LaTeXWorkshop

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January 22, 2016

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- 2-step document formatting: LaTeX takes in a text file (.tex) and outputs a beautifully formatted document (.pdf or .div or .ps, etc.)
- Unlike MS Word: "Everything" is a command, e.g. `{\bf X}`, `\maketitle`, `\begin{X}`, `\usepackage{X}`

How to use LaTeX

- You need a LaTeXdistribution that provides you with the actual software plus a lot of commonly used packages:
  - MikTeX or TexLive for Windows
  - MacTeX for OS X
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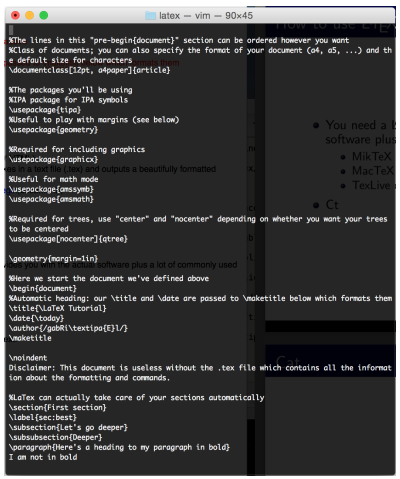
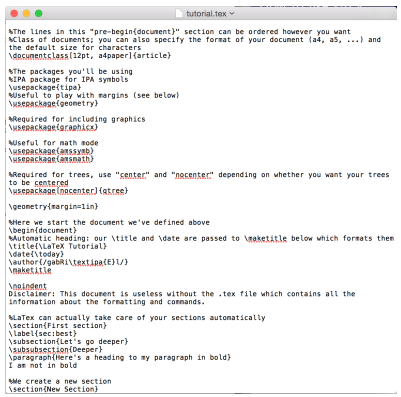
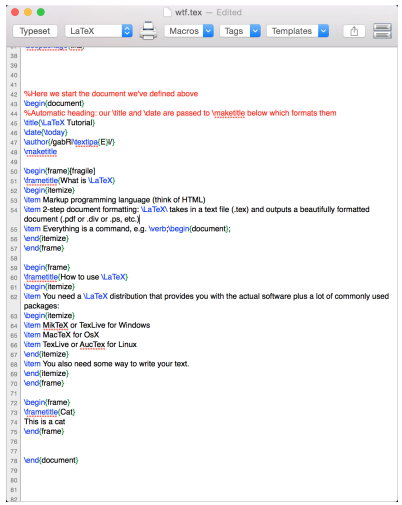
- You also need some program to write your text with:
  - Tex editors: TexShop, TexMaker, TexWorks
  - Regular text editors work too, but require compiling with terminal as extra step







Demo

DEMO

Basic structure of a document

```
\documentclass{article}

\usepackage{.........}

\begin{document}

 ..........................

\end{document}
```

This document's preamble

```
\documentclass{beamer}
\usecolortheme{crane}
\usetheme{Copenhagen}
\usepackage{tipa}
\usepackage{hyperref}
\usepackage{graphicx}
\usepackage{amssymb}
\usepackage{amsmath}
\usepackage{amsthm}
\usepackage{alltt}
\usepackage{tikz}
```

(very basic) Slides

```
\documentclass{beamer}
\usecolortheme{crane}
\usetheme{Copenhagen}

\begin{document}

\begin{frame}
\frametitle{TITLE}
BLA BLI BLO BLU \pause
BLA BLI BLO BLU
 \end{frame}

\end{document}
```

Command Formats

```
{\COMMAND1 BLA BLI BLO BLU}  %First command format

\COMMAND2{ BLA BLI BLO BLU} %Second command format

\COMMAND3 %Third command format

\begin{COMMAND4} %Fourth command format
BLA BLI BLO BLU
\end{COMMAND4$}
```

Basic character styling

```
\begin{enumerate}
```

1. *Italic* `\item {\it Italic}`
2. **Bold** `\item {\bf Bold}`
3. Underline `\item {\underline Underline}`
4. Small `\item {\small Small}`
5. Large `\item {\large large}`
6. Larger `\item {\Large Large}`
7. Largest* `\item {\LARGE LARGE}`
8. 𝔍 𝔞𝔪 𝔰𝔬𝔪𝔢𝔱𝔦𝔪𝔢𝔰 𝔲𝔰𝔢𝔣𝔲𝔩
   `\item $\mathfrak{I\ am\ sometimes\ useful}$`
9. Sometimes useful too
   `\item $\mathsf{Sometimes\ useful\ too}$`

Enumerate

1. First Level
   (a) Deeper
      i. Super Deep
         A. Super Super Deep

```
\begin{enumerate}
\item First Level
\begin{enumerate}
\item Deeper
\begin{enumerate}
\item Super Deep
\begin{enumerate}
\item Super Super Deep
\end{enumerate}
\end{enumerate}
\end{enumerate}
\end{enumerate}
```

Making a nice title

```
\title{\LaTeX\ Workshop}
\date{\today}
\author{/g\ae bRi\textipa{E}l/}
\maketitle
```

LaTeX Workshop

/gæbRiɛl/

February 19, 2015

Random useful commands

```
\begin{center}   \end{center}

\vspace{25pt}                    \hspace{25pt}

\noindent

\ \\                        \

\$ \& \_

\label{slide:best}          ~\ref{sec:best}

\begin{minipage}{2in}

\verb;FFF;                   \begin{verbatim}
```

