# Day 25 – SQL Practice: University Database Analytics

## 🎓 Dataset Overview

This dataset simulates a university environment with students, courses, instructors, and enrollments. Your tasks involve analyzing academic performance, course popularity, and departmental efficiency.

## 📁 Tables and Sample Data

1. Students

|  |  |  |  |
| --- | --- | --- | --- |
| StudentID | StudentName | Gender | Major |
| 1 | Amit Sharma | Male | Computer Science |
| 2 | Priya Verma | Female | Mathematics |
| 3 | Raj Mehta | Male | Physics |
| 4 | Sneha Kapoor | Female | Computer Science |

2. Courses

|  |  |  |  |
| --- | --- | --- | --- |
| CourseID | CourseName | Department | InstructorID |
| 101 | Database Systems | Computer Science | 9001 |
| 102 | Linear Algebra | Mathematics | 9002 |
| 103 | Quantam Mechanics | Physics | 9003 |
| 104 | Operating Systems | Computer Science | 9001 |

3. Instructors

|  |  |  |
| --- | --- | --- |
| InstructorID | InstructorName | Department |
| 9001 | Dr. Ramesh Iyer | Computer Science |
| 9002 | Dr. Anjali Das | Mathematics |
| 9003 | Dr. Vivek Rao | Physics |

4. Enrollments

|  |  |  |  |
| --- | --- | --- | --- |
| EnrollmentID | StudentID | CourseID | Grade |
| 201 | 1 | 101 | A |
| 202 | 2 | 102 | B |
| 203 | 3 | 103 | A |
| 204 | 4 | 101 | B |
| 205 | 1 | 104 | A |
| 206 | 2 | 104 | C |

## 🧠 Practice Questions

1) List all students along with their enrolled courses and corresponding grades.

2) Display each instructor along with the number of students taught by them.

3) Show the average grade per course (assume A=4, B=3, C=2, D=1).

4) Find the most popular course based on enrollments.

5) List students who have taken more than one course.

6) Identify courses with no enrolled students.

7) Show the distribution of grades for each department.

8) Rank courses by student performance (average grade).

9) Display students who scored an A in all their courses.

10) List departments along with their total enrollments and average grade.

🎯 Bonus:

Find the top 2 students with the highest average grades across all enrolled courses.