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Roll No. : 26 Class : FYMCA

Div: A

# **DBMS Assignment No.: 3**

Title: Write at least 10 SQL queries on the suitable database application using SQL DML statements: Insert, Select, Update, Delete with operators(Arithmetic Operators, Logical Operators, Comparison Operator, Special Operator), functions (Number function, Aggregate Function, Character Function, Conversion Function, Date Function)

Problem Statement:
A) Create tables in ORACLE using SQL DDL statements.
Sailor(sid:integer, sname string, rating:integer, age real)
Boat(bid:integer, bname string, color:string)
Reservestsid:integer, bid:integer, day date)
1. Insert following records in the above tables Sailors
CREATE TABLE Sailor(sid int PRIMARY KEY, sname VARCHAR (50) NOT NULL, rating int NOT NULL, age REAL NOT NULL);

desc Sailor;

Object Type	TABLE	bject <b>SAILOR</b>							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAILOR	SID	NUMBER	22	-	0	1	-	-	-
	<b>SNAME</b>	VARCHAR2	50	-	-	-	-	-	-
	<u>RATING</u>	NUMBER	22	-	0	-	-	-	-
	<u>AGE</u>	FLOAT	63	63	-	-	-	-	-
								1	- 4

INSERT INTO Sailor (sid, sname, rating, age) VALUES (22,'Dustin',7,45.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (29,'Brutus',1,33.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (31,'Lubber',8,55.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (32,'Andy',8,25.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (58,'Rusty',10,35.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (64,'Horatio',7,35.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (71,'Zorba',10,16.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (74,'Horatio',9,35.0);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (85,'Art',3,25.5);
INSERT INTO Sailor (sid, sname, rating, age) VALUES (95,'Bob',3,63.5);
select \* from Sailor;

SID	SNAME	RATING	AGE
22	Dustin	7	45
29	Brutus	1	33
31	Lubber	12	55
32	Andy	11	25
58	Rusty	13	35
64	Horatio	10	35
71	Zorba	13	16
74	Horatio	12	35
85	Art	3	25.5

CREATE TABLE Boat(bid int PRIMARY KEY, bname VARCHAR (50) NOT NULL, color VARCHAR(20) NOT NULL);

### desc Boat;

Object Type TABLE Object BOAT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BOAT	BID	NUMBER	22	-	0	1	-	-	-
	<b>BNAME</b>	VARCHAR2	50	-	-	-	-	-	-
	COLOR	VARCHAR2	20	-	-	-	-	-	-
								1	- 3

INSERT INTO Boat (bid, bname, color) VALUES (101,'Interlake','blue');
INSERT INTO Boat (bid, bname, color) VALUES (102,'Interlake','red');
INSERT INTO Boat (bid, bname, color) VALUES (103,'Clipper','green');
INSERT INTO Boat (bid, bname, color) VALUES (104,'Marine','red');
select \* from Boat;

BID	BNAME	COLOR
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	Marine	red

**CREATE TABLE Reserves(** 

sid int , bid int , day DATE,

PRIMARY KEY (sid,bid),

FOREIGN KEY (sid) REFERENCES Sailor (sid),

FOREIGN KEY (bid) REFERENCES Boat (bid));

desc Reserves;

Object Type TABLE Object RESERVES

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>RESERVES</u>	SID	NUMBER	22	-	0	1	-	-	-
	BID	NUMBER	22	-	0	2	-	-	-
	DAY	DATE	7	-	-	-	~	-	-
								1	- 3

INSERT INTO Reserves (sid, bid, day) VALUES (22,101,'10-10-98');
INSERT INTO Reserves (sid, bid, day) VALUES (22,102,'10-10-98');
INSERT INTO Reserves (sid, bid, day) VALUES (22,103,'10-8-98');
INSERT INTO Reserves (sid, bid, day) VALUES (22,104,'10-7-98');
INSERT INTO Reserves (sid, bid, day) VALUES (31,102,'11-10-98');
INSERT INTO Reserves (sid, bid, day) VALUES (31,103,'11-6-98');
INSERT INTO Reserves (sid, bid, day) VALUES (31,104,'12-12-98');

INSERT INTO Reserves (sid, bid, day) VALUES (64,101,'9-5-98');
INSERT INTO Reserves (sid, bid, day) VALUES (64,102,'9-8-98');
INSERT INTO Reserves (sid, bid, day) VALUES (74,103,'9-8-98');
select \* from Reserves;

SID	BID	DAY
22	101	10/10/0098
22	102	10/10/0098
22	103	10/08/0098
22	104	10/07/0098
31	102	11/10/0098
31	103	11/06/0098
31	104	12/12/0098
64	101	09/05/0098
64	102	09/08/0098
74	103	09/08/0098

SELECT sname, age FROM Sailor;

SNAME	AGE
Dustin	45
Brutus	33
Lubber	55
Andy	25
Rusty	35
Horatio	35
Zorba	16
Horatio	35
Art	25.5

SELECT \* from Sailor WHERE rating > 7;

SID	SNAME	RATING	AGE
31	Lubber	12	55
32	Andy	11	25
58	Rusty	13	35
64	Horatio	10	35
71	Zorba	13	16
74	Horatio	12	35

UPDATE Sailor SET rating = rating\*1.1 WHERE age < 40;

SID	SNAME	RATING	AGE
22	Dustin	7	45
29	Brutus	1	33
31	Lubber	12	55
32	Andy	13	25
58	Rusty	15	35
64	Horatio	12	35
71	Zorba	15	16
74	Horatio	14	35
85	Art	3	25.5

