ASSIGNMENT-6

DBMS LAB

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- QUERIES-PART A:

1. Display the name of employees who earn maximum salary.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE SAL=(SELECT MAX(SAL)
    -> FROM EMP);
+-------+
| ENAME |
+-------+
| King  |
+-------+
1 row in set (0.03 sec)
```

2. Display the name of employees who earn maximum salary and job is salesman.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE (SAL,JOB)=(SELECT MAX(SAL),JOB
    -> FROM EMP
    -> WHERE JOB='Salesman') ;
+-------+
| ENAME |
+-------+
| Allen |
+-------+
1 row in set (0.01 sec)
```

3. Display the departments whose average salary is maximal.

```
mysql> SELECT DNAME
    -> FROM DEPT
    -> WHERE DEPTNO IN ( SELECT DEPTNO
    -> FROM EMP
    -> GROUP BY DEPTNO
    -> HAVING AVG(SAL)>=ALL(SELECT AVG(SAL)
    -> FROM EMP
    -> GROUP BY DEPTNO));
+------------+
| DNAME      |
+------------+
| Accounting |
+------------+
1 row in set (0.01 sec)
```

4. Display the name of employees whose salary is more than 'TURNER'.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE SAL>(SELECT SAL
    -> FROM EMP
    -> WHERE ENAME='Turner');
+-------+
| ENAME |
+-------+
| Allen |
| Jones |
| Blake |
| Clark |
| Scott |
| King  |
| Ford  |
+-------+
7 rows in set (0.00 sec)
```

5. Display the name of employees who joined after ‘ALLEN’.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE HIREDATE>(SELECT HIREDATE
    -> FROM EMP
    -> WHERE ENAME='Allen');
+--------+
| ENAME  |
+--------+
| Ward   |
| Jones  |
| Martin |
| Blake  |
| Clark  |
| Scott  |
| King   |
| Turner |
| Adams  |
| James  |
| Ford   |
| Miller |
+--------+
12 rows in set (0.00 sec)
```

6. Display the name of the department in which ‘FORD’ works.

```
mysql> SELECT DNAME
    -> FROM DEPT
    -> WHERE DEPTNO=(SELECT DEPTNO
    -> FROM EMP
    -> WHERE ENAME='Ford');
+----------+
| DNAME    |
+----------+
| Research |
+----------+
1 row in set (0.01 sec)
```

7. Display the name of the city in which 'SMITH' works.

```
mysql> SELECT LOC
    -> FROM DEPT
    -> WHERE DEPTNO = (SELECT DEPTNO
    -> FROM EMP
    -> WHERE ENAME='Smith');
+--------+
| LOC    |
+--------+
| Dallas |
+--------+
1 row in set (0.00 sec)
```

8. List names of employees who are not managers.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE EMPNO NOT IN (SELECT DISTINCT MGR
    -> FROM EMP
    -> WHERE MGR IS NOT NULL);
+--------+
| ENAME  |
+--------+
| Smith  |
| Allen  |
| Ward   |
| Martin |
| Turner |
| Adams  |
| James  |
| Miller |
+--------+
8 rows in set (0.00 sec)
```

9. List the names of employees who work in 'Research' department and have joined before 30th July, 2007.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE DEPTNO=(SELECT DEPTNO
    -> FROM DEPT
    -> WHERE DNAME='Research') AND HIREDATE<'2007-07-30';
+-------+
| ENAME |
+-------+
| Smith |
| Jones |
| Scott |
| Adams |
| Ford  |
+-------+
5 rows in set (0.01 sec)
```

10. Retrieve the second highest salary from EMP table.

```
mysql> SELECT MAX(SAL)
    -> FROM EMP
    -> WHERE SAL<(SELECT MAX(SAL)
    -> FROM EMP);
+----------+
| MAX(SAL) |
+----------+
|     3000 |
+----------+
1 row in set (0.00 sec)
```

11. Find the name of the second highest paid employee(s).

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE SAL=(SELECT MAX(SAL)
    -> FROM EMP
    -> WHERE SAL<(SELECT MAX(SAL)
    -> FROM EMP));
+-------+
| ENAME |
+-------+
| Scott |
| Ford  |
+-------+
2 rows in set (0.00 sec)
```

12. Retrieve the fifth highest salary from EMP table.

