

DBMS Case Study: University Management System

Introduction

A small university requires a database to efficiently manage students, courses, instructors, and enrollments. The goal is to track student course registrations, course details, and instructor assignments while maintaining data integrity and minimizing redundancy. The assignment follows a step-by-step progression from conceptual design via an ER model, logical schema creation, normalization, and advanced PL/SQL features and views.

Conceptual Database Design (ER Modeling)

Entities to include:

Student: Attributes: Student_ID (primary key), Name, Age, Gender, Contact.

Course: Attributes: Course_ID (primary key), Course_Name, Credits.

Instructor: Attributes: Instructor_ID (primary key), Name, Department.

Enrollment: Represents the association between Student and Course, with attributes Grade, Semester.

Relationships:

Student enrolls in Course (many-to-many through Enrollment).

Instructor teaches Course (one-to-many).

Draw an ER diagram representing these entities and their relationships with proper cardinalities.