

## Assignment 2

Creating the Tables :

```
pict@pict-OptiPlex-SFF-Plus-7010:~$ sudo mysql -h 10.10.15.122 -u te31455 -p
[sudo] password for pict:
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 1253
Server version: 5.5.5-10.4.19-MariaDB MariaDB Server
```

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> show tables;
ERROR 1046 (3D000): No database selected
mysql> show databases;
```

```
+-----+
| Database          |
+-----+
| information_schema |
| te31455_db         |
+-----+
2 rows in set (0.01 sec)
```

```
mysql> use te31455_db;
Database changed
mysql> show tables;
Empty set (0.00 sec)
```

```
mysql> CREATE TABLE Dept (
->   Dept_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
->   Dept_name VARCHAR(100) NOT NULL,
->   Dept_location VARCHAR(100)
-> );
Query OK, 0 rows affected (0.19 sec)
```

```
mysql> REATE TABLE Employee (
->   Emp_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
->   Dept_id INT NOT NULL,
```

```

-> Emp_fname VARCHAR(50) NOT NULL,
-> Emp_lname VARCHAR(50) NOT NULL,
-> Emp_Position VARCHAR(50) NOT NULL,
-> Emp_salary DECIMAL(10, 2) NOT NULL,
-> Emp_JoinDate DATE NOT NULL,
-> FOREIGN KEY (Dept_id) REFERENCES Dept(Dept_id) ON DELETE CASCADE
-> );

```

```

mysql> CREATE TABLE Employee ( Emp_id INT NOT NULL AUTO_INCREMENT PRIMARY
KEY, Dept_id INT NOT NULL, Emp_fname VARCHAR(50) NOT NULL, Emp_lname
VARCHAR(50) NOT NULL, Emp_Position VARCHAR(50) NOT NULL, Emp_salary
DECIMAL(10, 2) NOT NULL, Emp_JoinDate DATE NOT NULL, FOREIGN KEY (Dept_id)
REFERENCES Dept(Dept_id) ON DELETE
CASCADE );
Query OK, 0 rows affected (0.18 sec)

```

```

mysql> CREATE TABLE Project (
-> Proj_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
-> Dept_id INT NOT NULL,
-> Proj_Name VARCHAR(100) NOT NULL,
-> Proj_Location VARCHAR(100) NOT NULL,
-> Proj_cost DECIMAL(15, 2) NOT NULL,
-> Proj_year YEAR NOT NULL,
-> FOREIGN KEY (Dept_id) REFERENCES Dept(Dept_id) ON DELETE CASCADE
-> );
Query OK, 0 rows affected (0.22 sec)

```

1. Insert at least 10 records in the Employee table and insert other tables accordingly  
=>

```

mysql> INSERT INTO Dept (Dept_name, Dept_location) VALUES
-> ('Computer', 'Pune'),
-> ('IT', 'Mumbai'),
-> ('Finance', 'Delhi'),
-> ('Marketing', 'Mumbai'),
-> ('Operations', 'Chennai');
Query OK, 5 rows affected (0.49 sec)
Records: 5 Duplicates: 0 Warnings: 0

```

```

mysql> INSERT INTO Employee (Dept_id, Emp_fname, Emp_lname, Emp_Position, Emp_salary,
Emp_JoinDate) VALUES
-> (1, 'Priya', 'Patel', 'Software Engineer', 70000, '1980-03-12'), -- join before 1985, fname 'P'
-> (2, 'Hardeep', 'Singh', 'System Analyst', 65000, '1983-07-01'), -- join before 1985, fname 'H'
-> (1, 'Rahul', 'Kumar', 'Developer', 60000, '2010-08-15'),
-> (2, 'Pooja', 'Sharma', 'Network Engineer', 68000, '2018-02-20'), -- fname 'P'
-> (3, 'Harish', 'Verma', 'Accountant', 55000, '2012-05-22'), -- fname 'H'
-> (4, 'Neha', 'Joshi', 'Marketing Executive', 52000, '2019-11-10'),

```

```

-> (1, 'Peter', 'George', 'Team Lead', 90000, '1979-01-05'),      -- fname 'P' and join before 1985
-> (5, 'Anil', 'Desai', 'Operations Manager', 75000, '2016-06-30'),
-> (2, 'Hemant', 'Gupta', 'IT Support', 48000, '2017-09-18'),      -- fname 'H'
-> (1, 'Hina', 'Mehta', 'Software Engineer', 69000, '2015-04-25');  -- fname 'H'

```

Query OK, 10 rows affected (1.94 sec)  
Records: 10 Duplicates: 0 Warnings: 0

