Project 2 : University Examination System

department
- D_id INT
- D_Name VARCHAR(10...
- Indexes

course
- C_id INT
- C_Name VARCHAR(10...
- D_id INT
- Indexes

faculty
- F_ID INT
- Faculty_Name VARCHAR(10...
- Indexes

enrollme...
- S_id INT
- C_id INT
- Indexes

student
- S_id INT
- S_Name VARCHAR(10...
- D_id INT
- Indexes

teach...
- F_ID INT
- C_id INT
- Indexes

attendance
- S_id INT
- C_id INT
- Attendance_Percentage DECIMAL(5,...
- Indexes

exam
- Exam_ID INT
- Subject VARCHAR(10...
- Type VARCHAR(50)
- Date DATE
- Duration INT
- Faculty_id INT
- C_id INT
- Indexes

🧑‍🎓 Student Table

```sql
CREATE TABLE Student (
    S_id INT PRIMARY KEY,
    S_Name VARCHAR(100),
    D_id INT,
    FOREIGN KEY (D_id) REFERENCES Department(D_id)
);
```

🏢 Department Table

```sql
CREATE TABLE Department (
    D_id INT PRIMARY KEY,
    D_Name VARCHAR(100)
);
```

📚 Course Table

```sql
CREATE TABLE Course (
    C_id INT PRIMARY KEY,
    C_Name VARCHAR(100),
    D_id INT,
    FOREIGN KEY (D_id) REFERENCES Department(D_id)
);
```

🧑‍🏫 Faculty Table

```sql
CREATE TABLE Faculty (
    F_ID INT PRIMARY KEY,
    Faculty_Name VARCHAR(100)
);
```

🔁 Faculty Teaches Course

```sql
CREATE TABLE Teaches (
    F_ID INT,
    C_id INT,
    FOREIGN KEY (F_ID) REFERENCES Faculty(F_ID),
    FOREIGN KEY (C_id) REFERENCES Course(C_id)
);
```

📝 Exam Table

```sql
CREATE TABLE Exam (
    Exam_ID INT PRIMARY KEY,
    Subject VARCHAR(100),
    Type VARCHAR(50), -- 'Internal' or 'External'
    Date DATE,
    Duration INT, -- In minutes
    Faculty_id INT,
    C_id INT,
    FOREIGN KEY (Faculty_id) REFERENCES Faculty(F_ID),
    FOREIGN KEY (C_id) REFERENCES Course(C_id)
);
```

📊 Attendance Table

```sql
CREATE TABLE Attendance (
    S_id INT,
    C_id INT,
    Attendance_Percentage DECIMAL(5,2),
    PRIMARY KEY (S_id, C_id),
    FOREIGN KEY (S_id) REFERENCES Student(S_id),
    FOREIGN KEY (C_id) REFERENCES Course(C_id)
);
```

📌 OPTIONAL: Enrollment Table (Recommended)

```sql
CREATE TABLE Enrollment (
    S_id INT,
    C_id INT,
    PRIMARY KEY (S_id, C_id),
    FOREIGN KEY (S_id) REFERENCES Student(S_id),
    FOREIGN KEY (C_id) REFERENCES Course(C_id)
);
```

/* ========== DATA INSERTION ========== */

-- Department
INSERT INTO Department (D_id, D_Name) VALUES
(1, 'Computer Science'),
(2, 'Mechanical Engineering'),
(3, 'Electrical Engineering');

-- Student
INSERT INTO Student (S_id, S_Name, D_id) VALUES
(101, 'Ravi Kumar', 1),
(102, 'Anita Sharma', 2),
(103, 'Mohit Verma', 3);

-- Course
INSERT INTO Course (C_id, C_Name, D_id) VALUES
(201, 'Data Structures', 1),
(202, 'Thermodynamics', 2),
(203, 'Circuit Theory', 3);

-- Faculty
INSERT INTO Faculty (F_ID, Faculty_Name) VALUES
(301, 'Dr. Ramesh'),
(302, 'Prof. Neha'),
(303, 'Dr. Singh');

-- Teaches
INSERT INTO Teaches (F_ID, C_id) VALUES
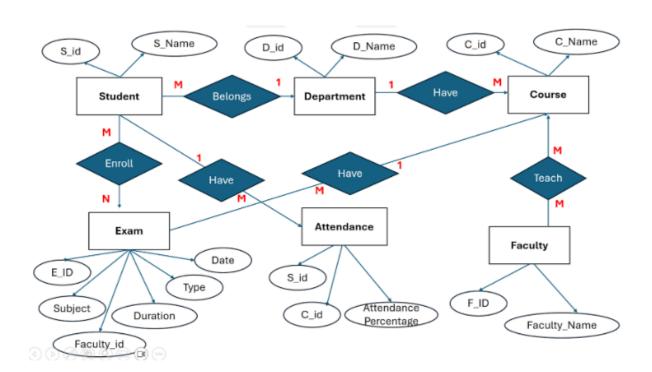(301, 201),
(302, 202),
(303, 203);

-- Exam

INSERT INTO Exam (Exam_ID, Subject, Type, Date, Duration, Faculty_id, C_id) VALUES
(401, 'Data Structures', 'Internal', '2025-06-20', 90, 301, 201),
(402, 'Thermodynamics', 'External', '2025-06-22', 120, 302, 202),
(403, 'Circuit Theory', 'Internal', '2025-06-24', 60, 303, 203);

-- Attendance
INSERT INTO Attendance (S_id, C_id, Attendance_Percentage) VALUES
(101, 201, 85.50),
(102, 202, 78.25),
(103, 203, 92.00);

-- Enrollment
INSERT INTO Enrollment (S_id, C_id) VALUES
(101, 201),
(102, 202),
(103, 203);

N24H01A0574
E.Pavani.