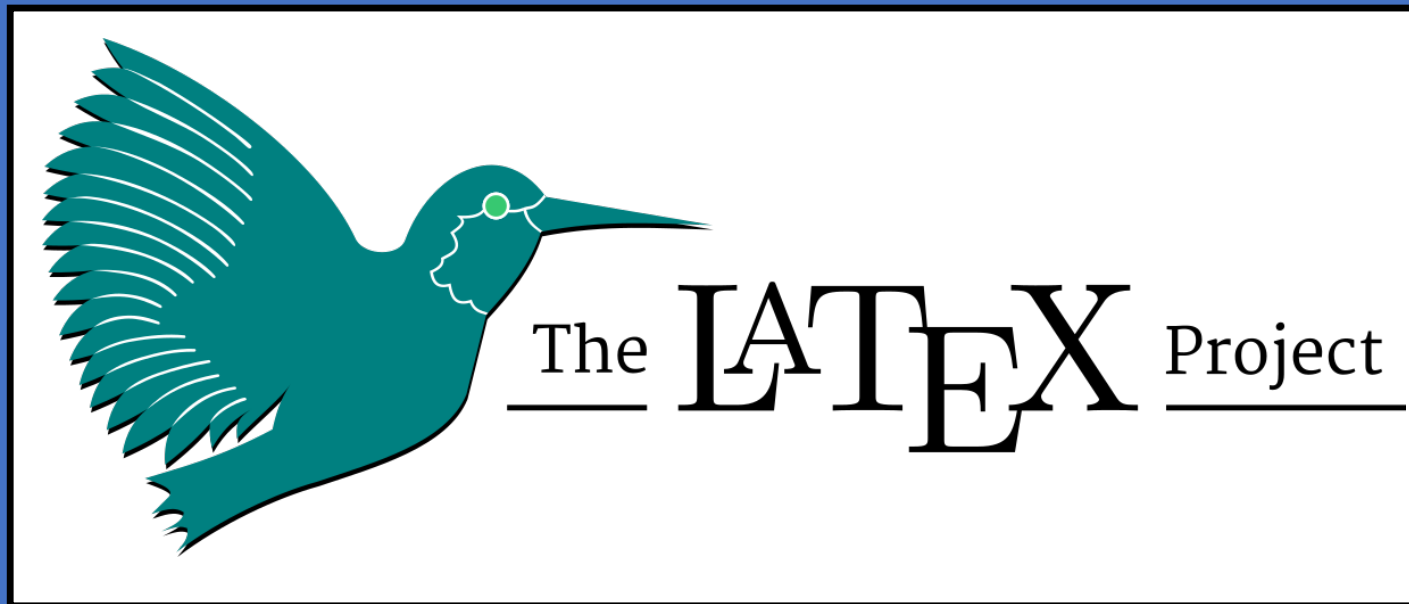# Introduction to LaTeX

5/11/2020



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# What is LaTeX (Lah-Tech or Lay-Tech)?

- TeX is a program developed in 1977 by Donald Knuth.

- LaTeX uses TeX formatter as its typesetting engine.

