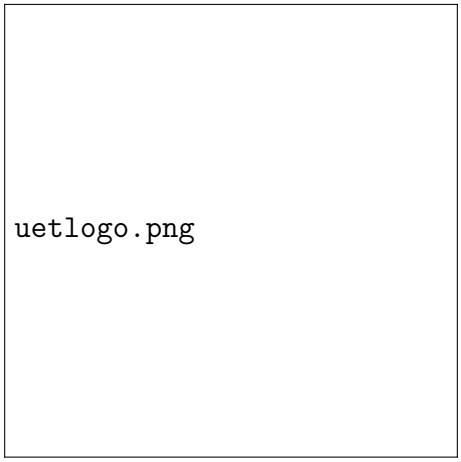

AICT Lab Report - Week 10

Introduction to LaTeX

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Contents

Abstract

A one-paragraph summary of the lab — what you did and what the document contains.

1 Introduction

This lab report demonstrates the fundamentals of LaTeX. It includes sections, images, tables, equations, citations, and a bibliography.

2 Objectives

- Understand LaTeX document structure
- Add sections and subsections
- Insert images and tables with captions and labels
- Write mathematical equations (quadratic formula, integral, matrix)
- Use references and create a bibliography (.bib)

3 Results Section

This section contains the required table, figure and explanations.

3.1 Student Marks Table

Table 1 shows sample student marks for the AICT lab.

Student	Subject	Marks
Ali	AICT	85
Ayesha	AICT	92
Hamza	AICT	78

Table 1: Student marks for AICT

3.2 Image Example

Figure 1 shows the UET logo inserted using the `graphicx` package.

4 Equations

Here are three mathematical examples required by the project.

Figure 1: UET Lahore Logo

4.1 Quadratic Formula

The quadratic formula solves $ax^2 + bx + c = 0$:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

4.2 Integral Example

A definite integral example:

$$\int_0^1 x^2 \, dx = \left[\frac{x^3}{3}\right]_0^1 = \frac{1}{3}$$

4.3 Matrix Example

A simple 2x2 matrix:

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

5 References in text

We cite one book and one article to practice referencing using a separate `.bib` file [2] and [1].

References

[1] Ali Ahmed. Introduction to latex. *Computer Science Review*, 12:34–45, 2020.

[2] John Smith. *Learning LaTeX*. Springer, 2015.