LaTeX reference

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- https://www.sharelatex.com/learn/Main_Page
- http://texdoc.net/texmf-dist/doc/latex/lshort-english/lshort.pdf
- http://texdoc.net/texmf-dist/doc/latex/titlesec/titlesec.pdf

Contents

Types of documents

```
\documentclass{article}
\documentclass[twoside]{article}  % two-sided document (affects page-numbers)
```

Units

`px` pixels, depends on browser, use for electronic media
`pt` points, use in print media
`em` *Horizontal* size, 1em is equal to the font size of the text.
`ex` *Vertical* size, 1ex is equal to the height of the letter 'x' in the relevant font (usually).

Spacing

http://www.terminally-incoherent.com/blog/2007/09/19/latex-squeezing-the-vertical-white-space/

Margins

1. Sides (odd- and even-numbered pages):

   ```
   \addtolength{\oddsidemargin}{-0.875in}
   \addtolength{\evensidemargin}{-0.875in}
   \addtolength{\textwidth}{1.75in}
   ```

2. Top/bottom:

   ```
   \addtolength{\topmargin}{-0.875in}
   \addtolength{\textheight}{1.75in}
   ```

A better way (both do the same thing; can customize the second a little more):

- `\usepackage{fullpage}`
- `\usepackage[margin=1in]{geometry}`

```
\geometry{paperwidth=140mm, paperheight=105mm}

\usepackage{changepage}
\begin{document}
\begin{adjustwidth}{<left>}{<right>}
    ...
\end{adjustwidth}

\newenvironment{changemargin}[2]{%
 \begin{list}{}{%
  \setlength{\topsep}{0pt}%
  \setlength{\leftmargin}{#1}%
  \setlength{\rightmargin}{#2}%
  \setlength{\listparindent}{\parindent}%
  \setlength{\itemindent}{\parindent}%
  \setlength{\parsep}{\parskip}%
 }%
\item[]}{\end{list}}
```

This environment will indent the left and right margins by the values given.

Leave sections and headers alone, and reduce the margins of regular text? Increase subsection margins halfway.

Horizontal space

- `\setlength{\parindent}{0m}` Set indent for new paragraphs
- `\hspace` horizontal space
- `\hspace{20 mm}` horizontal blank space equal to 20 mm
- `\hfill` Pad with horizontal space to end of line
- `\noindent` self-explanatory

Vertical space

- `\setlength{\parskip}{0.5ex}` Set spacing between paragraphs
- `\vspace{}` vertical space
- `\renewcommand{\baselinestretch}{1.5}`
  This changes the spacing for everything in the document, including footnotes and tables.
- `\usepackage{setspace}...\setstretch{1.5}`
  Can apply this to only part of text?
- `\usepackage[doublespacing]{setspace}` Same as previous option?

Breaking up text (or preventing it)

- `\\` Force line break
- `\newpage` Jump to a new page after previous section
- `\clearpage` ?
- `\begin{samepage}... \end{samepage}` Keep something from being split by a page break.

Headers and footers

In preamble:

```
\usepackage{fancyhdr}
\pagestyle{fancy}
\setlength{\headheight}{15pt}
\lhead{text} % Top left
\rhead{text} % Top right
\chead{text} % Top center
\lfoot{text} % Bottom left
\rfoot{text} % Bottom right
\cfoot{text} % Bottom center
```

The `\headheight` option sets the amount of space between the header and the top edge of the paper. Value has to be greater than 13.6, otherwise will get an error message. Document still compiles, but better safe than sorry.

To change location of page numbers:

```
\fancyhf{}  % Clear all headers and footers (including default page number).
\renewcommand{\headrulewidth}{0pt} % remove the header rule
\rfoot{\thepage}
\lfoot{\thepage}
```

Text alignment

Horizontal alignment

```
\usepackage{ragged2e}
```

- `\begin{flushright}...\end{flushright}`
- `\begin{center} ... \end{center}`
- `\begin{justify} ... \end{justify}`
- `\centering`

The last bullet can be used inside the figure environment, whereas begin/end center is its own environment, and can't be. `\center` is not a thing.

Vertical alignment

`[ctb]` Options like this will center at top, center, bottom, etc. Actually this usually doesn't work.

Fonts

- https://www.tug.org/pracjourn/2006-1/schmidt/schmidt.pdf
- https://en.wikibooks.org/wiki/LaTeX/Fonts

```
\usepackage{lmodern}
\renewcommand*\familydefault{\sfdefault} % Only if the base font of the document is to be sans serif
\usepackage[T1]{fontenc}
```

Font that applies to entire doc.

