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Subject : Database Manangement System(DBMS)

Assignment -2

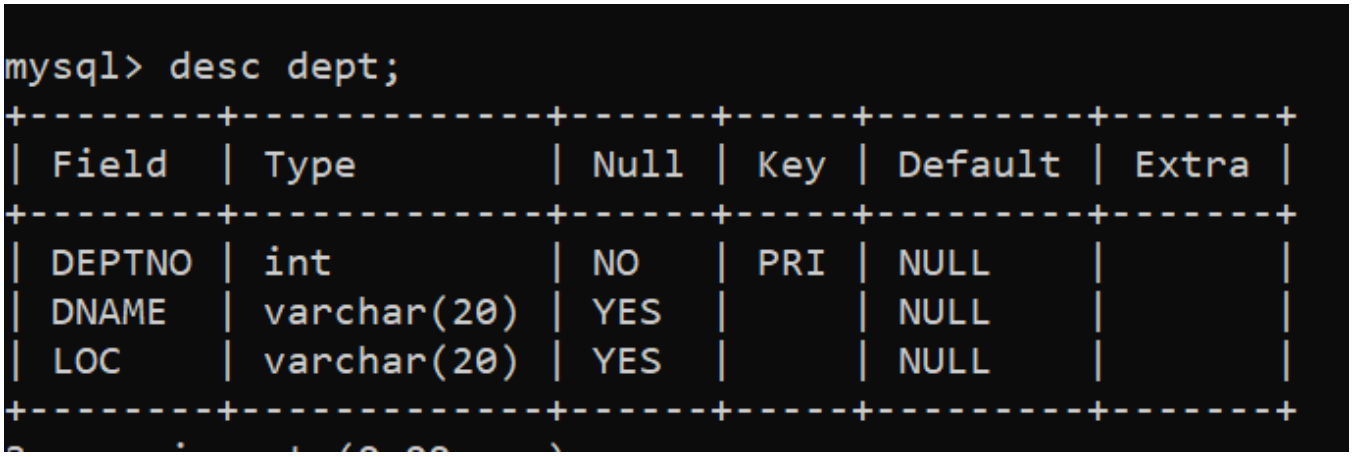
- **Creation of Tables:**

1. Creation of table DEPT :

Query :

➔ create table DEPT(
DEPTNO integer(2) primary key ,
DNAME varchar(20) ,
LOC varchar(20));

DEPT table after creation :



```
mysql> desc dept;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| DEPTNO | int         | NO   | PRI | NULL    |       |
| DNAME  | varchar(20) | YES  |     | NULL    |       |
| LOC    | varchar(20) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```

Query :

➔ insert into DEPT values (10, ‘Accounting’ , ‘New York’);
➔ insert into DEPT values (20, ‘Research’ , ‘Dallas’);
➔ insert into DEPT values (30, ‘Sales’ , ‘Chicago’);
➔ insert into DEPT values (40, ‘Operations’ , ‘Boston’);

DEPT table after inserting values :

```
mysql> select * from DEPT;
+--------+------------+----------+
| DEPTNO | DNAME      | LOC      |
+--------+------------+----------+
|     10 | Accounting | New York |
|     20 | Research   | Dallas   |
|     30 | Sales      | Chicago  |
|     40 | Operations | Boston   |
+--------+------------+----------+
4 rows in set (0.00 sec)

mysql> _
```

2. Creation of table EMP:

Query :

```
mysql> create table EMP(
    -> EMPNO integer(4) primary key ,
    -> ENAME varchar(10)  ,
    -> JOB varchar(20) ,
    -> MGR integer(4) references EMP(EMPNO) ,
    -> HIREDATE date ,
    -> SAL integer(6) NOT NULL ,
    -> COMM integer(5) ,
    -> DEPTNO integer(2) references DEPT(DEPTNO) on delete cascade );
```

EMP table after creation :

```
mysql> desc emp;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| EMPNO    | int         | NO   | PRI | NULL    |       |
| ENAME    | varchar(10) | YES  |     | NULL    |       |
| JOB      | varchar(20) | YES  |     | NULL    |       |
| MGR      | int         | YES  |     | NULL    |       |
| HIREDATE | date        | YES  |     | NULL    |       |
| SAL      | int         | NO   |     | NULL    |       |
| COMM     | int         | YES  |     | NULL    |       |
| DEPTNO   | int         | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

➔ INSERTING VALUES

```
mysql> insert into emp values(
    -> 7839,
    -> 'King',
    -> 'President',
    -> null,
    -> '1981-11-17',
    -> 5000,
    -> null,
    -> 10);
Query OK, 1 row affected (0.01 sec)

mysql> select * from emp;
+-------+-------+-----------+------+------------+------+------+--------+
| EMPNO | ENAME | JOB       | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+-------+-----------+------+------------+------+------+--------+
|  7839 | King  | President | NULL | 1981-11-17 | 5000 | NULL |     10 |
+-------+-------+-----------+------+------------+------+------+--------+
```

