$X_i^{xxxphantomij}$  and  $X_{xxxphantomji}^j$ ?

<A HREF=" <http://www.cse.iitd.ernet.in/~anup/homepage> ">"Some useful tips and tricks in LaTeX".</A>

---

## INTEGRALS AND PRODUCTS AND SUMMATIONS

Q: If I use a xxxprod or xxxint with small

with the sub/superscripts alongside rat

Answer:

`xxxfrac{xxxdisplaystyle xxxint_a^b dx f`  
`^{xxxinfty} a_i}`

`<A HREF=" http://www.cse.iitd.ernet.in/`  
`">"Some useful tips and tricks in LaTeX`

More generally:

---

## TILDES

FOR WIDE TILDE ON TOP OF SOMETHING: `xx`

FOR TILDE IN TEXT, NOT on top of someth  
use in URL's.

`xxxtextasciitilde` is for a high tilde  
midlevel tilde.

For Tilde in text, on top of the next 1

---

PUTTING THINGS ON THE SAME PAGE (Does

Put `xxxbegin{samepage}...xxxend{samepage}`

`<A HREF=" http://www.cse.iitd.ernet.in/`  
`">"Some useful tips and tricks in LaTeX`

---

MAXIMIZING F (X) BY CHOICE OF X

\$\$

{Maximize xxxatop x }  $x^2-x$

\$\$

\$\$

{Maximize xxxatop xxxscriptstyle{x}  
%Tthe scritpstyle is too small, really.  
\$\$

---

## BRANCHING "IF" DEFINITIONS

Sometimes I want to use a big bracket  
Y xxxgeq 3.  
Here's the style for that:

```
xxxbegin{tabular}{ll}
  $ xxxpi_i = $zzz $xxxleftxxx{ xxxbegin{
    $V-x_i$ zzz if
    $T(x_i) < Minxxx{ T(x_j, T(x_k) xxx} $
    zzz zzz xxxxxx
    $xxxfrac{V}{2} - x_i$ zzz if $T(x_i) =
    $i$ shares
    the patent
    xxxxxx
  xxxend{tabular} xxxright.$xxxxxxx
```

```
xxxend{tabular}
```

---

PROOF END SYMBOL

At the start, have:

```
usepackage{graphicx}
```

```
usepackage{amsmath}
```

```
xxxusepackage{amssymb}
```

Then put `$xxxblacksquare$` at the end of

---

FORMAT FOR A TWO-BY-TWO GAME

```
xxxbegin{center} {xxxbf Table 11: IMF A
```

```
xxxbegin{tabular}{lllccc} zzz
```

```
zzzxxxmulticolumn{3}{c}{xxxbf Debtor}xx
```

```

    zzz          zzz          zzz Reform          zzz
zzz  zzz  Aid          zzz          3,2          zzz
zzz  {xxxbf IMF}          zzz          zzz
zzz  zzz  No Aid          zzz  -1,1          zzz
zzz          zzz          zzz          zzz          zzz
    xxxmulticolumn{6}{l}{xxxit Payoffs to
xxxend{tabular}xxxxxx
xxxend{center}

```

---

## RAGGEDRIGHT, LEFT JUSTIFICATION

The tex default is to right- and left-very professional. I just read, though, actually slows down reading compared to people are not used to the diverse spac is required for uniform margins on both looks better for working papers, I thin

The command for that is

```
xxxbegin{raggedright}
```

```
xxxparindent 24pt
```

```
xxxparskip 10pt
```

```
xxxend{raggedright}
```

You need to put the parindent and parskip  
begin{raggedright}

---

## PROCESSING TEX

The free Miktex (<http://www.miktex.org/>) looks to be an excellent processor program. I've been using SWP, to work better in Miktex. Miktex gets PDF, SWP does not always do, and it processes myfile.pdf. On the other hand, it has some features which make it unhandier to use.

I think I've found the best solution.

in CONFIGURE-PREFERENCES. Choose ADD, then  
`pdflatex \file`

(1) I have a suggestion for the start of the manual. I can say more about the Windows command prompt in the next few years, though I happened to remember it in the last few years. A user should know that he can change the command prompt to wherever he keeps his files. For example, `d:/smith/latex-input`, using the Properties dialog box (by clicking the command prompt).

