Outline

What is \LaTeX?  

Typesetting Text  

Writing Math
Outline

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Typesetting Text

Writing Math
What is \LaTeX? 

- **\TeX** computer program created by Donald E. Knuth (1977) for typesetting text and mathematical formulae

- **\LaTeX** based on \TeX\ originally written by Leslie Lamport
  - typeset and print at the highest typographical quality, using a predefined, professional layout

- Philosophy of \LaTeX \neq WYSIWYG
  - \LaTeX: book designer, \TeX: typesetter; describe logical structure of document
  - WYSIWYG: what you see on screen is printed
Advantages of \LaTeX

- Professionally crafted layouts.
- Convenient typesetting of mathematical formulae
- Only a few easy-to-understand commands that specify the logical structure of a document. No need to tinker with the actual layout of the document.
- Even complex structures such as footnotes, references, table of contents, and bibliographies can be generated easily.
- Free add-on packages \LaTeX. (e.g. include \texttt{PostScript} graphics)
- Encourages authors to write well-structured texts
- \TeX is highly portable and free.
- Active community (forums, . . .)
Setup

- **ShareLaTeX**, online \LaTeX\ editor, allows
  - real-time collaboration
  - online compiling of projects to PDF format
  - spell-check
  - change tracking
  - Dropbox synchronization,
  - GitHub synchronization.

- Create a ShareLaTeX account
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Create a file template.tex (icon New File)

\documentclass[12pt]{article}
\usepackage[utf8x]{inputenc}
\usepackage[T1]{fontenc}
\usepackage[english]{babel}
\usepackage{amsfonts, amsmath, amssymb, amsthm} % Math
\usepackage[square,numbers]{natbib} % Bibliography
\bibliographystyle{unsrtnat}

\begin{document}

\end{document}
Download the files `template.tex` and `template.bib`.
Compile the document (Recompile button) and view the PDF.
Typesetting Text (2)

Make the following successive changes in the document. Compile the document between each modification and view the PDF.

1. Insert a line break between Arabic. and LaTeX
2. Add `\` between Arabic. and LaTeX
3. Now replace `\` by `\newpage`
Lists

- Copy the following lines in the document.

LaTeX is
\begin{itemize}
  \item beautiful
  \item logically structured
\end{itemize}

LaTeX is
\begin{enumerate}
  \item beautiful
  \item logically structured
\end{enumerate}

- Compile the document (Recompile button) and view the PDF.
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Math

Download the files math.tex math.pdf