```
mysql> SELECT MIN(SAL)
    -> FROM (SELECT  DISTINCT SAL
    -> FROM EMP
    -> ORDER BY SAL DESC
    -> LIMIT 5) AS T;
+----------+
| MIN(SAL) |
+----------+
|     2450 |
+----------+
1 row in set (0.00 sec)
```

13. Enlist top five paid employees.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE SAL>=(SELECT  MIN(SAL)
    -> FROM (SELECT SAL
    -> FROM EMP
    -> ORDER BY SAL DESC
    -> LIMIT 5) AS T);
+-------+
| ENAME |
+-------+
| Jones |
| Blake |
| Scott |
| King  |
| Ford  |
+-------+
5 rows in set (0.00 sec)
```

14. List the employees who earn more than every employee in ‘DALLAS’.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE SAL>(SELECT MAX(SAL)
    -> FROM EMP
    -> WHERE DEPTNO=(SELECT DEPTNO
    -> FROM DEPT
    -> WHERE LOC='Dallas'));
+-------+
| ENAME |
+-------+
| King  |
+-------+
1 row in set (0.00 sec)
```

15. Display the name of the departments that has no employee.

```
mysql> SELECT DNAME
    -> FROM DEPT
    -> WHERE DEPTNO NOT IN (SELECT DISTINCT DEPTNO
    -> FROM EMP);
+------------+
| DNAME      |
+------------+
| Operations |
+------------+
1 row in set (0.01 sec)
```

16. List the name of the employees who joined in the same date of 'ADAMS'.

```
mysql> SELECT ENAME
    -> FROM EMP
    -> WHERE HIREDATE=(SELECT HIREDATE
    -> FROM EMP
    -> WHERE ENAME='Adams') AND ENAME!='Adams';
Empty set (0.00 sec)
```

17. Display the name of the departments that get commission.

```
mysql> SELECT DNAME
    -> FROM DEPT
    -> WHERE DEPTNO IN (SELECT DEPTNO
    -> FROM EMP
    -> WHERE COMM IS NOT NULL);
+-------+
| DNAME |
+-------+
| Sales |
+-------+
1 row in set (0.00 sec)
```

18. List the employees who earn the lowest salary in their respective department.

```
mysql> SELECT DEPTNO,ENAME
    -> FROM EMP E1
    -> WHERE SAL=(SELECT MIN(SAL)
    -> FROM EMP E2
    -> WHERE E1.DEPTNO=E2.DEPTNO);
+--------+--------+
| DEPTNO | ENAME  |
+--------+--------+
|     20 | Smith  |
|     30 | James  |
|     10 | Miller |
+--------+--------+
3 rows in set (0.01 sec)
```

- QUERIES-PART B:

1. Display the manager number and the salary of the lowest paid employee for that manager. Exclude anyone whose manager is not known. Exclude any group where the minimum salary is less than $1,000. Sort the output in descending order of salary.

```
mysql> SELECT MGR,MIN(SAL)
    -> FROM EMP
    -> WHERE MGR IS NOT NULL
    -> GROUP BY MGR
    -> HAVING MIN(SAL)>1000
    -> ORDER BY SAL DESC;
+------+----------+
| MGR  | MIN(SAL) |
+------+----------+
| 7566 |     3000 |
| 7839 |     2450 |
| 7782 |     1300 |
| 7788 |     1100 |
+------+----------+
4 rows in set (0.00 sec)
```

2. Write a query to display the department name, location name, number of employees, and the average salary for all employees in that department.

