

Semester Project:

The project should involve a real-world scenario and must meet the following requirements Your project must consist of the following core components:

1. Backend Development (SQL Server)

You are expected to design and implement a robust relational database using SQL Server with the following specifications:

- Create tables using appropriate primary and foreign key constraints
- Apply suitable data types, enforce constraints
- Write and include SQL statements demonstrating DDL, DML, TCL etc

2. Frontend Development

You are required to develop a simple web-based interface for interacting with their database. You may use HTML/CSS in combination with PHP or JavaScript.

Your front end should allow users to:

- Add, update, and delete records
- View specific data using filters or search queries
- Display search results and basic reports (such as tabular summaries, counts, etc.)

3. Database Design Documentation

Project Report

Each group is required to prepare a formal project report in PDF format including the sections listed below:

a. Cover Page

- Project Title
- Group Members (Full Names & Roll Numbers)

b. Table of Contents

c. Introduction

- Background of the chosen problem
- A real-life application or relevance

d. Requirement Analysis

- Functional Requirements (what the system should do)
- Non-Functional Requirements (performance, usability, etc.)

e. ER Diagram & Relational Schema

f. Database Design

- Table structures, constraints, and key relationships
- Justification of design choices

g. SQL Scripts

- Include DDL, DML, TCL etc. queries (as screenshots or code snippets)

h. User Interface

- Screenshots of your frontend interface
- Description of functionalities

i. Testing & Validation

- Sample inputs and outputs
- Any data validation implemented

j. Challenges & Learnings

- Obstacles you faced and how you overcame them
- Key skills or insights gained from the project

k. Conclusion & Future Enhancements

- Project summary
- Suggestions for extending or improving the system

Final Submission:

Each group must submit a **.zip folder** containing the following:

- Final Project Report (PDF)
- Complete SQL Script File (.sql)
- Source Code for the front-end (HTML/CSS, JS, or PHP)
- ER Diagram file (.drawio or image)