- Use of commands to tell it what to do -> WYSIWYM opposed to WYSIWYG approach

- Maintain by the LaTeX project: https://www.latex-project.org

- There are several LaTeX editors, some directly online.
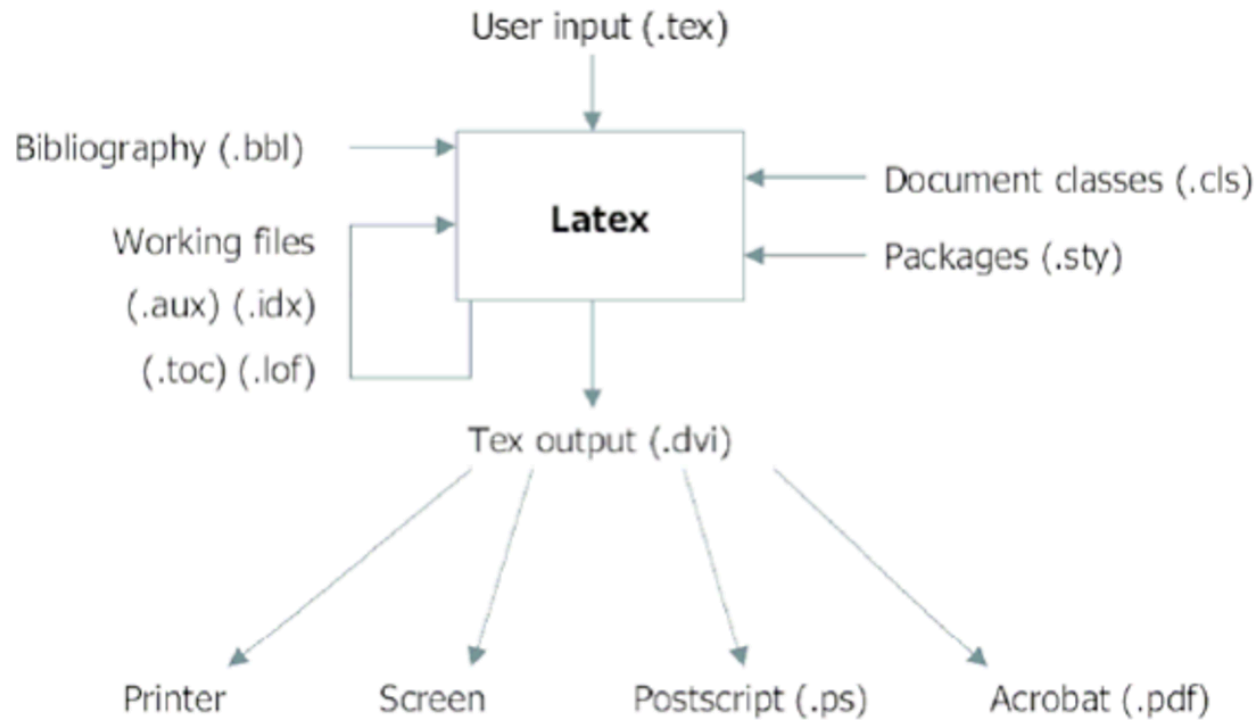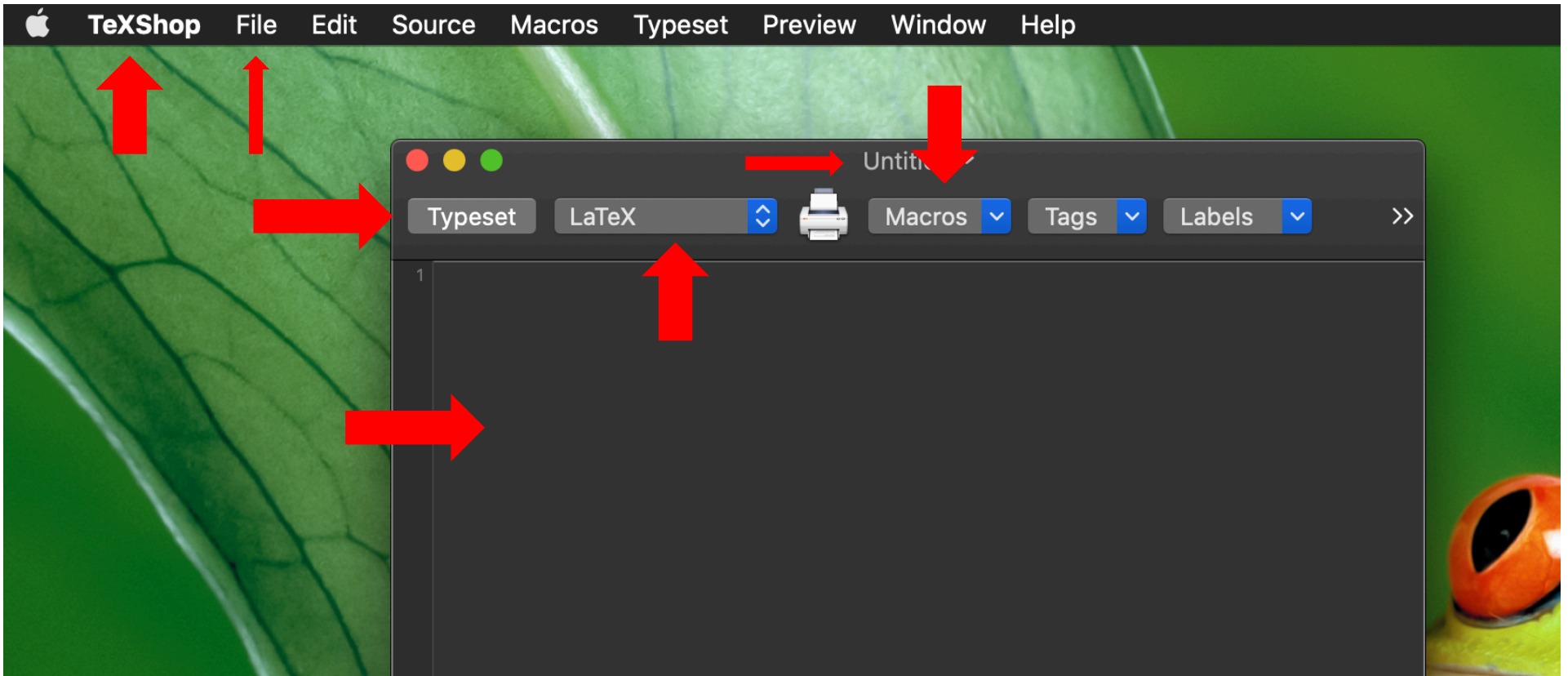
# Why do we use LaTeX over word processors?

- Predefined professional layout -> authors can concentrate on the text.

- Maintains a logical structure in the document – Improves the reading experience.

- Highest typographical quality.

- Very suited to scientific writing.

- Very stable across machines and setups.