(2) The command prompt requires you to type the full path, which is burdensome if they are long, e.g.,

```
pdflatex D:\xxx_homexxx_HomeWDxxxINCOMINGxxxFIGUREC
```

You can't copy and paste in the usual way, but you can do, though it is to copy to the clipboard and paste by rightclicking on the Command Prompt icon. Then PASTE.

I will put a comment line like this at the end of the manual.

```
% pdflatex chap07_MoralHazard.tex
```

then I can copy all but the % part and prompt, and it will process chap07\_MoralHazard.tex and produce chap07\_MoralHazard.pdf

(3) Something better would be a graphical command prompt. I don't know how to write it, but here is what it would be: It would be simple enough that a user could do two things:

1. Browse and choose a tex file to process, e.g. myfilewithalongname.tex, instead of having to type the command prompt, and instead of having to specify the prompt's directory.

2. Issue the processing command--- most likely "pdflatex myfilewithalongname.tex", or "pdflatex" if the user is useful. There should be two to five choices in a box of the command he wants to use.

The command would take the file from the same directory as the input.

The interface could be fancier, but t every single time he uses Miktex, and i typing.

(4) Miktex is fouled up by carriage ret hard breaks. Thus, before I tex my file all the carriage returns, thus making a separated into separate lines for visib paragraphs

With the help of Alan, I solved this p save my file as DOS or UTF-8 instead of

---

SIZING

PRODUCTS

Use xxxprod, NOT xxxPi , with {xxxdi xxxprod\_1^3} if necessary.

THE LARGE CURLY BRACKET:

`xxxleftxxx{`

THE LARGE SUMMATION SIGN: Use `xxxsum`, `xxxsum_1^3` if necessary.

For integrals, to get them in the large in text use `{xxxdisplaystyle xxxint_0^`

```
xxxbegin{array}{ll}
  xxxpi_1^d   zzz = {xxxdisplaystyle -c
v)
f(u) du xxxright) g(v) + xxxint_{Eu}^v
xxxright) g(v) dv. }xxxxxx zzz xxxxxx
  zzz= -c + A_1 + A_2. xxxxxx
xxxend{array}
```

To change size of any operator like {

commands

xxxbig

xxxBig

xxxbigg

xxxBigg

For example, xxxbigg| These command ar

This

is especially good for |, since it can  
subscripts

properly then, unlike with xxxleft|

---

EQUATION ARRAYS

xxxbegin{eqnarray}

F(x) zzz= zzz3x^2xxxxxx

zzz zzz xxxnonumber xxxxxx

zzz =zzz 4z

```
xxxend{eqnarray}
```

Use `xxxbegin{eqnarray}`\* to not have an  
always 3 columns. The newer versino of  
`xxxbegin{align}...xxxend{align}`, which  
looks better and handles long equations  
doesn't get overwritten.

---

## PAGE HEADERS

```
xxxpagestyle{myheadings}  
xxxmarkboth { Ramseyer-Rasmusen }{ R
```

OR,

```
xxxpagestyle{myheadings}  
xxxmarkboth { } {$xxx;xxx;xxx;xxx;xx  
xxx;  
xxx;xxx;xxx;xxx;xxx;xxx;xxx;xxx;xxx;xxx
```

```
xxx;
xxx; xxx; xxx; xxx; xxx; xxx; xxx; xxx; xxx; xxx;
xxx;
xxx; xxx; xxx; xxx; xxx; xxx; $
Lyon and Rasmusen }
```

```
% these two things in conjunction put
right of each page, with "Lyon and Rasm
```

-----

## EQUATION STYLES

```
documentclass[12pt, epsf, leqno, fleqn]{
```

This is for left equation numbering  
equations but rather putting them toward  
from the margin. documentclass is always  
because it permits packages to be used.

---

DOUBLE SPACING

```
xxxbaselineskip 24pt
```

This goes AFTER Begin Document.

