DBMS Lab - 2

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5th Semester - B Section - Batch - 3

Company Database

Describe all the tables previously created in the database.

```
mysql> desc employee;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| fname   | varchar(20) | NO   |     | NULL    |       |
| lname   | varchar(20) | NO   |     | NULL    |       |
| ssn     | varchar(10) | NO   | PRI | NULL    |       |
| bdate   | date        | YES  |     | NULL    |       |
| address | varchar(50) | YES  |     | NULL    |       |
| gender  | varchar(2)  | YES  |     | NULL    |       |
| salary  | int         | YES  |     | 30000   |       |
| sup_ssn | varchar(10) | YES  | MUL | NULL    |       |
| dno     | varchar(10) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
9 rows in set (0.03 sec)

mysql> alter table department add mgr_start_date date;
Query OK, 0 rows affected (0.15 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc department;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| dname          | varchar(10) | NO   |     | NULL    |       |
| dno            | varchar(10) | NO   | PRI | NULL    |       |
| mgr_ssn        | varchar(10) | NO   | MUL | NULL    |       |
| mgr_start_date | date        | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
mysql> alter table department add dlocation varchar(20) not null;
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc department;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| dname          | varchar(10) | NO   |     | NULL    |       |
| dno            | varchar(10) | NO   | PRI | NULL    |       |
| mgr_ssn        | varchar(10) | NO   | MUL | NULL    |       |
| mgr_start_date | date        | YES  |     | NULL    |       |
| dlocation      | varchar(20) | NO   |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
```

```
mysql> desc department;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| dname          | varchar(10) | NO   |     | NULL    |       |
| dno            | varchar(10) | NO   | PRI | NULL    |       |
| mgr_ssn        | varchar(10) | NO   | MUL | NULL    |       |
| mgr_start_date | date        | YES  |     | NULL    |       |
| dlocation      | varchar(20) | NO   |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> desc project;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| pname  | varchar(20) | NO   |     | NULL    |       |
| pno    | varchar(10) | NO   | PRI | NULL    |       |
| dno    | varchar(10) | YES  | MUL | NULL    |       |
| pdate  | date        | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.03 sec)

mysql> alter table project add ploc varchar(30);
Query OK, 0 rows affected (0.08 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>
```

- **adding entries into project table**

```
mysql> insert into
    -> project (pname, pno, dno, pdate, ploc)
    -> values
    -> ('project a', 1, 3, '2021-11-21', 'Bangalore'),
    -> ('project b', 2, 10, '2011-09-19', 'Trichy'),
    -> ('project c', 3, 13, '2021-11-11', 'Mysore'),
    -> ('project d', 4, 11, '2019-01-03', 'Mumbai'),
    -> ('project e', 5, 13, '2018-04-01', 'Mysore');
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from project;
+-----------+-----+------+------------+-----------+
| pname     | pno | dno  | pdate      | ploc      |
+-----------+-----+------+------------+-----------+
| project a | 1   | 3    | 2021-11-21 | Bangalore |
| project b | 2   | 10   | 2011-09-19 | Trichy    |
| project c | 3   | 13   | 2021-11-11 | Mysore    |
| project d | 4   | 11   | 2019-01-03 | Mumbai    |
| project e | 5   | 13   | 2018-04-01 | Mysore    |
+-----------+-----+------+------------+-----------+
5 rows in set (0.00 sec)

mysql>
```

- **updating the sup_ssn**

```
mysql> update employee set sup_ssn = 4 where ssn = 1;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update employee set sup_ssn = NULL where ssn = 2;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update employee set sup_ssn = 2 where ssn = 3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update employee set sup_ssn = NULL where ssn = 4;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update employee set sup_ssn = 4 where ssn = 5;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
```

- **Adding Abisheh to the Employee table**

```
mysql> insert into employee values ('Abhishek', 'Kumar', '5', '2000-04-21', 'Kolkata', 'M', 45000, '5', '11');
Query OK, 1 row affected (0.01 sec)

mysql>
```

```
mysql> select * from employee;
+-------------+---------+-----+------------+-----------+--------+--------+---------+-----+
| fname       | lname   | ssn | bdate      | address   | gender | salary | sup_ssn | dno |
+-------------+---------+-----+------------+-----------+--------+--------+---------+-----+
| Raghunathan | R       | 1   | 2000-10-28 | Bangalore | M      | 50000  | 1       | 3   |
| Kiran       | Dev     | 2   | 2001-11-17 | Chennai   | M      | 45000  | 2       | 13  |
| Priya       | Kumar   | 3   | 2001-01-11 | Mumbai    | F      | 50400  | 3       | 11  |
| Dhruv       | Sharma  | 4   | 2000-06-12 | Delhi     | M      | 4000   | 4       | 10  |
| Abhishek    | Kumar   | 5   | 2000-04-21 | Kolkata   | M      | 45000  | 5       | 11  |
+-------------+---------+-----+------------+-----------+--------+--------+---------+-----+
5 rows in set (0.00 sec)

mysql>
```