Font size

```
\documentclass[12pt]{article}
\documentclass[11pt]{article}
\documentclass[10pt]{article}
```

10pt is the default font size.

```
\fontsize{<font size>}{<line size>}
```

Not entirely sure how this works yet.

```
\Huge
\huge
\Large
\large
\normalsize
\small
\footnotesize
\scriptsize
\tiny
```

Example:

```
{\Large I want this text to be big.}
```

I want this text to be big.

(enclosing entire thing in `{}`s keeps from having to use `\normalsize` at the end).

Font style

Modal

```
\mdseries
\bfseries
\upshape
\itshape
\scshape
\slshape
\rmfamily
\sffamily
\ttfamily
```

These don't read text as an argument, and can somehow be used in the verbatim environment?

Textblock

```
\textbf{bold}
\textit{italics, for quotes or titles}
\texttt{computer style}
\textsf{sans serif}
\textsl{slanted}
\textsc{Small caps}
\emph{This text is also in italics, for emphasis}
\underline{This text is underlined}
```

bold
italics, for quotes or titles
`computer style`
sans serif
slanted
Small caps
This text is also in italics, for emphasis
This text is underlined

Sections

https://www.sharelatex.com/learn/Sections_and_chapters#Numbered_and_unnumbered_sections

```
\section{My First Section}
\subsection{My Subsection}
\subsubsection{A subsubsection}
\paragraph{text}
\subparagraph{text}
```

Paragraphs are not numbered or followed by a line break. Note that `\paragraph{}` and `\par` are not the same thing. `\par` does the same thing as a blank line.

Space around section titles

```
\titlespacing*{command}{left}{before-sep}{after-sep}[right-sep]
\titlespacing*{\section}{-0.50in}{0pt}{0pt}
\titlespacing*{\subsection}{-0.25in}{0pt}{0pt}
```

Font size and style

Here is some text.

```
\usepackage{titlesec}
\titleformat*{\section}{\LARGE\bfseries}
\titleformat*{\subsection}{\Large\bfseries}
\titleformat*{\subsubsection}{\large\bfseries}
```

Color

```
\usepackage{sectsty}
\sectionfont{\color{blue}}
\subsectionfont{\color{blue}}
\subsubsectionfont{\color{blue}}
```

Labels

```
\renewcommand{\thesection}{Text \arabic{section}}   % Text in front of label
\renewcommand{\thesection}{\Roman{section}}         % Roman numerals
\setcounter{secnumdepth}{0}                         % Depth to be labelled
```

Setting this to 1 would number sections only, setting it to 2 would number sections and subsections, but not subsubsections, etc.

Referring to sections in text using section labels

```
See section $\S$\ref{data} for the data description.
...
\subsection{The Data}\label{data}
...
```

May need to run `pdflatex` twice for this to take effect.

Table of contents

`\tableofcontents` wherever you want it to go. You will have to run `pdflatex` twice.

In preamble: `\setcounter{tocdepth}{n}` where `n` is the number of levels deep to go, e.g. 1: sections, 2: sections and subsections, etc.

Some sections, like those with '*' won't be included. To add them: Syntax: `\addcontentsline{type}{section_level}{entry}` Example: `\addcontentsline{toc}{section}{Preface}`

To change space between items in toc:

```
\usepackage{setspace}
...
\begin{document}
\addtocontents{toc}{\protect\setstretch{n}}
```

where n is between 0 and 1? Set to fraction of default? "protect" has something to do with "fragile" things.

Include figures and tables:

```
\listoffigures
\listoftables
```

Note that the figure and table environments need to be used.

Two columns:

```
\usepackage[toc]{multitoc}
\renewcommand*{\multicolumntoc}{2} # but 2 is the default...?
\setlength{\columnseprule}{0.5pt}
```

Lists

- ftp://ftp.nsu.ru/mirrors/ftp.dante.de/tex-archive/macros/latex/contrib/enumitem/enumitem.pdf
- https://www.ntg.nl/maps/11/33.pdf
- https://www.sharelatex.com/learn/Lists#Reference_guide
- http://ctan.mirrors.hoobly.com/macros/latex/contrib/enumitem/enumitem.pdf
- http://www.troubleshooters.com/linux/lyx/ownlists.htm