After inserting all values in Table EMP :

```
mysql> select * from emp;
+-------+--------+-----------+------+------------+------+------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+--------+-----------+------+------------+------+------+--------+
|  7369 | smith  | Clerk     | 7902 | 1980-12-17 |  800 | NULL |     20 |
|  7499 | Allen  | Salesman  | 7698 | 1981-02-20 | 1600 |  300 |     30 |
|  7521 | Ward   | Salesman  | 7698 | 1981-02-22 | 1250 |  500 |     30 |
|  7566 | Jones  | Manager   | 7839 | 1981-04-02 | 2975 | NULL |     20 |
|  7654 | Martin | Salesman  | 7698 | 1981-09-28 | 1250 | 1400 |     30 |
|  7698 | Blake  | Manager   | 7839 | 1981-05-01 | 2850 | NULL |     30 |
|  7782 | Clark  | Manager   | 7839 | 1981-06-09 | 2450 | NULL |     10 |
|  7788 | Scott  | Analyst   | 7566 | 1982-12-09 | 3000 | NULL |     20 |
|  7839 | King   | President | NULL | 1981-11-17 | 5000 | NULL |     10 |
|  7844 | Turner | Salesman  | 7698 | 1981-09-08 | 1500 |    0 |     30 |
|  7876 | Adams  | Clerk     | 7788 | 1983-01-12 | 1100 | NULL |     20 |
|  7900 | James  | Clerk     | 7698 | 1981-12-03 |  950 | NULL |     30 |
|  7902 | Ford   | Analyst   | 7566 | 1981-12-04 | 3000 | NULL |     20 |
|  7934 | Miller | Clerk     | 7782 | 1982-01-23 | 1300 | NULL |     10 |
+-------+--------+-----------+------+------------+------+------+--------+
14 rows in set (0.00 sec)
```

Q. Perform the following queries on the EMP and DEPT table:

A) List the names of analysts and salesmen.

```
mysql> select ENAME from EMP
    -> where JOB in ('Analyst','Salesman');
+--------+
| ENAME  |
+--------+
| Allen  |
| Ward   |
| Martin |
| Scott  |
| Turner |
| Ford   |
+--------+
6 rows in set (0.00 sec)
```

B) List the details of employees who have joined before 30 Sep 81.

```
mysql> select * from EMP
    -> where HIREDATE <'1981-09-30';
+-------+--------+----------+------+------------+------+------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+--------+----------+------+------------+------+------+--------+
|  7369 | smith  | Clerk    | 7902 | 1980-12-17 |  800 | NULL |     20 |
|  7499 | Allen  | Salesman | 7698 | 1981-02-20 | 1600 |  300 |     30 |
|  7521 | Ward   | Salesman | 7698 | 1981-02-22 | 1250 |  500 |     30 |
|  7566 | Jones  | Manager  | 7839 | 1981-04-02 | 2975 | NULL |     20 |
|  7654 | Martin | Salesman | 7698 | 1981-09-28 | 1250 | 1400 |     30 |
|  7698 | Blake  | Manager  | 7839 | 1981-05-01 | 2850 | NULL |     30 |
|  7782 | Clark  | Manager  | 7839 | 1981-06-09 | 2450 | NULL |     10 |
|  7844 | Turner | Salesman | 7698 | 1981-09-08 | 1500 |    0 |     30 |
+-------+--------+----------+------+------------+------+------+--------+
8 rows in set (0.00 sec)
```

C) List the names of employees who are not managers.

```
mysql> select ENAME from EMP
    -> where JOB NOT in ('Manager');
+--------+
| ENAME  |
+--------+
| smith  |
| Allen  |
| Ward   |
| Martin |
| Scott  |
| King   |
| Turner |
| Adams  |
| James  |
| Ford   |
| Miller |
+--------+
11 rows in set (0.00 sec)
```

D) List the names of employees whose employee numbers are 7369, 7521, 7839, 7934, 7788 .

```
mysql> select ENAME,EMPNO from EMP
    -> where EMPNO in (7369,7521,7839,7934,7788);
+--------+-------+
| ENAME  | EMPNO |
+--------+-------+
| smith  |  7369 |
| Ward   |  7521 |
| Scott  |  7788 |
| King   |  7839 |
| Miller |  7934 |
+--------+-------+
5 rows in set (0.00 sec)
```

```
mysql> select ENAME from EMP
    -> where EMPNO in (7369,7521,7839,7934,7788);
+--------+
| ENAME  |
+--------+
| smith  |
| Ward   |
| Scott  |
| King   |
| Miller |
+--------+
```

