

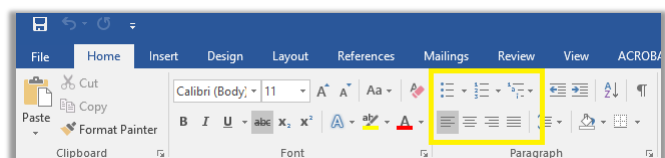
Introduction to LaTeX

text layout

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Contents

- Alignment
- Lists
- Columns etc.



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Text alignment

- Default: LaTeX justifies text.
- Encapsulate the text to align in an environment
 - `left` (`flushleft`): left align
 - `center` (`center`): center
 - `right` (`flushright`): right align
 - Create an additional spacing between the paragraphs
- *File: `demo_justif_1.tex`*

Text alignment

- Use switch commands `raggedright`, `raggedleft`, `centering`
- `\raggedright` will produce left-aligned text, but the behaviour is different; in this case the text will be left-aligned from the point where the command is declared till another switch command is used. This is more suitable to align long blocks of text or the whole document.
- *File: `demo_justif_2.tex`*
- LaTeX default text alignment is fully-justified, but often left-justified text may be a more suitable format. This left-alignment can be easily accomplished by importing the `ragged2e` package
- *File: `demo_ragged2e.tex`*

Hands-on

- Use *handson_justif.tex*
- Play around with the justification options and check the result.

Lists

- Different possibilities to make a list in LaTeX:
 - unnumbered list.
 - numbered items.
 - A list with labeled items.
- The corresponding environments are:
 - `itemize`
 - `enumerate`
 - `description`
- Lists can be nested (up to 4 levels)

itemize

- `\begin{itemize}`
 `\item ...`
 `\end{itemize}`
- Each entry must be preceded by the control sequence `\item`.
- Can be nested (4 levels)
- Bullets can be changed for each level using the following command:
 - `\renewcommand{\labelitemi}{\bullet}`
 - `\renewcommand{\labelitemii}{\cdot}`
 - `\renewcommand{\labelitemiii}{\diamond}`
 - `\renewcommand{\labelitemiv}{\ast}`
- *File: demo_itemize.tex*

enumerate

- `\begin{enumerate}`
 `\item ...`
 `\end{enumerate}`
- *File: demo_enumerate.tex*
- Changing the format of the numbering can be done with the the enumerate package or enumitem
- - `\usepackage{enumerate}`
 - ...
 - `\begin{enumerate}[I]%for capital roman numbers.`
 `\item`
 `\end{enumerate}`
 - `\begin{enumerate}[(a)]%for small alpha-characters within brackets.`
 `\item`
 `\end{enumerate}`
- *File: demo_enumerate_2.tex*

description

- `\begin{description}`
 `\item[] ...`
 `\end{description}`
- Very handy when explaining notations or terms.
- `\begin{description}`
 `\item[Cost] Freeware.`
 `\item[Implementation] Easy: download the executable and`
 `click on it.`
 `\item[Maintenance] None.`
 `\end{description}`
- *File: demo_description.tex*

Hands-on

- Generate some text, and use the different list commands:
 - `itemize`
 - `enumerate`
 - `description`
- Try to build a nested list
- *File: handson_lists.tex*

Fills and spaces

- `\hspace{width}`: Creates a horizontal white space with the chosen width; has no effect at the end of the line
- `\hspace*{width}`: Creates a horizontal white space with the chosen width; even at the end of the line
- `\vspace{height}`: Creates a vertical white space with the chosen height; has no effect at the beginning and at the end of a page
- `\vspace*{height}`: Creates a vertical white space with the chosen height; even at the beginning and at the end of a page
- *File: demo_space_1.tex*

Fills and spaces

- `\hfill`: switch; the following text is aligned with the right margin of the page (if there is not enough space, there will be a line break)
- `\vfill`: switch; the following text is aligned with the bottom margin of the current page (if there is not enough space, there will be a page break)
- Other commands to insert vertical blank spaces
 - `\smallskip`
 - `\medskip`
 - `\bigskip`
- *File: demo_space_3.tex*

Columns

- use `twocolumn` option to your document class, which splits everything in two
- Package `multicol`: flexible tool to handle multicolumn documents
- Environment: enclosed inside the tags `\begin{multicols}` and `\end{multicols}`
- Parameters:
 - Number of columns
 - Header text, in between []. This is optional and will be displayed on top of the multicolumn text.
- *File:column_layout.tex*
- See also: https://www.overleaf.com/learn/latex/Multiple_columns