Computer Science and Engineering Department
Motillal Nehru National Institute of Technology Allahabad
B.Tech V Semester
DBMS Lab (CSN15401)
Assignment-8

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1. Consider the *university course enrollment system* with following schema and tables:
Relational schema: Students (StudentID, StudentName, Department)
Table: Students

StudentID	StudentName	Department
1	Alice	CS
2	Bob	EE
3	Carol	ME

Relational schema: Courses (CourseID, CourseName, Credits)
Table: Courses

CourseID	CourseName	Credits
101	Database	3
102	Networking	3
103	AI	4

Relational schema: Enrollments (StudentID, CourseID, Grade)
Table: Enrollments

StudentID	CourseID	Grade
1	101	A
2	102	B
3	101	C
1	103	A

For the above scenario, write SQL queries for the following:

a) List all students who have enrolled in courses, along with their course names and grades.
b) List all students, including those who are not enrolled in any courses. Show the courses they are enrolled in and their grades if available.
c) List all courses, including those with no students enrolled. Show the names of students and their grades if available.
d) List all students and all courses, even if no enrollment exists.

2. Consider a *sales management system* with relational schema given as:

i. Customers (CustomerID, CustomerName, City)
Stores information about customers.
ii. Orders (OrderID, CustomerID, OrderDate)
Stores details about orders placed by customers.

iii. Products (ProductID, ProductName, Price)
Stores details of the products offered by the store.

iv. OrderDetails (OrderID, ProductID, Quantity)
Tracks which products were ordered in each order and their quantities.

For the above relational schemas, write SQL queries for the following:

a) List all customers and the products they have been ordered, including customers who haven't placed any orders and products that haven't been purchased
b) List all products, their prices, and the total number of times each product has been ordered. Include products that have never been ordered.
c) List all customers, orders, and products (including those with no orders or products)
d) List all orders and their products (including orders without products)