New (unorganized) stuff: "Label" refers to the bullet, number, or description item.

```
\setlist[enumerate]{font={\bfseries}}% global settings, for all lists
\setlist[enumerate,1]{label={(\arabic*)}}
\setlist[enumerate,1]{label={(\roman*)}}

% Change bullet size. Not sure what the difference is between the two.
\renewcommand{\labelitemi}{$\vcenter{\hbox{\tiny$\bullet$}}$}
\renewcommand{\labelitemi}{{\tiny$\bullet$}}

% Make your own list
\begin{list}{default_label}{decls}
    default label: Text to be used as a label (leave blank if none desired)
    decls: geometrical parameters
```

In preamble:

```
\usepackage{enumitem}
\setlist[<typeoflist>,<n>]{<options>}
```

`typeoflist` can be itemize, enumerate, description, etc. `n` is the nested level (1 for top level). Options are as follows:

Horizontal spacing

`labelindent` Used, but not described...

`rightmargin` Change right margin of description text.

`leftmargin` Distance from the left edge of the current environment (leftmost edge of labelwidth) to the left margin of the item label (not text?). Remember, environments can nest. Defaults to 0. Can only make this so big, eventually text doesn't move anymore. Need to figure out exactly what all this is doing. Pretty sure this only affects multi-line descriptions (the text NOT on the same line as the label).

`listparindent` The indent of the first line of each paragraph in an item, except for the first paragraph of an item. If you're pressed for vertical space and want to decrease interparagraph spacing within items while still giving the user cues as where new paragraphs begin, this is the way to do it.

`labelwidth` Width allotted to the label. This should be equal to or greater than the longest *expected* label. Good for lining up text when labels are left-aligned.

`labelsep` The distance between the rightmost part of the label (assuming you haven't changed the label from its default right justification) to the left margin of the item body. This is one of the handiest adjustments you can make to create the ultimately readable list for your exact situation. Use it early and often.

BEWARE: This setting enforces this distance by shoving the label left rather than moving the body left margin right. If you set this you might need to add a corresponding amount to `leftmargin`, if you want your labels in a specific place. Space between label and following text

`itemindent` Only indents the first line (with the label) This length is capable of causing some real ugliness – leave it alone unless you have a really good reason not to. What this horrid adjustment does is takes the label and first line of a multiline body, and push them left from the normal item body left margin. This makes the body lines not line up. It's ugly. If you already have a list where multiline items look wrong, try setting this length to 0 to see whether a previous global setting of this length has caused problems.

Don't set this length except out of self-defense. It's trouble.

Vertical spacing

`parskip` Space between paragraphs outside of a list, and part of the space between a non-list paragraph and a list item. This is NOT a list property; it can be set globally for entire documen (see SS `ref{}`).

`topsep` Extra space added to `parskip` before the first AND after the last item.

`parsep` Paragraph separation within a single item.

`itemsep` Extra inter-item spacing added to `parsep`

`partopsep` This is added to the top and/or bottom of the list if and only if there's a blank line above or below the first or last item. *Leave this alone unless blank lines become a problem.*

```
leftmargin=*        % Align with main text
font=\normalfont    % Not bold, which is the default
style=nextline      % For when text is too long?
style=multiline     % ???
```

To customize the description labels (the items inside the square brackets), in the preamble:

```
\renewcommand{\descriptionlabel}[1]{%
    \hspace{\labelsep}
    \ttfamily
    \textcolor{red}{#1}
}
```

This puts the labels in typewriter font in a different color. By default, description labels start a distance equal to `hspace` to the *left* of the text, so adding that line causes them to line up with the left edge of the text instead.

Alternative way to get red of the space between items (without `enumitem` package):

```
\usepackage{mdwlist}
...
\begin{document}
...
\begin{itemize}
    \item ...
\end{itemize}

\up{tasks} ???
...
\begin{tasks}(4)
    \task one
    \tast two
\end{tasks}
```

These will be listed horizontally, rather than vertically.

```
\begin{list}{}
    ...
\end{list}
```

Brackets by list will set the style; leave this empty for no symbols

Numbering

1.1, 1.2 → 1.2.1,1.2.2, etc

```
\usepackage{enumitem}
...
\begin{enumerate}[label*=\arabic*.] % ???
\begin{enumerate}[I] % roman numerals
\begin{enumerate}[I.] % roman numberals followed by a period
\begin{enumerate}[(a)] % you get the idea...
```

