

# Introduction to L<sup>A</sup>T<sub>E</sub>X

A presentation for scientific writing course

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# Outline

- 1 Introduction
  - About  $\text{\LaTeX}$
  - Comparing Microsoft Word and  $\text{\LaTeX}$
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- 3  $\text{\LaTeX}$ Editors
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# About $\text{\LaTeX}$ [2]

- $\text{\LaTeX}$  was originally written in the early 1980s by Leslie Lamport at SRI
- It was released in 1984
- $\text{\LaTeX}$  is usually pronounced as: lay-tek or lah-tek
- Scientific written communication is done in  $\text{\LaTeX}$
- It is good with displaying formulas
- It can handle multiple language documents
- It is distributed under a free software license

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# Comparing Microsoft Word and $\text{\LaTeX}$

- Word is not Free
- It seems the there is no need to learn Word,  $\text{\LaTeX}$ has to be learned
- In Word every thing is in the file,  $\text{\LaTeX}$ separates all the components
- Size of the files can be huge in Word,  $\text{\LaTeX}$ main file are normally smaller than 100KB
- It takes up to minutes for Word to load, in  $\text{\LaTeX}$ file can be written in a note pad program
- Word updates to new version that has problem with old files,  $\text{\LaTeX}$ is basically the same since beginning with new features

# Performance Test [1]

## Justification and hyphenation

The first paragraph of Thomas, Moby-Dick opens using three different programs.  
The text is set using Garamond Premier Pro 12/14 in a 100-wide column, fully justified.  
Copyright: Reed Zerkow of Zerk, Typographic (www.zerktypographic.at), January 2006

### Microsoft Word 2008

Call me Ishmael. Some years ago -- never mind how long precisely -- having led a care-free life in my port, and finding myself particular to venture sea-ward, I thought I would sail about a little, and see the wondrous part of the world. It is a way I have of driving off the spleen, and regulating the circulation. Whenever I find myself growing gray about the month's wholeness it is a damp, drowsy November in my soul, whenever I find myself unaccountably passing before coffee-house windows, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and on my heels knocking poor pedicab-boys off -- then I am reminded of high time we got to sea as soon as I can. This is my reason for going to sea. With a philosophical flourish Cato throws himself upon his sword; I quietly take to the ship. There is nothing surprising in this. If there has been a great deal of rum-ormongering in these degenerate times as to other degenerate times or others, there is very nearly the same feeling towards the ocean with me.

### Adobe InDesign CS4

Call me Ishmael. Some years ago -- never mind how long precisely -- having led a care-free life in my port, and finding myself particular to venture sea-ward, I thought I would sail about a little, and see the wondrous part of the world. It is a way I have of driving off the spleen, and regulating the circulation. Whenever I find myself growing gray about the month's wholeness it is a damp, drowsy November in my soul, whenever I find myself unaccountably passing before coffee-house windows, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and on my heels knocking poor pedicab-boys off -- then I am reminded of high time we got to sea as soon as I can. This is my reason for going to sea. With a philosophical flourish Cato throws himself upon his sword; I quietly take to the ship. There is nothing surprising in this. If there has been a great deal of rum-ormongering in these degenerate times as to other degenerate times or others, there is very nearly the same feeling towards the ocean with me.

### pdfLaTeX 1.44.9346

Call me Ishmael. Some years ago -- never mind how long precisely -- having led a care-free life in my port, and finding myself particular to venture sea-ward, I thought I would sail about a little, and see the wondrous part of the world. It is a way I have of driving off the spleen, and regulating the circulation. Whenever I find myself growing gray about the month's wholeness it is a damp, drowsy November in my soul, whenever I find myself unaccountably passing before coffee-house windows, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and on my heels knocking poor pedicab-boys off -- then I am reminded of high time we got to sea as soon as I can. This is my reason for going to sea. With a philosophical flourish Cato throws himself upon his sword; I quietly take to the ship. There is nothing surprising in this. If there has been a great deal of rum-ormongering in these degenerate times as to other degenerate times or others, there is very nearly the same feeling towards the ocean with me.

	Word	InDesign	pdfLaTeX
Number of hyphenations	0	0	4
top of first [pt]	1.45	1.04	1.40
Maximum first [pt]	14.4	13.4	14.0
Number of lines with first > 14pt	1	1	0

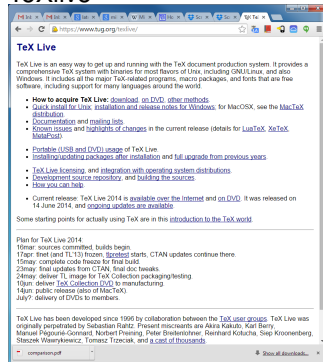
Number of lines with first > 14pt

# Distributions of L<sup>A</sup>T<sub>E</sub>X

## MiKTeX



## TeXLive



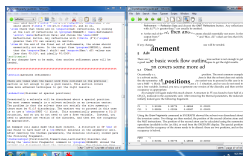


L<sup>A</sup>T<sub>E</sub>Xeditors

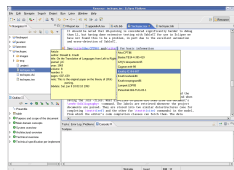
Texmaker



TeXworks



TeXlipse



## Different parts of the document

# Citation

- Citations are stored in a standard way
- They are printed and sorted as they are used and requested
- Numbering is automatic
- The style is defined already
- There are programs to manage the citations
- Citing directly from google scholar is possible

# Writing in L<sup>A</sup>T<sub>E</sub>X

- Freedom in writing sentences
- Commenting the document is easier
- Reviewing will be faster
- Changing type of document is trivial
- Using version control is possible

# References I



[Dario Taraborelli.](#)  
The beauty of latex/.



[wikipedia.](#)  
Latex on wikipedia.

Questions?