

Latex Certificate Course Instructions

Jacob Antony

March 23, 2021

1 Cross Reference

L^AT_EX has a mechanism to refer different elements of the same document. You can refer to equations, sections, tables and figures. The `\label` command is used to create an anchor of reference. And `\ref` command is used to refer to such an anchor. Also `\pageref` command is used to refer to the page number of that anchor.

You can have forward references as L^AT_EX creates/updates anchors in the associated `aux` file. And updates the references using the existing labels in the `aux` file. You might have to compile twice to update labels which are newly introduced.

1.1 Associated Files

There are many associated files created and managed by L^AT_EX for generating your document. The files with `tex` extension are L^AT_EX source files where you write your L^AT_EX file for document creation. The `pdf` extension is used to the PDF files generated by L^AT_EX.

We can tell the purpose of each associated file from its file extension. The following are a few important file extensions,

aux Auxiliary Data for toc, reference, index, bibliography, ...

log Compilation Log — Errors and Warnings

toc Table of Contents

lof List of Figures

lot List of Tables

An elaborate list of file extensions for different purposes, is available at [Tex StackExchange](#).

2 figure Environment

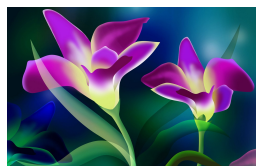
The `figure` environment is used for adding figures to your document. The `figure` elements can have captions. And you can place anchor on figure element for referencing.

2.1 `includegraphics` Command

The `figure` environments are supposed to contain images that you draw using \LaTeX or that you already have in your computer.

You can add images on your computer to the document using `\includegraphics` command. This command takes the image address as argument and image dimensions and effects as optional arguments.

```
1 \usepackage{graphicx}
2 ...
3 \begin{document}
4 ...
5 \begin{figure}
6 \centering
7 \includegraphics{flower.jpg}
8 \caption{Flower}
9 \end{figure}
```

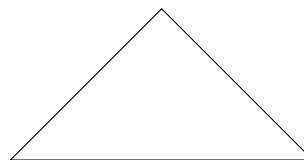


(a) Flower

Figure 1: figure Environment

2.2 Drawing using Tikz

```
1 \usepackage{tikz}
2 ...
3 \begin{document}
4 ...
5 \begin{figure}
6 \centering
7 \begin{tikzpicture}
8 \draw (0,0) -- (2,2) %
9 -- (4,0) -- cycle;
10 \end{tikzpicture}
11 \caption{Triangle}
12 \end{figure}
```



(a) Triangle

Figure 2: Drawing using Tikz