---

```
xxxpagestyle{empty}
```

This last command will remove page number before the Begin Document)

---

```
xxxtopmargin -1.5in
```



## TYPE FONT SIZES

By default, LaTeX uses 10pt Computer  
You can change this base font by using  
on the documentclass line like this:

```
xxxdocumentclass[11pt]{article}
```

	10pt	Default	11pt	Opti
xxxtiny		5pt		6pt
xxxscriptsize		7pt		8pt
xxxfootnotesize		8pt		9pt
xxxsmall		9pt		10pt
xxxnormalsize		10pt		11pt
xxxlarge		12pt		12pt
xxxLarge		14pt		14pt
xxxLARGE		17pt		17pt

xxxhuge	20pt	20pt
xxxHuge	25pt	25pt

DIFFERENT FONTS: But these do not rely on  
{xxxxsf sans serif. Christianity depends on  
{xxxtt typewriter. might occur. }  
{xxxrm Roman. Christianity depends on a

I like the palatino font better than Times  
package that uses it, and which uses Helvetica  
font: xxxusepackage{mathpazo}

For cursive font, use the pbsi package  
this.}

```
usepackage[T1]{pbsi}
```

## MATH FONTS

These are different from the others (L

xxxtextstyle - default in the running  
xxxdisplaystyle - default for disp  
xxxscriptstyle - default for first  
xxxscriptscriptstyle - default for  
superscripts

---

"Left side text xxxhfill right side"

The hfill command is good for putting

" ~ xxxhfill right side"

The tilde ~ can be used for a space.  
think xxxquad or xxxxxxquad works better  
intelligent and makes the space a nice-

---

FOOTNOTES WITH SYMBOLS

This will make the first footnote an dagger, and then goes back to the default, nubmers,

```
xxxrenewcommand{xxxthefootnote}{xxxfnsty
```

```
Here's is onexxxfootnote{starred note}
second.xxxfootnote{Daggered footnote}
```

```
xxxrenewcommand{xxxthefootnote}
xxxsetcounter{footnote}{0}
```

To do asterisk footnotes, use the com

```
Here is the text*xxxfootnotetext{$
footnote}.
```

-----

FOR OVERHEADS AND HANDOUTS

```
xxxreversemarginpar
```

```
xxxtopmargin -1in
xxxoddsidemargin -.25in
xxxtextheight 8.7in
xxxtextwidth 7in
xxxpagestyle{empty}
```

---

## LISTS

```
xxxlistoffigures
xxxlistoftables
```

```
xxxbegin{description}
xxxitem[Oranges:] a fruit that Amelia likes,
grapes and pickles.
xxxitem[Lettuce:] something Amelia does not like
xxxend{description}
```

```
xxxbegin{verse}
```

```
  This is the first line of a poemxxxxxx  
  Here is the second, hwich is so long t  
to the next  
line, where it will be indented.xxxxxxx  
  And here is the third.xxxxxxx  
xxxend{verse}
```

---

```
xxxbegin{comment}% I need to have xxxus  
  This is a comment.  
xxxend{comment}
```

---

```
The table is on page xxxpageref{t1}.  
%This prints the page number where la
```

---

{xxxit Here is some italics but with xx  
Roman.} I can also use the same comma  
middle of Roman words.

---

Use  $\$xxxBeta\$$  in tex, rather than  $\$B\$$ ,  
easily later.

---

<http://www.mackichan.com/>

Here is how to make a tex DVI file  
postscript file:

```
dvips 9.dvi -Z -o myfile.ps
```

The -Z compresses it. The postscript f

(394K from  
70 K, for example, with 3 diagrams). The  
about 40  
percent, I think, and it will still piri

TO TURN A DVI FILE INTO AN ASCII FILE

```
uuencode 9.dvi 9.dvi> negot.asc
```

-----

The command @{} kills the space between  
replaces it with  
whatever is in curly brackets. It can be  
around  
decimal points, thus:

```
xxxbegin{table} [! h] %This puts the ta  
floating.  
Or just try:
```

```
xxxbegin{table} [h]
```

```
xxxbegin{table} [! h t] %This puts the  
xxxbegin{figure} [! b f] %This puts it a  
float page.
```

```
xxxbegin{table} [!b] xxxlabel{t1}  
xxxbegin{tabular} {l r @{.} l}  
Variable zzz Meanxxxxxx  
X zzz 1 zzz 234xxxxxx  
Y zzz 23 zzz 1xxxxxx  
Z zzz 1456 zzz 34567xxxxxx  
xxxend{tabular}
```

---

```
xxxcaption{The World in 1812} %This will
The World...
xxxend{table}
```

-----

(I Haven't tried this)

I need to write large tables that span environment but found out that it put most of the text going down the drain, Is there a way of doing this smoothly, large table into smaller ones that would page each? Answer: For LaTeX2e: You should use `supertab.sty` or `longtable.sty`, both can

`/usr/um/generic/tex3.141/latex2e/toc`

with documentation in:

`/usr/um/generic/tex3.141/latex2e/toc`

in the form of .dtx and .dvi files, you  
files, or simply look at the .dvi files

---

## PACKAGES

To put in a package: All packages are  
am not sure if I can put a new one in w  
will get read in. Tha owrked at the off  
a0poster. I can just use ADD to get ve

A0poster is good for large font sizes.

```
documentclass[article ]{a0poster}  
usepackage{a0size}
```

---

In TEXTPAD, hard breaks are put in, s  
awkward places, so I may have to do som  
commands do not get cut across lines.

