QUERY FORMULATION - I

BATCH I & II   **Date: 11th & 13th July 2018**
                                                             (Week-4)

note: all the students must come well prepared for the lab. Solve all the exercises and get your observations marked during the lab session itself.

Supplementary Reading
Steps in creating and using a (relational) database: 1. Design schema 2. Create schema (using DDL) 3. Insert data 4. Repeat: execute queries and updates on the database

Sample Database for this week

The database consists of three relations ;

Sailors(sid: integer, snarne: string, rating: integer, age: real)

Boats(bid: integer, bnarne: string, coloT: string)

Reserves(sid: integer, bid: _~_r:teger, day: date)

Write the SQL statements to create these relations, including appropriate versions of primary and foreign key constraints.

Sailors

sid	sname	rating	age
22	Dustin	7	45.0
29	Brutus	1	33.0
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35.0
64	Horatio	7	35.0
71	Zorba	10	16.0
74	Horatio	9	35.0
85	Art	3	25.5
95	Bob	3	63.5

Boats

bid	bname	color
101	Interlake	Blue
102	Interlake	Red
103	Clipper	Green
104	Marine	Red

Reserves

sid	bid	day
22	101	10/10/98
22	102	10/10/98
22	103	10/8/98
22	104	10/7/98
31	102	11/10/98
31	103	11/6/98
31	104	11/12/98
64	101	9/5/98
64	102	9/8/98
74	103	9/8/98

Lab Exercises - Write the following queries in Relational algebra and SQL.
Q1. Find the names of the sailors who have reserved boat 103.
Q2. Find the names of sailors who have reserved a red boat.
Q3. Find the colors of boats reserved by lubber.
Q4. Find the names of sailors who have reserved at least one boat.
Q5. Find the names of sailors who have reserved a red or a green boat.
Q6. Find the names of sailors who have reserved a red and a green boat.
Q7.Find the sids of sailors with age over 20 who have not reserved a red boat.
Q8. Find the sids and names of sailors whose name has at least 4 characters.
Q9. Find the names of sailors who have reserved all boats   *(This query is quite challenging; congratulations if you get it right.)*
Q10. Find the names of sailors who have reserved all boats called interlake.   *(This query is very challenging; extra congratulations if you get it right.)*