Introduction to LaTeX Workshop

By HKN

April 1, 2022

Outline

Introduction

- Who are we?
- Who are you?

Introduction

- Who are we?
- Who are you?

Icebreaker

Icebreaker!
Share your name, Major/Research area, favorite book, and least favorite programming language.

Objectives

1. For you to learn about LaTeX
2. For you to gain a spirit of exploration in using LaTeX
3. For you to use a LaTeX editor to create your own LaTeX document

What is LaTeX ?

- a milky fluid found in many plants, such as poppies and spurges, that exudes when the plant is cut and coagulates on exposure to the air. The Latex of the rubber tree is the chief source of natural rubber.
- a synthetic product consisting of a dispersion in water of polymer particles, used to make paints, coatings, and other products.
- a programmatic typesetting tool for professional and academic layout.

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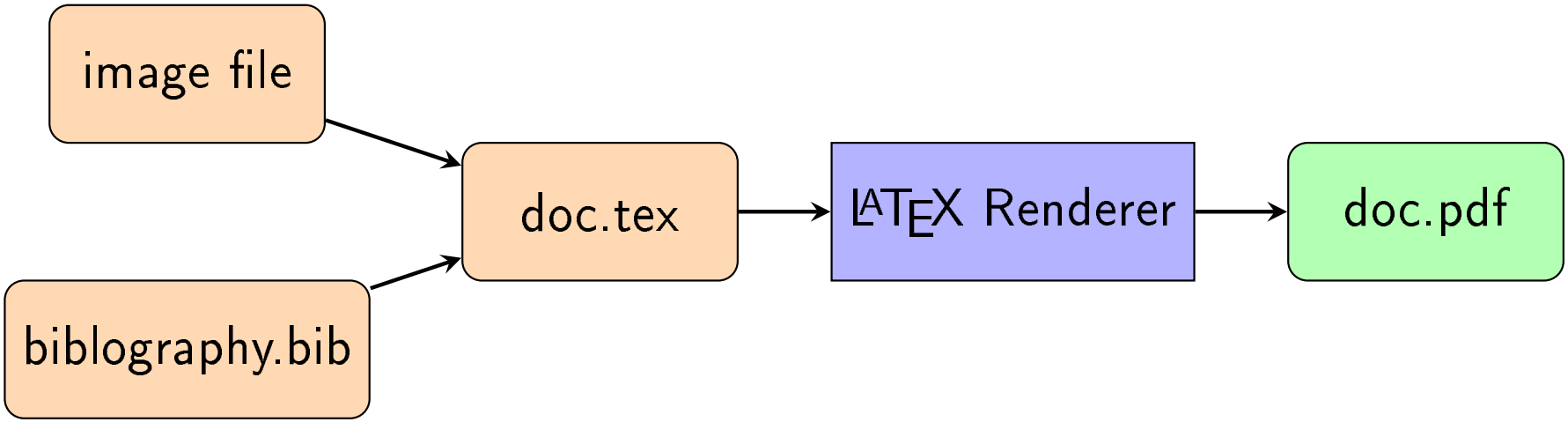
LaTeX Flowchart



LaTeX Software

- Windows
  a. TexStudio
  b. Texmaker
- Linux
  a. Texmaker
  b. Tex Live
- Mac
  a. MacTex
- Web/Browser
  a. Overleaf

LaTeX Document Structure

```
\documentclass[...]{...}

\begin{document}

\end{document}
```

LaTeX Document Structure

```
% this is a comment
\documentclass[...]{...}
% preamble here
\begin{document}
% document content here
\end{document}
```

LaTeX Example

```
\documentclass[...]{...}
        \title{My first document}
        \author{Jacqueline Ramirez}
        \date{\today}
\begin{document}
        \maketitle
        Your document text goes here
\end{document}
```

LaTeX Example

My first document

Jacqueline Ramirez

March 17, 2022

Your document text goes here

Enumerate

1. For ordered lists
2. Each item has a unique identifier
3. [π.] Identifiers can be custom too!

```
\begin{enumerate}
        \item For ordered lists
        \item Each item has a unique identifier
        \item [$\pi$.] They can be custom too!
\end{enumerate}
```

Itemize

- For unordered lists
- No distinct order necessary
- You can nest Enumerate and Itemize!
  a. This allows subitems
  b. You might need to specify identifiers

```
\begin{itemize}
  \item For unordered lists
  \item No distinct order necessary
  \item You can nest Enumerate and Itemize!
        \begin{enumerate}
          \item [a.] This allows subitems
          \item [b.] You might need to specify identifiers
        \end{enumerate}
\end{itemize}
```

Mathematics

LaTeX is great for typesetting mathematics.

$$S_n = \frac{X_1 + X_2 + \cdots + X_n}{n} = \frac{1}{n}\sum_{i}^{n} X_i$$

```
\LaTeX{} is great for typesetting
    mathematics.
\[
          S_n = \frac{X_1 + X_2 + \cdots +
              X_n}{n}
          = \frac{1}{n}\sum_{i}^{n} X_i
\]
```

Figures

Figure: The HKN Logo

```
\begin{figure}[H]
                    \centering
                    \includegraphics[width=3cm]{figures/hkn.png}
                    \caption{The HKN Logo}
                    \label{fig:single}
\end{figure}
```

Bibliography

Some of the info in this presentation comes from [1] and [2].


Tobias Oetiker.
The Not So Short Introduction to LATEX 2e.
Free Software Foundation, 2003.


Overleaf.
Documentation, 2022.

```
Some of the info in this presentation comes from \cite{
    oetiker_2003} and \cite{overleaf}.
\bibliographystyle{plain}
\bibliography{bibliography}
```

```
@book{oetiker_2003,
        place={Cambridge, MA},
        title={The Not So Short Introduction to LATEX 2e
            },
        url={https://tobi.oetiker.ch/lshort/lshort.pdf},
        publisher={Free Software Foundation},
        author={Oetiker, Tobias},
        year={2003}
}
```

Overleaf Demo

- Web based - no installation required
- Endorsed by Purdue with free Overleaf Professional
- Thousands of templates
- https://www.overleaf.com/register

How was this presentation created?

- You guessed it! Using LaTeX.
- Created using the **beamer** package and document class.
- One of thousands of LaTeX packages.
- View on Overleaf
  https://www.overleaf.com/read/zzjzcbpxpvsk

Conclusion

- Questions?
- Try it: https://www.overleaf.com/register