Department of Computer Science and Engineering,
Anna University, Chennai- 600025
CS23401 – Database Management System (R 2023)
Practical
Jan- May 2025
Year/Sem/Batch : II/IV/ P

Exercise: 6	SQL Queries on Joins	10- Feb- 2025

Observation (5 Marks)

1. Define joins in SQL.
2. List out all the types of joins.
3. Define the terms degree and cardinality.
4. Write syntax with example for the following
    a. Natural join
    b. Equijoin
    c. Inner join
    d. Outer join, Left outer join and right outer join
    e. Full outer join

Execution (15 Marks)

Note : Use the relation in AIMS scenario and do the updation /modification as and when Required

1. Display the list of all students with their ID,name, dept_name and tot_cred along with the courses that they have taken.
2. Display a list of all instructors, showing their ID, name and the number of sections that they have taught. Make sur to show the number of sections as 0 for instructors who have not taught any section. Your query should use outerjoin , and should not use scalar subqueries.
3. Write the same query as above, but using a scalar subquery without outerjoin.
4. Display the list of all departments, with the total number of instructors in each department.
5. List all the students with their course enrollments, including those who haven't enrolled in any courses.
6. List all course enrollments, including those where the student information might be missing or not recorded in the student table.
7. Obtain a comprehensive view of all students and their course enrollments, including students without enrollments and enrollments without corresponding student records.

8. We expect the constraint “an instructor cannot teach sections in two different classrooms in a semester in the same time slot” to hold. Write an SQL query that returns all (instructor, section) combinations that violate this constraint.
9. Find the IDs and GPA of top 10 students in order of GPA.
10. Display the total number of credits students took with the particular department.