# Introduction to typesetting with LATEX Tips and Tools for Writing a Bachelor/Master Thesis

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#### Outline

- Motivation
- Editors and Tools
- Some Simple Examples
- DIY: Installation and Get Started

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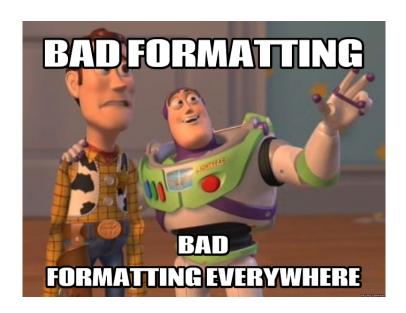
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- And of course, math symbols does not look so nice.



# Two Examples of bad Thesis Formatting!

I don't judge people based on race, creed, color, or gender.

I judge people based on spelling, grammer, punctuation, and sentence structure. somecards



# One Example of Good Thesis Formatting!

# TEX and LATEX: Two famous computer scientists

- Donald Knuth
  - Invented TEX
  - The art of computer programming
  - Turing Award winner 1974
- Leslie Lamport
  - Invented LATEX which is a macro layer above TEX
  - Also famous for inventing the Paxos consensus protocol
  - Turing Award winner 2013

#### **Editors**

- All real editors have support for LATEX
  - TextMate (mac), Emacs, Kile (linux), vim, Notepad++ (win)
- Typical features:
  - Syntax highlighting, autocompletion, compile and view document
- Specialized editors (some come bundled with tex distro):
  - TeXShop (mac), Texmaker, TeXstudio (Ryen recommends)

#### Editors II

- WYSIWYG editors: LyX
- Web-based collaborative editors (backed by git):
  - https://www.sharelatex.com
  - https://www.overleaf.com
- For a full list see:

https://en.wikipedia.org/wiki/Comparison\_of\_TeX\_editors

#### Collaboration Tools

- git and https://github.com
- Dropbox shared folder
- Templates: https://github.com/uis-no/

#### Useful command line tools to know

- latex
- pdflatex
- bibtex
- (If you use an editor you probably don't need these.)

# Bibliography Tools

- BibDesk (mac), Mendeley, Papers
- Managing your references is important; start early
- Easy to download .bib entries from online databases
  - IEEE xplore
  - ACM DL
  - http://dblp.uni-trier.de
- For a full list see: https://en.wikipedia.org/wiki/Comparison\_ of\_reference\_management\_software

#### Online Resources

We will use this:

• http://www.latex-tutorial.com

This is a useful resource it you have questions:

• http://tex.stackexchange.com

The Elements of Style:

• https:

Hein Meling (Univ. of Stavanger)

//www.goodreads.com/ebooks/download/33514?doc=4283



#### Do's and Don'ts!

- Avoid footnotes (almost) at all cost.
- Avoid different spacing between paragraphs.
- Avoid citations to too many web pages.
- Use the same font style and size for body text.
- Don't overdo **bold** and *italic*; only when introducing concept/idea.
- Math should look like: y = ax + b
- Regular text in math mode:

$$t'_{i,j} = \begin{cases} t_i - PreTime & \text{if } P_{i-1,c} = 0 \land P_{i,c} \neq 0 \land C_j \in A \\ t_i - PostTime & \text{if } P_{i-1,c} \neq 0 \land P_{i,c} = 0 \land C_j \in A \\ t_i & \text{otherwise} \end{cases}$$
 (1)

- Use justified text; it looks better!
- In general, be consistent!

# DIY: Installation and Getting Started

#### LATEX distributions:

- TeX Live: https://www.tug.org/texlive/
- MacTeX: https://www.tug.org/mactex/
- MikTeX: http://miktex.org/