

# Brief $\text{\LaTeX}$ Review

October 4, 2022

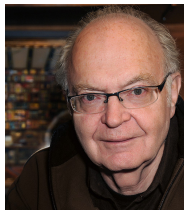
- 1 What is T<sub>E</sub>X?
- 2 What is L<sup>A</sup>T<sub>E</sub>X?
- 3 Installation of L<sup>A</sup>T<sub>E</sub>X
  - TeX distributions
  - L<sup>A</sup>T<sub>E</sub>X Editors
- 4 L<sup>A</sup>T<sub>E</sub>X Features

# What is T<sub>E</sub>X?

## Definition

TeX is a typesetting system (or a "formatting system"). It was designed and mostly written by Donald Knuth and released in 1978.

Donald Ervin Knuth is a professor emeritus at Stanford University. He is the 1974 recipient of the ACM Turing Award.



# What is $\text{\LaTeX}$ ?

## Definition

$\text{\LaTeX}$ , which is pronounced Lah-tech or Lay-tech is a **document preparation system** for high-quality typesetting. It is most often used for medium-to-large technical or scientific documents but it can be used for almost any form of publishing.

$\text{\LaTeX}$  is not a program by itself; it is a language.

# Installation of $\text{\LaTeX}$

Using  $\text{\LaTeX}$  requires a bunch of tools. TeX Distributions help the user in this way, in that it is a single step installation process that provides (almost) everything.<sup>1</sup>

What you need are:

- 1 **TeX distribution**
- 2 **Text editor**
- 3 **PDF viewer**

All these can be installed on Windows, Linux, MacOS and many other platforms.

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<sup>1</sup><https://en.wikibooks.org/wiki/LaTeX/Installation>

In general, we have:

- TeX Live

[Installation guidelines for TeX Live](#)

- MiKTeX

[Download page for MiKTeX](#)

- MacTeX (for Mac)

[Installation guidelines for MacTeX](#)

## ① For offline editing (not an exhaustive list):

- [Texmaker](#)
- [TeXstudio](#)

## ② For online editing (not exhaustive):

- [sharelatex.com](#)
- [overleaf.com](#)

- Typesetting journal articles, technical reports, books, and slide presentations.
- Control over large documents containing sectioning, cross-references, tables and figures.
- Typesetting of complex mathematical formulas.
- Advanced typesetting of mathematics with AMS-LaTeX.
- Automatic generation of bibliographies and indexes.
- Multi-lingual typesetting.
- Inclusion of artwork, and process or spot colour.
- Using PostScript or Metafont fonts.