```
mysql> SELECT DNAME,LOC,COUNT(DISTINCT EMPNO),AVG(SAL)
    -> FROM DEPT D,EMP E
    -> WHERE D.DEPTNO=E.DEPTNO
    -> GROUP BY E.DEPTNO;
+------------+----------+----------------------+-----------+
| DNAME      | LOC      | COUNT(DISTINCT EMPNO) | AVG(SAL)  |
+------------+----------+----------------------+-----------+
| Accounting | New York |                    3 | 2916.6667 |
| Research   | Dallas   |                    5 | 2175.0000 |
| Sales      | Chicago  |                    6 | 1566.6667 |
+------------+----------+----------------------+-----------+
3 rows in set (0.01 sec)
```

3. Display the employee's name and employee number along with their manager's name and manager's number including King who has no manager. Label the columns EMPLOYEE, EMP#, MANAGER, MGR# respectively.

```
mysql> SELECT E1.ENAME EMPLOYEE,E1.EMPNO AS 'EMP#',E2.ENAME MANAGER,E2.EMPNO 'MGR#'
    -> FROM EMP E1
    -> LEFT JOIN EMP E2
    -> ON E1.MGR=E2.EMPNO;
+----------+------+---------+------+
| EMPLOYEE | EMP# | MANAGER | MGR# |
+----------+------+---------+------+
| Smith    | 7369 | Ford    | 7902 |
| Allen    | 7499 | Blake   | 7698 |
| Ward     | 7521 | Blake   | 7698 |
| Jones    | 7566 | King    | 7839 |
| Martin   | 7654 | Blake   | 7698 |
| Blake    | 7698 | King    | 7839 |
| Clark    | 7782 | King    | 7839 |
| Scott    | 7788 | Jones   | 7566 |
| King     | 7839 | NULL    | NULL |
| Turner   | 7844 | Blake   | 7698 |
| Adams    | 7876 | Scott   | 7788 |
| James    | 7900 | Blake   | 7698 |
| Ford     | 7902 | Jones   | 7566 |
| Miller   | 7934 | Clark   | 7782 |
+----------+------+---------+------+
14 rows in set (0.00 sec)
```

4. Write a query that will display the difference between the highest and lowest salaries. Label the column a DIFFERENCE.

```
mysql> SELECT MAX(SAL)-MIN(SAL) AS DIFFERENCE
    -> FROM EMP;
+------------+
| DIFFERENCE |
+------------+
|       4200 |
+------------+
1 row in set (0.00 sec)
```

5. Write a query that will display the difference between the highest and lowest salaries for each department. Label the column a DIFF.

```
mysql> SELECT DEPTNO,(MAX(SAL)-MIN(SAL)) AS DIFF
    -> FROM EMP
    -> GROUP BY DEPTNO;
+--------+------+
| DEPTNO | DIFF |
+--------+------+
|     10 | 3700 |
|     20 | 2200 |
|     30 | 1900 |
+--------+------+
3 rows in set (0.00 sec)
```

6. Display the employee's names and hire dates along with their manager's names and hire dates for all employees who were hired before their managers. Label the columns EMPLOYEE, EMP HIREDATE, MANAGER and MGR HIREDATE respectively.

```
mysql> SELECT E1.ENAME EMPLOYEE,E1.HIREDATE 'EMP HIREDATE',E2.ENAME MANAGER,E2.HIREDATE 'MGR HIREDATE'
    -> FROM EMP E1,EMP E2
    -> WHERE E1.MGR=E2.EMPNO AND E2.HIREDATE>E1.HIREDATE;
+----------+-------------+---------+-------------+
| EMPLOYEE | EMP HIREDATE | MANAGER | MGR HIREDATE |
+----------+-------------+---------+-------------+
| Smith    | 1980-12-17   | Ford    | 1981-12-04   |
| Allen    | 1981-02-20   | Blake   | 1981-05-01   |
| Ward     | 1981-02-22   | Blake   | 1981-05-01   |
| Jones    | 1981-04-02   | King    | 1981-11-17   |
| Blake    | 1981-05-01   | King    | 1981-11-17   |
| Clark    | 1981-06-09   | King    | 1981-11-17   |
+----------+-------------+---------+-------------+
6 rows in set (0.00 sec)
```