

NAME: GOURAV KUMAR SHAW

ENROLLMENT NO: 2020CSB010

SECTION: GX

SUBJECT: DBMS Lab

ASSIGNMENT NO - 2

A.Creation of Tables:

Creating DEPT table:

Query:

```
create table DEPT (  
DEPTNO int primary key,  
DNAME varchar(15) ,  
LOC varchar(10)  
);
```

```
mysql> DESC DEPT;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| DEPTNO | int(11)       | NO   | PRI | NULL    |       |  
| DNAME  | varchar(15)   | YES  |     | NULL    |       |  
| LOC    | varchar(10)   | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

DEPT table after insertion of 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)
```

Creating EMP table :

Query:

```
create table EMP (  
  EMP_NO int primary key,  
  ENAME varchar(15),  
  JOB char(16),  
  MGR int references EMP(EMP_NO),  
  HIREDATE date,  
  SAL int,  
  COMM int,  
  DEPTNO int references DEPT(DEPTNO)  
);
```

```
mysql> DESC EMP;
```

Field	Type	Null	Key	Default	Extra
EMP_NO	int(11)	NO	PRI	NULL	
ENAME	varchar(15)	YES		NULL	
JOB	char(16)	YES		NULL	
MGR	int(11)	YES		NULL	
HIREDATE	date	YES		NULL	
SAL	int(11)	YES		NULL	
COMM	int(11)	YES		NULL	
DEPTNO	int(11)	YES	MUL	NULL	

```
8 rows in set (0.00 sec)
```

EMP table after insertion of values:

```
mysql> SELECT * FROM EMP;
```

EMP_NO	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)
```

B. Queries and their Solutions:

a) List the names of analysts and salesman.

```
mysql> SELECT ENAME FROM EMP WHERE JOB='Analyst' or JOB='Salesman';
+-----+
| ENAME |
+-----+
| Allen |
| Ward  |
| Martin|
| Scott |
| Turner|
| Ford  |
+-----+
6 rows in set (0.00 sec)
```

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

```
mysql> SELECT * FROM EMP WHERE HIREDATE < '1981-09-30';
+-----+-----+-----+-----+-----+-----+-----+-----+
| EMP_NO | 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 names of employees who are not managers.

```
mysql> SELECT ENAME FROM EMP WHERE NOT JOB = '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 FROM EMP WHERE EMP_NO = 7369 OR EMP_NO = 7521 OR EMP_NO = 7839 OR EMP_NO = 7934 OR EMP_NO=7788;
+-----+
| ENAME |
+-----+
| Smith |
| Ward  |
| Scott |
| King  |
| Miller|
+-----+
5 rows in set (0.00 sec)
```

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

```
mysql> SELECT * FROM EMP WHERE NOT DEPTNO=30 AND NOT DEPTNO=40 AND NOT DEPTNO=10;
```

EMP_NO	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 anybody.

```
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 * FROM EMP WHERE COMM IS NOT NULL;
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	Allen	Salesman	7698	1981-02-20	1600	300	30
7521	Ward	Salesman	7698	1981-02-22	1250	500	30
7654	Martin	Salesman	7698	1981-09-28	1250	1400	30
7844	Turner	Salesman	7698	1981-09-08	1500	0	30

4 rows in set (0.00 sec)

l) List employees whose names either start or end with "S".

```
mysql> SELECT * FROM EMP WHERE ENAME LIKE 'S%';
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	Smith	Clerk	7902	1980-12-17	800	NULL	20
7788	Scott	Analyst	7566	1982-12-09	3000	NULL	20

2 rows in set (0.00 sec)

m) List names of employees whose names have "i" as the second character.

```
mysql> SELECT * FROM EMP WHERE ENAME LIKE '_i%';
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	King	President	NULL	1981-11-17	5000	NULL	10
7934	Miller	Clerk	7782	1982-01-23	1300	NULL	10

2 rows in set (0.00 sec)

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

```
mysql> SELECT COUNT(*) FROM EMP;
+-----+
| COUNT(*) |
+-----+
|          14 |
+-----+
1 row in set (0.00 sec)
```

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

```
mysql> SELECT COUNT(DISTINCT JOB) FROM EMP;
+-----+
| COUNT(DISTINCT JOB) |
+-----+
|                    5 |
+-----+
1 row in set (0.00 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) FROM EMP;
+-----+
| MAX(SAL) |
+-----+
|      5000 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT MIN(SAL) FROM EMP;
+-----+
| MIN(SAL) |
+-----+
|        800 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT AVG(SAL) FROM EMP;
+-----+
| AVG(SAL) |
+-----+
| 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)
```