E) List employees not belonging to department 30,40 or 10.

```
mysql> select * from EMP
    -> where deptno not in (30,40,10);
+-------+-------+---------+------+------------+------+------+--------+
| EMPNO | ENAME | JOB     | MGR  | HIREDATE   | SAL  | COMM | DEPTNO |
+-------+-------+---------+------+------------+------+------+--------+
|  7369 | smith | Clerk   | 7902 | 1980-12-17 |  800 | NULL |     20 |
|  7566 | Jones | Manager | 7839 | 1981-04-02 | 2975 | NULL |     20 |
|  7788 | Scott | Analyst | 7566 | 1982-12-09 | 3000 | NULL |     20 |
|  7876 | Adams | Clerk   | 7788 | 1983-01-12 | 1100 | NULL |     20 |
|  7902 | Ford  | Analyst | 7566 | 1981-12-04 | 3000 | NULL |     20 |
+-------+-------+---------+------+------------+------+------+--------+
5 rows in set (0.00 sec)
```

F) List employee names for those who have joined between 30 June and 31 Dec. ’81.

```
mysql> select ename from EMP
    -> where hiredate between '1981-06-30' and '1981-12-31';
+--------+
| ename  |
+--------+
| Martin |
| King   |
| Turner |
| James  |
| Ford   |
+--------+
5 rows in set (0.00 sec)
```

G) List the different designations in the company.

```
mysql> select distinct JOB
    -> from emp;
+-----------+
| JOB       |
+-----------+
| Clerk     |
| Salesman  |
| Manager   |
| Analyst   |
| President |
+-----------+
5 rows in set (0.00 sec)
```

H) List the names of employees who are not eligible for commission .

```
mysql> select ename from EMP
    -> where comm is null;
+--------+
| ename  |
+--------+
| smith  |
| Jones  |
| Blake  |
| Clark  |
| Scott  |
| King   |
| Adams  |
| James  |
| Ford   |
| Miller |
+--------+
10 rows in set (0.00 sec)
```

I) List the name and designation of the employee who does not report to anyone.

```
mysql> select ename , job
    -> from emp
    -> where mgr is null;
+-------+-----------+
| ename | job       |
+-------+-----------+
| King  | President |
+-------+-----------+
1 row in set (0.00 sec)
```

J) List the employees not assigned to any department.

```
mysql> select *
    -> from emp
    -> where deptno is null;
Empty set (0.00 sec)
```

K) List the employees who are eligible for commission.

```
mysql> select ename from EMP
    -> where comm is not null;
+--------+
| ename  |
+--------+
| Allen  |
| Ward   |
| Martin |
| Turner |
+--------+
4 rows in set (0.00 sec)
```

L) List employees whose names either start or end with “S”.

```
mysql> select ENAME
    -> from EMP
    -> where ENAME like 's%' or '%s';
+-------+
| ENAME |
+-------+
| smith |
| Scott |
+-------+
```

M) List the names of employees whose names have “i” as the second character .

```
mysql> select ename
    -> from EMP
    -> where ename like '_i%';
+--------+
| ename  |
+--------+
| King   |
| Miller |
+--------+
2 rows in set (0.00 sec)
```

N) List the number of employees working with the company .

```
mysql> select count(*) number_of_employees
    -> from emp;
+---------------------+
| number_of_employees |
+---------------------+
|                  14 |
+---------------------+
1 row in set (0.00 sec)
```

O) List the number of designations available in the EMP table.

```
mysql> select count(distinct job) number_of_designations
    -> from emp;
+------------------------+
| number_of_designations |
+------------------------+
|                      5 |
+------------------------+
1 row in set (0.01 sec)
```

P) List the total salaries paid to the employees.

```
mysql> select sum(sal)
    -> from emp;
+----------+
| sum(sal) |
+----------+
|    29025 |
+----------+
1 row in set (0.00 sec)
```

Q) List the maximum , minimum and average salary in the company .

```
mysql> select max(sal) ,min(sal), avg(sal)
    -> from emp;
+----------+----------+-----------+
| max(sal) | min(sal) | avg(sal)  |
+----------+----------+-----------+
|     5000 |      800 | 2073.2143 |
+----------+----------+-----------+
1 row in set (0.00 sec)
```

R) List the maximum salary paid to a salesman.

```
mysql> select max(sal)
    -> from emp where job='Salesman';
+----------+
| max(sal) |
+----------+
|     1600 |
+----------+
1 row in set (0.00 sec)
```