SQL Practice Questions

🟢 EASY LEVEL (20 Questions)

1. List all student names and their admission year.
2. Display all courses offered by the Computer Science department.
3. Show all faculty names and their department IDs.
4. Get all students admitted after 2020.
5. Retrieve the list of female students in the IT department.
6. Find all distinct admission years available in the system.
7. Show top 5 students based on student_id (simulate LIMIT).
8. Skip first 5 and fetch next 5 students.
9. List all course names ordered by credits (highest first).
10. Find all faculty who joined before 2015.
11. Display all departments established before 2005.
12. Get all male students from Bengaluru city.
13. Show all courses that have 4 credits.
14. List faculty names and their corresponding department names.
15. Find all student names with their department names.
16. Display student name and course name for all enrollments.
17. Count total students in each department.
18. List departments having more than 10 students.
19. Find how many courses each faculty teaches.
20. Get list of students and their faculty mentors.

🟡 MEDIUM LEVEL (20 Questions)

1. Count how many students belong to each gender.
2. Find how many courses each department offers.
3. Show total number of faculty working in each department.
4. List courses that have more than 3 credits.
5. Display faculty name with the number of courses they handle (only those handling more than 2).
6. Find each student's department and their admission year.
7. List number of students admitted each year per department.
8. Show the cities that have more than one student living.
9. Find all courses with their department and number of enrolled students.
10. List faculty who teach at least one course from each department they belong to.
11. Show the number of courses each student has enrolled in.
12. List students who are enrolled in exactly 5 courses.
13. Show department-wise average course credits.
14. Find students who have the same admission year as "Aarav Kumar."
15. List faculty teaching "Machine Learning."
16. Display each faculty with the total credits of all courses they teach.
17. Get list of departments and the average number of students per faculty.
18. Show the most recent admission year for each department.
19. List the top 3 most popular courses (highest enrollments).
20. Show all faculty and the number of distinct years they were assigned courses.

🔴 HARD LEVEL (10 Challenges)

1. Find the students who have enrolled in more courses than the average number of courses taken by all students.
2. Retrieve the department(s) that has the maximum number of students.
3. Find students who are enrolled in all the courses offered by their department.
4. List the top 2 students (by number of courses) in each department.
5. Find the faculty who teach courses that no other faculty teaches.
6. List all courses that have no students enrolled.
7. Find each department's faculty who handle the maximum total credits of courses.
8. List students who share the same faculty mentor.
9. Show each faculty with the average grade of students in their department.
10. Find students whose faculty mentors joined before 2010 and who study in departments older than 2003.

💎 BONUS SET – Advanced Real Practice (10 Problems)

1. Calculate each student's age (derived attribute).
2. Validate that faculty hire_date is not in the future.
3. Find students whose age is not between 17 and 25 (invalid admission cases).
4. Display students whose email (if exists) does not match a valid pattern.
5. Find number of students from each city and rank cities by population.
6. Show students with faculty mentor name, course count, and city.
7. Find top 1 student per department with most enrolled courses.
8. Replace missing phone numbers with "N/A."
9. Create a view summarizing student performance with GPA.
10. Delete all students who have not enrolled in any course (data cleanup).