

IT Workshop Lab Internal Exam

E2-CSE

10/04/2025

Abstract

LaTeX, is a document preparation system for high-quality typesetting. It is most often used for medium-to-large technical or scientific documents but it can be used for almost any form of publishing.

1 Introduction

latex supports for typesetting extremely complex mathematics, tables and technical content for the physical sciences[1] in LaTeX.

1.1 features

1. Professional Look.
 2. Automatic Formatting.
- Bibliographies and Citations.
 - Cross-referencing.

2 figures

To include figures, you first need to upload the image file named sample-image.jpg from your computer using the upload link in the file-tree menu[2]. Then use the includegraphics command to include it in your document [3].



Figure 1: RGUKT LOGO

3 tables

StudentInfo		
ID	Name	Marks
101	abc	85
102	xyz	90
103	mno	78

Table 1: Merged header table for student information

4 Equations

The sum of squares formula:

$$\sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6}$$

$$f(x) = ax^2 + bx + c \tag{1}$$

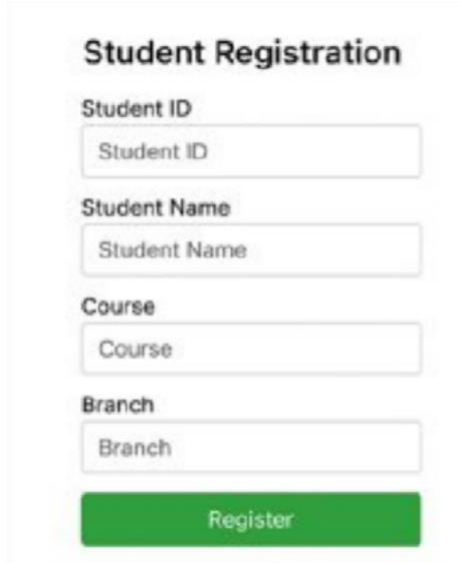
$$g(x) = dx^3 + ex^2 + fx + g \tag{2}$$

$$j(x) = \int_0^x e^{-t^2} dt \tag{3}$$

References

- [1] Mathew NO Sadiku and Cajetan M Akujuobi. Software-defined radio: a brief overview. *Ieee Potentials*, 23(4):14–15, 2004.
- [2] Tore Ulversoy. Software defined radio: Challenges and opportunities. *IEEE Communications Surveys & Tutorials*, 12(4):531–550, 2010.
- [3] Friedrich K Jondral. Software-defined radio—basics and evolution to cognitive radio. *EURASIP journal on wireless communications and networking*, 2005:1–9, 2005.

2. Create a web application that includes an HTML form to collect student details, processes the form data using PHP, and stores the data into database. If we click on register it should display message “successfully registered”, retrieve and display the data in the web page.



Student Registration

Student ID

Student Name

Course

Branch

Register

3. awk, grep, sed commands

Assume f.txt consist of below text

java is a popular programming language.

java is used in web development.

oops stands for Object Oriented Programming System,oops

oops concepts are important in java and oops.

Many developers prefer Java because of oops principles.

Learning oops with java helps in building better applications.

all the best.

e.txt

1 sonu 20000

2 ramu 30000

3 anu 40000

1. Search for lines starting with the word "oops" in f.txt,using grep

2. Replace the second occurrence of the word "oops" with "java" in each line of f.txt and Delete lines 2

to 4 from f.txt using sed

3. Display only the lines that **do not** contain the word "**oops**" from f.txt using grep

4. Use awk to print the first and third fields from each line in e.txt

5. **delete the 3rd line** from e.txt using sed