SQL Project Report

Introduction

This project focuses on building a Student Result Management System using SQL. It demonstrates how to design and implement a database that stores student details, courses, semesters, and grades. Additionally, it provides functionalities to calculate GPA, CGPA, and generate student performance reports.

Abstract

The main objective of this project is to design a structured database system for managing student academic results. The project includes creating tables, defining relationships, inserting data, and writing SQL queries to fetch required results. It also incorporates triggers to automate grade calculation, and views to simplify result analysis. Finally, the project allows exporting data for external use.

Tools Used

MySQL Database

SQL Queries and Commands

Triggers for automatic GPA calculation

Views for summarized result generation

Data Export functionality

Steps Involved in Building the Project

1. Created a database named Studentresult\_db.

2. Designed tables: Students, Course, Semesters, and Grades.

3. Inserted sample records into the tables.

4. Implemented SQL queries to calculate GPA, CGPA, and student ranking.

5. Created a trigger to assign grades and GPA automatically based on marks.

6. Defined a view Semester\_Result for semester-wise GPA analysis.

7. Exported semester results into a CSV file for reporting.

Conclusion

The project successfully demonstrates the use of SQL in creating and managing a Student Result Management System. It highlights the importance of database normalization, constraints, triggers, and views in maintaining accuracy and simplifying report generation. The system provides an efficient way to calculate and analyze student performance across semesters.