- You often only need a few command lines for high-quality results -> very little editing to do.

- Many add-on packages available (https://ctan.org) and possibility to creates your own.

# How does LaTeX works?



User input (.tex)

Bibliography (.bbl) → Latex ← Document classes (.cls)

Working files ← → ← Packages (.sty)
(.aux) (.idx)
(.toc) (.lof)

Tex output (.dvi)

Printer    Screen    Postscript (.ps)    Acrobat (.pdf)

http://www.comp.leeds.ac.uk/andyr

# Overview

# How is a LaTeX document organized?

- First part is called the preamble.

- The preamble defines the type of document, its layout and the packages necessary.

- The body is where the core of the text is.

# Structure

The Preamble

```
\documentclass[optional argument]{compulsory argument}
\title{}
\author{}
\date{}

\usepackage{}

…
```

The Body

- Starts with \begin{document}

- Ends with \end{document}
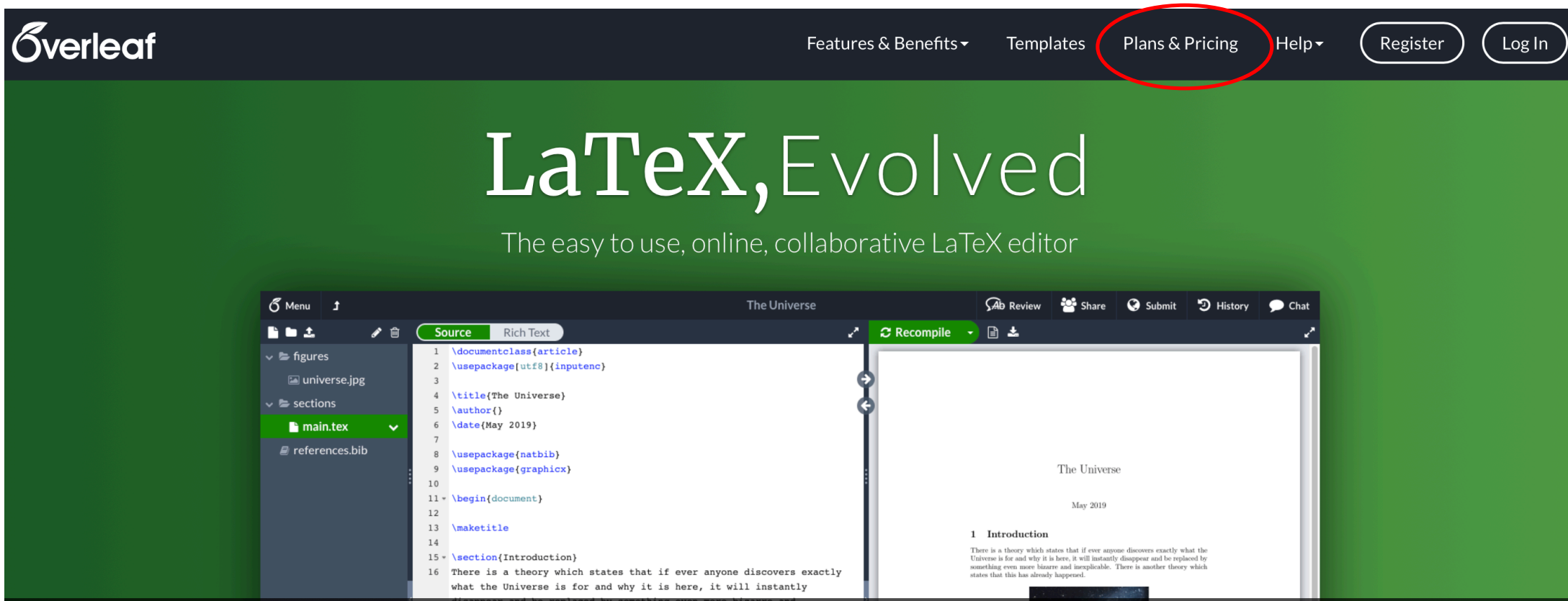
# Common mistakes

- When a mistake is made it can usually be tracked in the log.

- Some classic mistakes:

  - Calling packages that you don't have.

  - Wrong typo in the command line.

  - Forgetting end{} and opening an environment (starting with begin{}).

  - Forgetting " \ " before a command line.

# Collaborative LaTeX work

# What to do now?

- Create a folder for the latex practical on your computer.

- Go on the GitHub and download the image folder as well as the 2 practical

- Create a new .tex document and explore the two TeX scripts. It is strongly encouraged to play around with the different tools to see what they do.

- Don't forget to use Google! LaTeX is a free software, if you have a problem, someone else had it before you.

# Other resources

- Frank Mittelbach et al. 2004. The LaTeX Companion

- https://www.overleaf.com/learn/latex/Learn_LaTeX_in_30_minutes

- https://tobi.oetiker.ch/lshort/lshort.pdf

- http://en.wikibooks.org/wiki/LaTeX

- http://www.newthinktank.com/2019/01/latex-tutorial/