DBMS LAB-6

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Assignment-1 Questions:

Use the employee.csv file for below questions. Use only nested queries to solve the below questions.

1. Write a query to display the employee name and date of joining for all employees in the same department as Mark. Exclude Mark.

```
mysql> select emp_name,doj from employee
    -> where emp_dept = (select distinct emp_dept from employee
    -> where emp_name = 'Mark') and emp_name <> 'Mark';
+----------+------------+
| emp_name | doj        |
+----------+------------+
| Linklon  | 08-08-2008 |
| Linklon  | 01-01-2000 |
+----------+------------+
2 rows in set (0.00 sec)

mysql>
```

2. Create a query to display the employee number and name for all employees who earn more than the average salary. Sort the results in descending order of salary.

```
mysql> select emp_name,emp_id,income from employee
    -> where income > (select avg(income) from employee)
    -> order by income desc;
+----------+--------+--------+
| emp_name | emp_id | income |
+----------+--------+--------+
| Vasin    |   2514 | 800000 |
| Vasin    |   2524 | 800000 |
| Manas    |   2513 | 600000 |
| Manas    |   2523 | 600000 |
| Adam     |   2511 | 540000 |
| Adam     |   2521 | 540000 |
| Obama    |   2508 | 500000 |
| Obama    |   2518 | 500000 |
+----------+--------+--------+
8 rows in set (0.00 sec)

mysql>
```

3. Write a query to display the employee number and name for all employees who work in a department with any employee whose name contains a “N”.

```
mysql> select emp_id,emp_name from employee
    -> where emp_dept in (select emp_dept from employee
    -> where emp_name like '%n%');
+--------+----------+
| emp_id | emp_name |
+--------+----------+
|   2505 | peter    |
|   2506 | Mark     |
|   2507 | Donald   |
|   2509 | Linklon  |
|   2510 | Kane     |
|   2512 | Mac      |
|   2513 | Manas    |
|   2514 | Vasin    |
|   2515 | peter    |
|   2516 | Mark     |
|   2517 | Donald   |
|   2519 | Linklon  |
|   2520 | Kane     |
|   2522 | Mac      |
|   2523 | Manas    |
|   2524 | Vasin    |
+--------+----------+
16 rows in set (0.01 sec)

mysql>
```

4. Display the employee name, department number, and job title for all employees whose place is India.

```
mysql> select emp_name,doj,emp_dept from employee
    -> where place = (select distinct place from employee
    -> where place = 'India');
+----------+------------+----------+
| emp_name | doj        | emp_dept |
+----------+------------+----------+
| Manas    | 11-12-1990 | Accounts |
| Vasin    | 10-10-1989 | Accounts |
| Manas    | 25-03-1980 | Accounts |
| Vasin    | 25-08-2002 | Accounts |
+----------+------------+----------+
4 rows in set (0.00 sec)

mysql>
```

5. Write an SQL query to show the second highest salary from the employee table.

```
mysql> select max(income) from employee
    -> where income <> (select max(income) from employee);
+-------------+
| max(income) |
+-------------+
|      600000 |
+-------------+
1 row in set (0.00 sec)

mysql>
```

Assignment-2 Question.

Please use the following schemas and create the following tables. Then write queries for the following questions using the concept of nested queries.

Sailors(sid: integer, sname: string, rating: integer, age: real);

```
mysql> select * from sailors;
+------+---------+--------+------+
| sid  | sname   | rating | age  |
+------+---------+--------+------+
|   22 | Dustin  |      7 |   45 |
|   29 | Brutus  |      1 |   33 |
|   31 | Lubber  |      8 | 55.5 |
|   32 | Andy    |      8 | 25.5 |
|   58 | Rusty   |     10 |   35 |
|   64 | Horatio |      7 |   35 |
|   71 | Zorba   |     10 |   16 |
|   74 | Horatio |      9 |   40 |
|   85 | Art     |      3 | 25.5 |
|   95 | Bob     |      3 | 63.5 |
+------+---------+--------+------+
10 rows in set (0.00 sec)

mysql>
```

Boats(bid: integer, bname: string, color: string);

```
mysql> select * from boats;
+------+-----------+-------+
| bid  | bname     | color |
+------+-----------+-------+
|  101 | Interlake | blue  |
|  102 | Interlake | red   |
|  103 | Clipper   | green |
|  104 | Marine    | red   |
+------+-----------+-------+
4 rows in set (0.00 sec)
```