To go from section numbering 0.0.1 to just 1, put this in the preamble (copied from internet, but not actually sure how this works).

```
\usepackage{titlesec}
\titleformat{\section}%
  [hang]% <shape>
  {\normalfont\bfseries\Large}% <format>
  {}% <label>
  {0pt}% <sep>
  {}% <before code>
  \renewcommand{\thesection}{}% Remove section references...
  \renewcommand{\thesubsection}{\arabic{subsection}}%...from subsections
  \renewcommand{\thesubsubsection}{\arabic{subsubsection}}%...from subsections
\begin{document}
...
```

Color

`\usepackage{color}` is required for pre-defined colors (white, black, red, green, blue, cyan, magenta, yellow)

`\usepackage{xcolors}` is needed to define new colors (see SS **??**).

Color background

```
\usepackage{xcolor}
\pagecolor{yellow!30}
```

Color text

```
\usepackage{color}
...
\textcolor{red}{I want the text in the brackets to be red.}
```

Define your own colors

http://latexcolor.com

```
\usepackage[usenames, dvipsnames]{color}
 \definecolor{color}{HTML}{AF00D7} % HTML must be in caps!
 \definecolor{mypink1}{rgb}{0.858, 0.188, 0.478}
 \definecolor{mypink2}{RGB}{219, 48, 122}
 \definecolor{mypink3}{cmyk}{0, 0.7808, 0.4429, 0.1412}
 \definecolor{mygray}{gray}{0.6}
\textcolor{mygray}{text I want to be gray}.
```

Hyperlinks

In preamble:

```
\usepackage{hyperref}
\hypersetup{colorlinks=true,
    urlcolor=blue,
    linkcolor=black
}
\urlstyle{same}
```

Insert hyperlink in text:

```
\url{http://google.com}
\href{http://google.com}{link text}
\href{http://google.com}{\textcolor{blue}{link text}}
```

Putting text in a box

```
\usepackage{xcolor}
\usepackage{lipsum}
\begin{document}
\lipsum[1]
\medskip
\noindent\fcolorbox{red}{yellow}{%
   \minipage[t]{\dimexpr0.48\linewidth-2\fboxsep-2\fboxrule\relax}
      \lipsum[2]
   \endminipage}\hfill
   \fcolorbox{red}{yellow}{%
   \minipage[t]{\dimexpr0.48\linewidth-2\fboxsep-2\fboxrule\relax}
      \lipsum[3]
   \endminipage}
\medskip
\lipsum[4]

\colorbox{hl}{\parbox{0.9\textwidth}
text to go in box}
```

Notes: You can adjust the thickness of border and padding of `\fcolorbox{<border-color>}{<background-color>}{<contents>}` by setting `\fboxrule=<value><unit>` and `\fboxsep=<value><unit>`, respectively. Put the setting before invoking `\fcolorbox{<border-color>}{<background-color>}{<contents>}`. For example: `\fboxrule=1pt and \fboxsep=5pt`. Use t, c, b options to align the base line of the most top row, the center row and the most bottom row with the surrounding baseline.

Columns

```
\begin{minipage}[t]{0.2\textwidth}
    stuff
\end{minipage}
\begin{minipage}[t]{0.8\textwidth}
    longer stuff
\end{minipage}
```

`\addtolength{\columnsep}{5mm}` add space between columns.

Symbols

```
\AA{}   % Angstrom (does not go in between $s)
\infty  % infinity
\sim    % '~'
\approx % 'double ~'
\propto % proportionality symbol (like alpha)
\equiv  % like '=', but with three lines.
\& \%   % include these symbols in document
        % (also precede a space with '\' when in math mode).
\pm     % plus or minus (\mp for minus or plus)
\textbackslash  % \
```

```
\textgreater    % >
\textless       % <
```