---

The easiest way to get headings of funn  
in the table of contents is to use the  
in Appendix C of the LaTeX manual. For

```
xxxsetcounter{secnumdepth}{-1}  
xxxchapter{Preface}
```

Of course, you have to set secnumdepth  
is 2 in the standard styles) before you

want to be numbered.

Similar settings are made automatically  
`xxxfrontmatter` and `xxxbackmatter` commands.

This is why it works: `xxxchapter` without

- 1.put something in the `.toc` file;
- 2.if the `secnumdepth` counter is greater than the current depth,  
increase the counter for the chapter and
- 3.write the chapter title.

-----

From the NoT os short intro to Latex

```
xxxinclude {chap2.tex, chap2.tex, chap3.tex}
```

```
xxxincludeonly{chap2.tex} %This means c
```

included.

This does not work in SWP.

---

For packages:

<http://www.ctan.org/tex-archive/help/Ca>

```
usepackage{boxedminipage}
xxxbegin{boxedminipage}[c]{0.6 xxxlinewidth
text that I want to box, such as a game
xxxend{boxedminipage}
```

---

ADVICE TO BEGINNERS

Do not use commands like `xxxsection{some}` reading the ms, this means you cannot see the theorem. It is easier, for articles as `boldface` and `noindent` directly.

---

```
xxxbegin{tabbing}
  % set the tab positions
  xxxhspace {1in} xxx=    xxxhspace {1in}
xxxxxx
  one   xxx> be xxx>    due to xxx> differ
  one   xxx> to xxx> reputation xxx> the
xxxend{tabbing}
```

---

MY STANDARD FORMATTING HEADER:

```
documentclass[12pt,epsf]{article}
  usepackage{mathpazo} % for palatino font
  usepackage{verbatim} % for xxxbegin{code}

  usepackage{ccaption} xxxcaptiondelim{}
xxxrenewcommand{xxxfigurename}{} %for g

xxxrenewcommandxxxfloatpagefraction{.9}
xxxrenewcommandxxxftopfraction{.9}
xxxrenewcommandxxxftbottomfraction{.9}
xxxrenewcommandxxxfttextfraction{.1}
xxxsetcounter{totalnumber}{50}
xxxsetcounter{topnumber}{50}
xxxsetcounter{bottomnumber}{50}

  usepackage{hyperref} xxxhypersetup{break
colorlinks=
true, linkcolor=black, hyperfootnotes=
xxxurlstyle{rm}

  usepackage{graphicx} %for pictures
```

```
usepackage { amsmath }
```

```
usepackage { amsymb }
```

```
xxxreversemarginpar
```

```
xxxtopmargin -.3in
```

```
xxxoddsidemargin -.1in
```

```
xxxtextheight 8.5in
```

```
xxxtextwidth 7in
```

```
xxxbaselineskip 16pt
```

```
begin { document }
```

```
xxxtitlepage
```

```
xxxbegin { raggedright }
```

```
xxxparindent 24pt
```

```
xxxparskip 10pt
```

adsfqdfadfasdfasdfsaf

```
xxxend{raggedright}  
end{document}
```

---

[http://www.usq.edu.au/users/leis/notes/  
diagram\\_instructions](http://www.usq.edu.au/users/leis/notes/diagram_instructions).

times Times, Helvetica, Courier  
pslatex same as Times, but uses a speci  
preferred  
over Times because of the way it handle  
newcent New Century Schoolbook, Avant G  
palatino Palatino, Helevelvetica, Courier  
palatcm changes the Roman to Palatino c

Small Capitals `xxxtextsc{words to be in`  
puts the words  
in the  
brackets in small capitals

`xxxtextsl{words to be slanted}`

<http://www.image.ufl.edu/help/latex/for>

---