Reserves(sid: integer, bid: integer, day: date).

```
mysql> select * from reserves;
+------+------+------------+
| sid  | bid  | day        |
+------+------+------------+
|   22 |  101 | 1998-10-10 |
|   22 |  102 | 1998-10-10 |
|   22 |  103 | 1998-10-08 |
|   22 |  104 | 1998-10-07 |
|   31 |  102 | 1998-11-10 |
|   31 |  103 | 1998-11-06 |
|   31 |  104 | 1998-11-12 |
|   64 |  101 | 1998-09-05 |
|   64 |  102 | 1998-09-08 |
|   74 |  103 | 1998-09-08 |
+------+------+------------+
10 rows in set (0.00 sec)
```

1. Find all information of sailors who have reserved boat number 101.

```
mysql> select * from sailors
    -> where sid in (select sid from reserves
    -> where bid = 101);
+------+---------+--------+------+
| sid  | sname   | rating | age  |
+------+---------+--------+------+
|   22 | Dustin  |      7 |   45 |
|   64 | Horatio |      7 |   35 |
+------+---------+--------+------+
2 rows in set (0.00 sec)
```

2. Find the name of the boat reserved by Bob.

```
mysql> select bname from boats
    -> where bid in (select bid from reserves
    -> where sid = (select sid from sailors
    -> where sname = 'Bob'));
Empty set (0.00 sec)

mysql>
```

3. Find the names of sailors who have reserved a red boat, and list in the order of age.

```
mysql> select sname from sailors
    -> where sid in (select sid from reserves
    -> where bid in (select bid from boats
    -> where color = 'red'))
    -> order by age desc;
+---------+
| sname   |
+---------+
| Lubber  |
| Dustin  |
| Horatio |
+---------+
3 rows in set (0.00 sec)

mysql>
```

4. Find the names of sailors who have reserved at least one boat.

```
mysql> select sname from sailors
    -> where sid in (select distinct sid from reserves);
+---------+
| sname   |
+---------+
| Dustin  |
| Lubber  |
| Horatio |
| Horatio |
+---------+
4 rows in set (0.00 sec)

mysql>
```

5. Find the ids and names of sailors who have reserved two different boats on the same day.

```
mysql> select sid,sname from sailors
    -> where exists(select * from reserves r1
    -> where exists(select * from reserves r2
    -> where sailors.sid = r1.sid
    -> and
    -> sailors.sid = r2.sid
    -> and
    -> r1.bid!=r2.bid
    -> and
    -> r1.day = r2.day));
+------+--------+
| sid  | sname  |
+------+--------+
|   22 | Dustin |
+------+--------+
1 row in set (0.00 sec)

mysql>
```

6. Find the ids of sailors who have reserved a red boat or a green boat.

```
mysql> select sid from sailors
    -> where sid in (select sid from reserves
    -> where bid in (select bid from boats
    -> where color = 'red' or color = 'green'));
+------+
| sid  |
+------+
|   22 |
|   31 |
|   64 |
|   74 |
+------+
4 rows in set (0.00 sec)

mysql>
```

7. Find the name and the age of the youngest sailor.

```
mysql> select sname,age from sailors
    -> where age = (select min(age) from sailors);
+-------+------+
| sname | age  |
+-------+------+
| Zorba |   16 |
+-------+------+
1 row in set (0.00 sec)

mysql>
```

8. Count the number of different sailor names.

```
mysql> select count(distinct sname) from sailors
    -> where sid in (select sid from sailors);
+-----------------------+
| count(distinct sname) |
+-----------------------+
|                     9 |
+-----------------------+
1 row in set (0.01 sec)

mysql>
```

9. Find the average age of sailors for each rating level.

```
mysql> select rating,avg(age) from sailors
    -> where sid in (select sid from sailors)
    -> group by rating;
+--------+----------+
| rating | avg(age) |
+--------+----------+
|      7 |       40 |
|      1 |       33 |
|      8 |     40.5 |
|     10 |     25.5 |
|      9 |       40 |
|      3 |     44.5 |
+--------+----------+
6 rows in set (0.00 sec)

mysql>
```

10. Find the average age of sailors for each rating level that has at least two sailors.

```
mysql> select rating,avg(age) from sailors
    -> where sid in (select sid from sailors)
    -> group by rating having count(rating) >= 2;
+--------+----------+
| rating | avg(age) |
+--------+----------+
|      7 |       40 |
|      8 |     40.5 |
|     10 |     25.5 |
|      3 |     44.5 |
+--------+----------+
4 rows in set (0.00 sec)

mysql>
```

←THE END→