some text

Writing code into a Latex document

A nicer alternative to verbatim.

```
\usepackage{listings}
\usepackage{color}

\definecolor{mygreen}{rgb}{0,0.6,0}
\definecolor{mygray}{rgb}{0.5,0.5,0.5}
\definecolor{mymauve}{rgb}{0.58,0,0.82}

\lstset{ %
  backgroundcolor=\color{white},   % choose the background color; you must add \usepackage{color} or \usepackage{xc
  basicstyle=\footnotesize,        % the size of the fonts that are used for the code
  breakatwhitespace=false,         % sets if automatic breaks should only happen at whitespace
  breaklines=true,                 % sets automatic line breaking
  captionpos=b,                    % sets the caption-position to bottom
  commentstyle=\color{mygreen},    % comment style
  deletekeywords={...},            % if you want to delete keywords from the given language
  escapeinside={\%*}{*)},          % if you want to add LaTeX within your code
  extendedchars=true,              % lets you use non-ASCII characters; for 8-bits encodings only, does not work wi
  frame=single,                    % adds a frame around the code
  keepspaces=true,                 % keeps spaces in text, useful for keeping indentation of code (possibly needs c
  keywordstyle=\color{blue},       % keyword style
  language=Octave,                 % the language of the code
  otherkeywords={*,...},           % if you want to add more keywords to the set
  numbers=left,                    % where to put the line-numbers; possible values are (none, left, right)
  numbersep=5pt,                   % how far the line-numbers are from the code
  numberstyle=\tiny\color{mygray}, % the style that is used for the line-numbers
  rulecolor=\color{black},         % if not set, the frame-color may be changed on line-breaks within not-black tex
  showspaces=false,                % show spaces everywhere adding particular underscores; it overrides 'showstring
  showstringspaces=false,          % underline spaces within strings only
  showtabs=false,                  % show tabs within strings adding particular underscores
  stepnumber=2,                    % the step between two line-numbers. If it's 1, each line will be numbered
  stringstyle=\color{mymauve},     % string literal style
  tabsize=2,                    % sets default tabsize to 2 spaces
  title=\lstname                   % show the filename of files included with \lstinputlisting; also try caption in
}
...
\begin{lstlisting}
    code code code
\end{lstlisting}
```

New and renewed commands and environments

Commands

Syntax: `\newcommand{<cmd>}[<n>][<opt>]{<stuff>}`

n Number of arguments

`opt` Options

`stuff` stuff

Existing environments (list, adjustwidth, etc.) can be used inside new commands!

Environments

```
\renewenvironment{name}{%
    ...}

\newenvironment{name}[#]{%
    {<initialization code> (before text)}
    {<finalization code> (after text)}
}
```

Verbatim

`verb` is used "in line", while `verbatim` is a separate environment:

```
\begin{verbatim}
... text ...
\end{verbatim}
```

```
\verb|\documentclass{article}|
```

How to make the begin verbatim text a different color in vi? E.g. a dark gray, but the enclosed text is lighter.

Figures

```
\usepackage{graphicx}
...
\begin{figure}[h]
\centering
\includegraphics[width=5.0in]{GreekSymbols.jpg}
\caption{How to insert greek symbols in LaTeX}
\label{greek}
\end{figure}
```

placement specifiers: `[htbp!]` 'here', 'top', 'bottom',...

Tables

```
\begin{table}[h]
\caption{Values for polytropic index $n$ = 4.5}
\centering
\begin{tabular}{ c c c c c c c c c  }
 \hline\hline
$n$ & $\xi_1$ & $\rho_c/\rho$ & $N_{n}$ & $W_n$ & $\Theta_n$
& $\rho_c[g\,cm^{-3}]$ & $P_c[dyne\,cm^{-2}]$ & $T_c[K]$ \\
\hline
4.5 & 31.841 & 6187.500 & 0.658 & 4917.415 & 3.329 & 8718.704 &
```

```
5.535e19 & 4.742e7 \\
\hline
\end{tabular}\\
\label{table:nonlin}
\end{table}
```

For the `tabular` line, `c` stands for center-justified; use `l` and `r` for left and right justified.

Bibliographies

```
\bibliographystyle{plain}
\begin{document}
... \cite{id} ...
\bibliography{reffile}
\end{document}
```

Creating and using a makefile

```
cl> vi reffile.bib
  @ARTICLE{label_name,
    title={},
    journal={},
    ...
  }
cl> vi makefile
 my_paper: paper.tex
   pdflatex paper
   bibtex paper
   pdflatex paper
   pdflatex paper
cl> make my_paper
```

Maths!

http://www.math.harvard.edu/texman/node17.html

Inside text

Examples

- `$\frac{1}{4}$` → $\frac{1}{4}$
- `$G=6.67\times10^{-8}$` → $G = 6.67 \times 10^{-8}$

If text is bold, make math symbols bold as well:

```
\textbf{This article discusses the \boldmath$\beta$ parameter}
```

This article discusses the β parameter

Equations

Numbered equations

```
\begin{equation}
```

```
    P_{\textrm{mag}} = \frac{B^2}{\sqrt{4\pi\rho_o}}
\end{equation}
```

$$\boxed{P_{\textrm{mag}} = \frac{B^2}{\sqrt{4\pi\rho_o}}} \tag{1}$$

INCLUDE LABELING AND REFERENCING HERE!