Tables

alfred	nicole	edouard
paul	yvonne	marc

Tables

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paul	yvonne	marc

I	am	jacques	Brown
I	am		
maybe	I	am	

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I	am	jacques	Brown
I	am		
maybe	I	am	

```
\begin{tabular}{|lcr|}
\hline
alfred & nicole & edouard\\
paul & yvonne & marc\\
\hline
\end{tabular}
\ \ \ \
\begin{tabular}{|l|c|r|}
\hline
\hline
I & am & jacques\\
\hline
I & am & not\\
\hline
maybe & I & am\\
\hline
\end{tabular}
```

Math mode I

Two ways of getting into math mode:

① Enclose the expression in $ $

$$\begin{pmatrix} \alpha \\ \beta \end{pmatrix} \rightarrow \begin{pmatrix} \Gamma \\ \delta \end{pmatrix}$$

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 \end{pmatrix}
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\gamma\\
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Advantage: Can be inserted in text directly:

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```

Advantage: Can be inserted in text directly:

If you let $a_i = \frac{1}{n^2}$, *then* $\sum_1^\infty a_i = \frac{\pi^2}{6}$

If A:$\alpha\beta^l$ *and B:*β, *then A(B):*α

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\[
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\leq n\wedge (a^n+b^n=c^n)
\]
```

Advantages: Can be used over multiple lines; centers text automatically

IPA & SPE rules

Two ways to use IPA symbols:

- First with the command `\textipa`:

```
\textipa{0123456789ABCDEF}
```

ʉɨʌɜɥɐɒɤɵɘɑβɕðɛɸ

-Second with the `IPA` command:

```
\begin{IPA}GHIJKLMNOPQRSTUVWXYZ\end{IPA}
```

ɣɦɟʁʎɱŋɔʔʕɾʃθʊʋɯχʏʒ

SPE rules:

$$a \rightarrow b / c\_d$$

```
a\rightarrow b / c \_ d
```

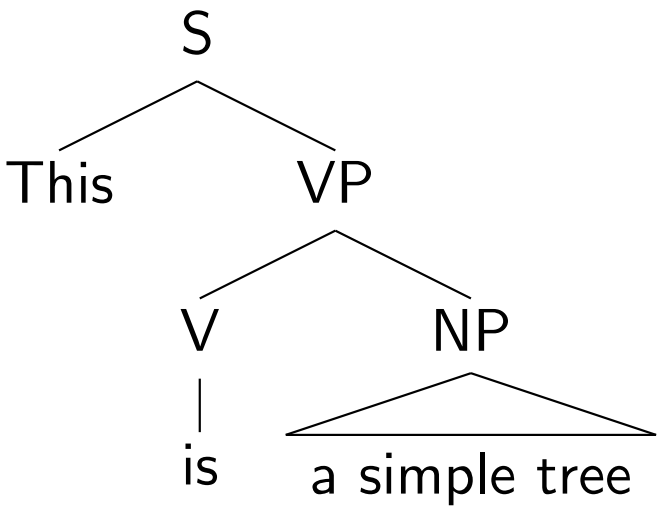
`http://www.ling.ohio-state.edu/events/lcc/tutorials/tipachart/tipachart.pdf`

SPE rules

$$\begin{bmatrix} +\text{consonant} \\ \text{-anterior} \\ \text{-labial} \\ \text{-coronal} \\ \text{-continuant} \end{bmatrix} \rightarrow \{+\textit{voiced}\} \,/\_ \begin{bmatrix} +\text{syllabic} \\ \text{-high} \\ \text{-low} \end{bmatrix}$$

```
\[   \left[
\begin{tabular}{l}
+consonant \\ -anterior \\ -labial \\ -coronal \\ -cont
\end{tabular}     \right]
\rightarrow
\left\{    +voiced     \right\}     /    \_
\left[
\begin{tabular}{l}
+syllabic \\ -high \\ -low
\end{tabular}
 \right]   \]
```

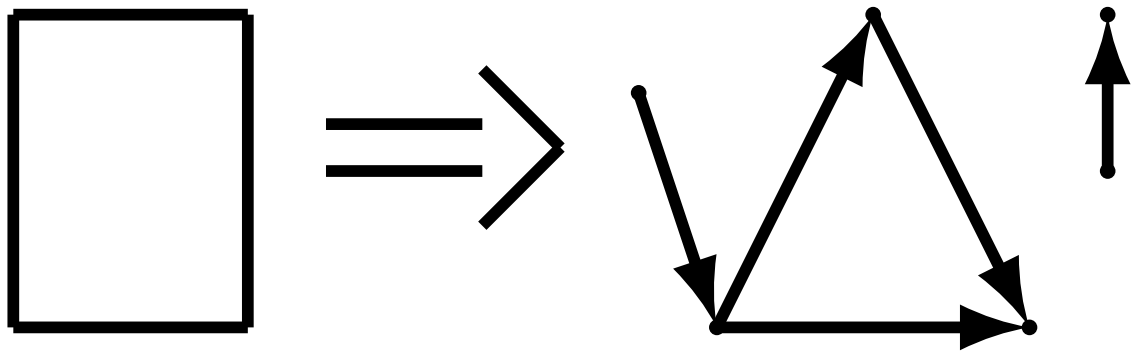
Trees




```
\Tree [.S This [.VP [.V is ] \qroof{a simple tree}.NP ] ]
```

Drawings

Kind of annoying



```
\begin{picture}(80,30)
\linethickness{0.75mm}
\put(5,5){\line(0,1){20}}
\put(50,5){\circle*{1}}
....
```

The End

Thanks