UPDATE Sailor SET rating = rating + 2 WHERE sid IN (SELECT sid FROM Reserves WHERE day = TO\_DATE('12-12-98','MM-DD-YYYY'));

SID	SNAME	RATING	AGE
22	Dustin	7	45
29	Brutus	1	33
31	Lubber	14	55
32	Andy	13	25
58	Rusty	15	35
64	Horatio	12	35
71	Zorba	15	16
74	Horatio	14	35
85	Art	3	25.5

DELETE FROM Sailor WHERE rating < 10 AND age > 50;

SID	SNAME	RATING	AGE
22	Dustin	7	45
29	Brutus	1	33
31	Lubber	14	55
32	Andy	13	25
58	Rusty	15	35
64	Horatio	12	35
71	Zorba	15	16
74	Horatio	14	35
85	Art	3	25.5

UPDATE Sailor SET sname = NULL WHERE sid IN (SELECT sid FROM Reserves WHERE bid = 102);

B)

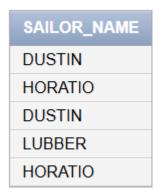
SELECT UPPER(s.sname) AS sailor\_name

FROM Sailor s

JOIN Reserves r ON s.sid = r.sid

JOIN Boat b ON r.bid = b.bid

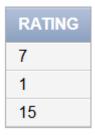
WHERE b.bname = 'Interlake';



SELECT rating

**FROM Sailor** 

WHERE sname LIKE '%us%';



SELECT AVG(age) AS average\_age

FROM Sailor

WHERE rating = 8;



SELECT COUNT(\*) AS sailor\_count

**FROM Sailor** 

WHERE rating > 5;



SELECT ADD\_MONTHS(day, 2) AS new\_reservation\_date

**FROM Reserves** 

WHERE bid = 101 AND sid = 64;

# NEW\_RESERVATION\_DATE

11/05/0098

SELECT DATE\_ADD(day, INTERVAL 2 MONTH) AS new\_reservation\_date

**FROM Reserves** 

WHERE bid = 101 AND sid = 64;

SELECT MONTHS\_BETWEEN(SYSDATE, TO\_DATE('12/02/2021', 'MM/DD/YYYY')) AS months\_difference

FROM dual;

# MONTHS\_DIFFERENCE

39.8263859020310633213859020310633213859

SELECT b.bname AS boat\_name, TO\_CHAR(r.day, 'Month') AS reservation\_month

FROM Boat b

JOIN Reserves r ON b.bid = r.bid;

BOAT_NAME	RESERVATION_MONTH
Interlake	September
Interlake	October
Interlake	October
Interlake	November
Interlake	September
Clipper	November
Clipper	October
Clipper	September
Marine	December
Marine	October

SELECT SIGN(-10) AS sign\_negative, SIGN(10) AS sign\_positive, SIGN(0) AS sign\_zero FROM dual;

SIGN_NEGATIVE	SIGN_POSITIVE	SIGN_ZERO
-1	1	0

SELECT sname, age, SQRT(age) AS square\_root\_age

FROM Sailor;

SNAME	AGE	\$QUARE_ROOT_AGE
Dustin	45	6.70820393249936908922752100619382870632
Brutus	33	5.74456264653802865985061146821892931822
Lubber	55	7.41619848709566294871139744080071306098
Andy	25	5
Rusty	35	5.91607978309961604256732829156161704842
Horatio	35	5.91607978309961604256732829156161704842
Zorba	16	4
Horatio	35	5.91607978309961604256732829156161704842
Art	25.5	5.0497524691810389766816929585348003553

SELECT TO\_CHAR(day, 'DD-Mon-YYYY') AS formatted\_date

FROM Reserves;

FORMATTED_DATE
10-Oct-0098
10-Oct-0098
08-Oct-0098
07-Oct-0098
10-Nov-0098
06-Nov-0098
12-Dec-0098
05-Sep-0098
08-Sep-0098
08-Sep-0098

## SELECT MIN(rating) AS min\_rating, MAX(rating) AS max\_rating

### FROM Sailor;

MIN_RATING	MAX_RATING
1	15

SELECT sname, age

**FROM Sailor** 

WHERE sname LIKE 'B%'

AND sname LIKE '%B'

AND LENGTH(sname) >= 3;

SELECT sname, age

**FROM Sailor** 

WHERE LOWER(sname) LIKE 'a%'

OR LOWER(sname) LIKE 'I%';

SNAME	AGE
Lubber	55
Andy	25
Art	25.5

SELECT sname

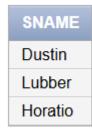
**FROM Sailor** 

WHERE rating > 7

AND age BETWEEN 33 AND 45;



```
SELECT s.sname
FROM Sailor s
WHERE s.sid NOT IN (
  SELECT r.sid
  FROM Reserves r
 WHERE r.day = TO_DATE('10/10/98', 'MM/DD/YYYY')
);
   SNAME
   Brutus
   Lubber
   Andy
   Rusty
   Horatio
   Zorba
   Horatio
   Art
SELECT s.sname
FROM Sailor s
WHERE s.sid IN (
  SELECT r.sid
  FROM Reserves r
  WHERE r.bid = 103
);
```



SELECT s.sname

```
FROM Sailor s

WHERE EXISTS (

SELECT 1

FROM Reserves r

WHERE r.sid = s.sid

AND r.bid = 103
);
```

# Dustin Lubber Horatio