Q. Insert values into department table

```
mysql> insert into department values ('HR', '10', '4', '2020-11-19');
Query OK, 1 row affected (0.01 sec)

mysql> insert into department values ('Research', '3', '1', '2021-11-13');
Query OK, 1 row affected (0.01 sec)

mysql> insert into department values ('Accounts', '10', '4', '2019-10-12');
ERROR 1062 (23000): Duplicate entry '10' for key 'department.PRIMARY'
mysql> insert into department values ('Accounts', '13', '2', '2019-10-12');
Query OK, 1 row affected (0.01 sec)

mysql> insert into department values ('Development', '11', '5', '2019-10-12');
Query OK, 1 row affected (0.01 sec)

mysql>
```

```
mysql> desc department;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| dname          | varchar(10) | NO   |     | NULL    |       |
| dno            | varchar(10) | NO   | PRI | NULL    |       |
| mgr_ssn        | varchar(10) | NO   | MUL | NULL    |       |
| mgr_start_date | date        | YES  |     | NULL    |       |
| dlocation      | varchar(20) | NO   |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

- **Adding Abhishek to the Employee table**

```
mysql> insert into employee values ('Abhishek', 'Kumar', '5', '2000-04-21', 'Kolkata', 'M', 45000, '5', '11');
Query OK, 1 row affected (0.01 sec)

mysql>
```

```
mysql> select * from employee;
+-------------+--------+-----+------------+-----------+--------+--------+---------+-----+
| fname       | lname  | ssn | bdate      | address   | gender | salary | sup_ssn | dno |
+-------------+--------+-----+------------+-----------+--------+--------+---------+-----+
| Raghunathan | R      | 1   | 2000-10-28 | Bangalore | M      | 50000  | 1       | 3   |
| Kiran       | Dev    | 2   | 2001-11-17 | Chennai   | M      | 45000  | 2       | 13  |
| Priya       | Kumar  | 3   | 2001-01-11 | Mumbai    | F      | 50400  | 3       | 11  |
| Dhruv       | Sharma | 4   | 2000-06-12 | Delhi     | M      | 4000   | 4       | 10  |
| Abhishek    | Kumar  | 5   | 2000-04-21 | Kolkata   | M      | 45000  | 5       | 11  |
+-------------+--------+-----+------------+-----------+--------+--------+---------+-----+
5 rows in set (0.00 sec)

mysql>
```

Q 1. Retrieve every department details.

```
mysql> select * from department;
+-------------+-----+---------+----------------+
| dname       | dno | mgr_ssn | mgr_start_date |
+-------------+-----+---------+----------------+
| HR          | 10  | 4       | 2020-11-19     |
| Development | 11  | 5       | 2019-10-12     |
| Accounts    | 13  | 2       | 2019-10-12     |
| Research    | 3   | 1       | 2021-11-13     |
+-------------+-----+---------+----------------+
4 rows in set (0.01 sec)

mysql>
```

Q 2. Retrieve the details of the employee whose name is Abhishek.

```
mysql> select * from employee where fname = 'Abhishek';
+----------+--------+-----+------------+----------+---------+--------+--------+----------+--------+
| fname    | lname  | ssn | bdate      | address  | gender  | salary | sup_ssn | dno    |
+----------+--------+-----+------------+----------+---------+--------+--------+----------+--------+
| Abhishek | Kumar  | 5   | 2000-04-21 | Kolkata  | M       |        | 45000  | 5      | 11     |
+----------+--------+-----+------------+----------+---------+--------+--------+----------+--------+
1 row in set (0.00 sec)

mysql>
```

Q 3. Retrieve name and address of all employees who work for research department.

```
mysql> select fname, address from employee, department where dname = 'research' and employee.dno = department.dno;
+-------------+-----------+
| fname       | address   |
+-------------+-----------+
| Raghunathan | Bangalore |
+-------------+-----------+
1 row in set (0.00 sec)

mysql>
```

Q 4. For every project located in Mysore, list the project number, controlling department number and project managers start date and his first name.

```
mysql> select pno,department.dno,mgr_start_date,fname from project inner join department on pro
ject.dno=department.dno inner join employee on employee.ssn=department.mgr_ssn where ploc='Myso
re';
+-----+-----+----------------+-------+
| pno | dno | mgr_start_date | fname |
+-----+-----+----------------+-------+
| 3   | 13  | 2019-10-12     | Kiran |
| 5   | 13  | 2019-10-12     | Kiran |
+-----+-----+----------------+-------+
2 rows in set (0.00 sec)

mysql>
```

Q 5. Select / retrieve the salary of every employee.

```
mysql> select salary from employee;
+---------+
| salary  |
+---------+
|   50000 |
|   45000 |
|   50400 |
|    4000 |
|   45000 |
+---------+
5 rows in set (0.00 sec)

mysql>
```

Q 6. Retrieve the unique salary values.

```
mysql> select distinct salary from employee;
+---------+
| salary  |
+---------+
|   50000 |
|   45000 |
|   50400 |
|    4000 |
+---------+
4 rows in set (0.01 sec)

mysql>
```