Software systems- Lab 4
TeX Lab!

The anonymous swagger!

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Contents

1 About US :

Hello, we are team `Shinigami`. We are doing this as a part of our In-lab assignment. This is a kind of a guide to create a **TeX Document** and compiling it into a PDF Document. We have taken up a pre-written document written by our **TA Diptesh** and writing out it's **LaTeX** code.

1.1 graphicx package!

This package is used to import tables, and figure in the document. Our document type is article, and we are currently using 11pt font size, with a4 type paper, which is specified in the beginning in documentclass.

1.2 amssymb package!

This package is used to import mathematical symbols in the document. We encapsulate the mathematical equations and symbols under $, and they are changed to maths symbols.

2 Some history

I am ancient creature dwelling on this planet now referred to as 'Earth'. I have been existing since the past 150393894.5 years. Do you see the use of a package above in the number mention in the document. I have used something to enunciate the numbers in a fashion such as a mathematical formulae.

Let us all try to replicate the text provided in this document.
*P.S.: Please note that I am following the Section Title **Noun Capitalization** in the document. This would be followed in the rest of the document, henceforth.*

3 Replication of this must be produced

LaTeX is a word processor and document markup language. It is distinguished from typical word processors such as Microsoft Word and Apple Pages in that the writer uses plain text as opposed to formatted text, relying on markup tagging conventions to define the general structure of a document (such as article, book, and letter), to stylise text throughout a document (such as **bold** and *italic*), and to add citations and cross-referencing. A **TeX** distribution such as **TeXlive** or **MikTeX** is used to produce an output file (such as PDF or DVI) suitable for printing or digital distribution.

LaTeX is used for the communication and publication of scientific documents in many fields, including mathematics, physics, computer science, statistics, economics, and political science. It also has a prominent role in the preparation and publication of books and articles that contain complex multilingual materials, such as Sanskrit and Arabic. **LaTeX** uses the TeX typesetting program for formatting its output, and is itself written in the TeX macro language.

LaTeX is widely used in academia. **LaTeX** can be used as a standalone document preparation system, or as an intermediate format. In the latter role, for example, it is often used as part of a pipeline for translating DocBook and other XML-based formats to PDF. The typesetting system offers programmable desktop publishing features and extensive facilities for automating most aspects of typesetting and desktop publishing, including numbering and cross-referencing of tables and figures, chapter and section headings, the inclusion of graphics, page layout, indexing and bibliographies.

Like **TeX, LaTeX** started as a writing tool for mathematicians and computer scientists, but from early in its development it has also been taken up by scholars who needed to write documents that include complex math expressions or non-Latin scripts, such as Arabic, Sanskrit and Chinese.

LaTeX is intended to provide a high-level language that accesses the power of **TeX**. LaTeX comprises a collection of TeX macros and a program to process **LaTeX** documents. Because the plain **TeX** formatting commands are elementary, it provides authors with ready-made commands for formatting and layout requirements such as chapter headings, footnotes, cross-references

and bibliographies.

LaTeX was originally written in the early 1980s by Leslie Lamport at SRI International. The current version is LaTeX2e. **LaTeX** is free software and is distributed under the **LaTeX** Project Public License (LPPL) (**Source Wikipedia**).

4 Opening and Compiling Tex Document

First create a **.tex** file using text editor such as **Vi** or **Gedit** or **Kile**.

5 Starting and Ending

A minimal input file looks like following

```
\documentclass{class}
\begin{document}
your text...
\end {document}
```

where the class is a valid document class for **LaTeX**.

5.1 Compiling the LaTeX Document

We open the terminal and go to the directory in which our .tex file is stored and the we execute the command

```
pdflatex example.tex
```

6 Section

\part

\section

\paragraph

(report and book class only)

\subparagraph

All sectioning commands take the same general form, e.g.,
\chapter[toctitle]{title}
In addition to providing the heading title in the main text, the section title can appear in two other places:

1. Table of contets

2. lable for table

You may not want the same text in these places as in the main text. To handle this, the sectioning commands have an optional argument toctitle that, when given, specifies the text for these other places.

\section*{premiable}
\chapter{A chapter}
. . .
\example

7   Cross Refernce

One reason for numbering things like figures and equations is to refer the reader to them, as in "Section 6 on Page 5 for more details". **I have referred to a section, and a page here here.**

7.1   \label{key}

A **label** command appearing in ordinary text assigns to key the number of the current sectional unit; one appearing inside a numbered environ- ment assigns

that number to key. A key name can consist of any sequence of letters, digits, or punctu- ation characters. Upper and lowercase letters are distinguished.

To avoid accidentally creating two labels with the same name, it is common to use labels consisting of a prefix and a suffix separated by a colon or period. Some conventionally-used prefixes:

ch   for chapters
sec   for lower-level secioning commands
fig   for figures
tab   for tables
eq   for equations

I think we have replicated the document enough.Let us just concentrate on learning features of the document provided to us.We have successfully demonstrated the the features such as Sections, Subsections, Labelling, Bold, Italics, Tabbing, Title Page, Huge, Large, math symbols.Typing in a LaTeX document to type in **LaTeX** code.

LET US LEAVE THE REST OF LaTeX FOR THE OUT-LAB.