Equations without numbering

Note that the `\boxed{...}` commands are putting the examples in boxes, but are not necessary for writing equations.

```
\begin{equation*}
    \boxed{%
    P_{\textrm{mag}} = \frac{B^2}{\sqrt{4\pi\rho_o}}
    }
\end{equation*}
```

$$\boxed{P_{\textrm{mag}} = \frac{B^2}{\sqrt{4\pi\rho_o}}}$$

Or simply put double `$`s on each side of equation:

```
$$  P_{\textrm{mag}} = \frac{B^2}{\sqrt{4\pi\rho_o}} $$
```

$$P_{\textrm{mag}} = \frac{B^2}{\sqrt{4\pi\rho_o}}$$

This may not work for more complicated math, such as matrices.

Aligning equations

```
\usepackage{amsmath}
...
\begin{align}
k_1 &= hf(x_n,y_n)\\
k_2 &= hf(x_n+\frac{1}{2}h,y_n+\frac{1}{2}k_1)\\
k_3 &= hf(x_n+\frac{1}{2}h,y_n+\frac{1}{2}k_2)\\
k_4 &= hf(x_n+h,y_n+k_3)\\
y_{n+1} &=
y_n+\frac{1}{6}k_1+\frac{1}{3}k_2+\frac{1}{3}k_3+\frac{1}{6}k_4+O(h^5)\\
\end{align}
```

$$\begin{aligned}
k_1 &= hf(x_n,y_n) && (2)\\
k_2 &= hf(x_n+\frac{1}{2}h,y_n+\frac{1}{2}k_1) && (3)\\
k_3 &= hf(x_n+\frac{1}{2}h,y_n+\frac{1}{2}k_2) && (4)\\
k_4 &= hf(x_n+h,y_n+k_3) && (5)\\
y_{n+1} &= y_n+\frac{1}{6}k_1+\frac{1}{3}k_2+\frac{1}{3}k_3+\frac{1}{6}k_4+O(h^5) && (6)\\
& && (7)
\end{aligned}$$

Can also remove numbering from aligned equations:

```
\begin{align*}
    ...
\end{align*}
```

Size of brackets, parentheses, etc.

In order of increasing size:

```
\big( ... \big)
\Big( ... \Big)
\bigg( ... \bigg)
\Bigg( ... \Bigg)
```

BETTER:

```
\left( ... \right)
```

to scale size of brackets to what is inside them!
Increase size of fraction inside text:

```
\cfrac{1}{2}
```

There are $\frac{1}{2}$ as many as there were.

There are $\cfrac{1}{2}$ as many as there were.

Operations

Integrals

```
$\int$ % indefinite integral
$\int_{x1}^{x2}$ % definite integral, between x1 and x2
```

Square root

```
$\sqrt{2\ln(2)}$
```

Summation (and the multiplication version)

```
$$\sum_{n=1}^{\infty} 2^{-n} = 1$$
```

$$\sum_{n=1}^{\infty} 2^{-n} = 1$$

```
$$ P(D|M) \propto \prod^{N-1}_{i=0}\left\{\exp
    \left[-\frac{1}{2}\left[\frac{y_i-y(x_i|a_j)}
{\sigma}\right]^2\right]\Delta y \right\} $$
```

$$P\left(D|M\right) \propto \prod_{i=0}^{N-1} \left\{ \exp \left[-\frac{1}{2} \left[\frac{y_i - y\left(x_i|a_j\right)}{\sigma} \right]^2 \right] \Delta y \right\}$$

Beamer

Read in beamer template here at some point.

```
\setbeamerfont{frametitle}{%
    font=\fontsize{16pt}{16pt}\itshape
    vs.
    size=\fontsize{}{},
    family=\rmfamily,
    shape=scshape,
    series=...
}

\setbeamertemplate{<elementname>}[<predefinedoptions>]<args>
\addtobeamertemplate{<elementname>}{<pre-text>}{<post-text>}
```

Use the first to change something (bullet symbol). Use the second to add something (vertical space).

```
\begin{columns}
    \column{0.5\textwidth}
    content goes here
    \column{0.5\textwidth}
    more content here
\end{columns}
```

Questions and things to be added

Could make a new environment using `\tt` for stuff that doesn't apply to latex itself...
In `think_python.tex`, add part for using straight single quotes in verbatim environment.