Data Science On-Ramp Course: SQL

Assignment 4: Queries in SQL

Problem: Consider the CUSTOMERS and ORDERS table as shown below,

CUSTOMERS

CustomerID	CustomerName	Address	City	PostalCode	Country
41	Suhas Jagadish	720 S College Mall Rd	Bloomington	47401	USA
42	Walter White	2411 E 2nd St.	Bloomington	47401	USA
43	Jessy Pinkman	1320 S Walnut Road	Chicago	60290	USA
44	Arjun Rao	240 N Harrison St.	Bloomington	47404	USA
45	Saul Goodman	233 S Wacker Dr	Chicago	60606	USA

ORDERS

OrderID	OrderName	CustomerID	PurchaseDate	Price(in $)
101	Earphones	41	6/25/2016	25
102	Sony PlayStation	43	5/20/2016	300
103	Nexus 5x	44	12/30/2015	429

1) Find the details of the customers who live in Chicago or contains the string “Mall” in their address.
2) Find the customer names and their corresponding order names, which were purchased in 2016.
3) Find the order name, purchase date and price details of customers who reside in Bloomington.
4) Perform LEFT JOIN on the two tables and output the results.
5) Perform FULL JOIN on the two tables and output the results.

Problem: Consider the below three tables,

BOAT

Bid	Bname	Color
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	Marine	red

SAILORS

Sid	Sname	Rating
22	dustin	7
29	brutus	1
31	lubber	8
32	andy	8
58	rusty	10
64	horatio	7
71	zorba	10
74	horatio	9
85	art	3
95	bob	3

RESERVES

Sid	Bid
22	101
22	102
22	103
22	104
31	102
31	103
31	104
64	101
64	102
74	103

1) Find the details of sailors whose name contains 'o' at the second position or whose rating is greater than 7.
2) Find the names of sailors who have reserved boat #103.
3) Find the names of sailors who have reserved a red boat AND has a rating 7.
4) Find the names of sailors who have reserved a red OR a green boat.
5) Find the names of sailors who have reserved a red AND a green boat.

Problem: Consider the following relation schemas:

Student*(Sid, Sname, GPA, Major)*
Instructor*(InstructorId, Iname, Deptname)*
Enroll*(Sid, Cno, InstructorId, Grade)*

Imagine the records for each of the tables and answer the below queries -

1) Find the names of students who are enrolled in courses offered by instructors in the "CS" department (So you need to have value in '*Deptname'* as CS).
2) Find the names and grades of the enrolled students who have their gpa more than 3.5 OR an 'A' grade.
3) Find the names of the students and their majors who belong to "CS" department.
4) Find the ID and names of students who are taught by at least two instructors.

NOTE: I would encourage you to create all these tables in MySQL, load the corresponding records, execute the queries and output the resultant tables.