

Introduction to L^AT_EX Workshop

By HKN

March 17, 2022

Outline

1 Introduction

- Intro
- Icebreaker
- Objectives

2 Using L^AT_EX

- What is L^AT_EX ?
- L^AT_EX Software
- L^AT_EX Document Structure

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 L^AT_EX
- 2 For you to gain a spirit of exploration in using L^AT_EX
- 3 For you to use a L^AT_EX editor to create your own L^AT_EX document

What is L^AT_EX ?

- a milky fluid found in many plants, such as poppies and spurge, 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.

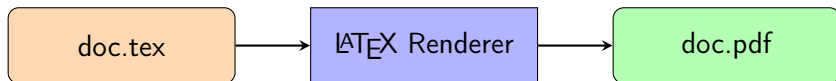
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\LaTeX Flowchart



L^AT_EX Software

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

L^AT_EX Document Structure

```
\documentclass [...]{...}  
  
\begin{document}  
  
\end{document}
```

L^AT_EX Document Structure

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

L^AT_EX Example

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

L^AT_EX Example

My first document

Jacqueline Ramirez

March 17, 2022

Your document text goes here

Enumerate

- ❶ For ordered lists
 - ❷ Each item has a unique identifier
- 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

L^AT_EX 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.

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

Figures



Figure: The HKN Logo

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

Overleaf Demo

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