```
mysql> INSERT INTO Project (Dept_id, Proj_Name, Proj_Location, Proj_cost, Proj_year) VALUES
```

```

-> (1, 'Website Redesign', 'Pune', 150000, 2004),
-> (2, 'Network Upgrade', 'Mumbai', 350000, 2005),
-> (3, 'Financial Audit', 'Delhi', 120000, 2007),
-> (4, 'Marketing Campaign', 'Mumbai', 90000, 2003),
-> (5, 'Operations Automation', 'Chennai', 450000, 2006),
-> (1, 'Cloud Migration', 'Pune', 600000, 2007),
-> (2, 'IT Security Enhancement', 'Mumbai', 110000, 2004),
-> (1, 'Database Optimization', 'Pune', 180000, 2005),
-> (3, 'Payroll System', 'Delhi', 200000, 2007),
-> (5, 'Logistics Revamp', 'Chennai', 300000, 2008);

```

Query OK, 10 rows affected (0.03 sec)  
Records: 10 Duplicates: 0 Warnings: 0

2. Display all Employee details with Department 'Computer' and 'IT' and Employee first name starting with 'p' or 'h'.

=>

```
mysql> select * from Employee where Dept_id in (select Dept_id from Dept where Dept_name
in('Computer', 'IT')) and (Emp_fname like 'P%' or Emp_fname like 'H%');
```

```

+-----+-----+-----+-----+-----+-----+-----+
| Emp_id | Dept_id | Emp_fname | Emp_lname | Emp_Position | Emp_salary | Emp_JoinDate |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | Priya | Patel | Software Engineer | 70000.00 | 1980-03-12 |
| 7 | 1 | Peter | George | Team Lead | 90000.00 | 1979-01-05 |
| 10 | 1 | Hina | Mehta | Software Engineer | 69000.00 | 2015-04-25 |
| 2 | 2 | Hardeep | Singh | Systemsql -h 10.10.10.250 -u te31455 -pm Analyst | 65000.00 | 1983-07-01 |
| 4 | 2 | Pooja | Sharma | Network Engineer | 68000.00 | 2018-02-20 |
| 9 | 2 | Hemant | Gupta | IT Support | 48000.00 | 2017-09-18 |
+-----+-----+-----+-----+-----+-----+-----+

```

6 rows in set (1.72 sec)

3. lists the number of different Employee Positions.

=>

```
select Emp_Position, count(distinct Emp_Position) as num_position from Employee;
```

```

+-----+-----+
| Emp_Position | num_position |
+-----+-----+

```

```
| Software Engineer |          9 |
+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> select Emp_Position, count(*) from Employee Group By Emp_Position;
```

```
+-----+-----+
| Emp_Position | count(*) |
+-----+-----+
| Accountant   |        1 |
| Developer    |        1 |
| IT Support   |        1 |
| Marketing Executive |      1 |
| Network Engineer |      1 |
| Operations Manager |      1 |
| Software Engineer |      2 |
| System Analyst |      1 |
| Team Lead    |      1 |
+-----+-----+
```

```
9 rows in set (7.15 sec)
```

4. Give 10% increase in Salary of the Employee whose joining year is before 1985.

=>

```
update Employee set Emp_salary = Emp_salary+(Emp_salary*10)/100 where
YEAR(Emp_JoinDate)<1985;
```

Query OK, 3 rows affected (0.03 sec)

Rows matched: 3 Changed: 3 Warnings: 0

```
mysql> select * from Employee;
```

```
+-----+-----+-----+-----+-----+-----+-----+
| Emp_id | Dept_id | Emp_fname | Emp_lname | Emp_Position | Emp_salary | Emp_JoinDate |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | Priya | Patel | Software Engineer | 77000.00 | 1980-03-12 |
| 2 | 2 | Hardeep | Singh | System Analyst | 71500.00 | 1983-07-01 |
| 3 | 1 | Rahul | Kumar | Developer | 60000.00 | 2010-08-15 |
| 4 | 2 | Pooja | Sharma | Network Engineer | 68000.00 | 2018-02-20 |
| 5 | 3 | Harish | Verma | Accountant | 55000.00 | 2012-05-22 |
| 6 | 4 | Neha | Joshi | Marketing Executive | 52000.00 | 2019-11-10 |
| 7 | 1 | Peter | George | Team Lead | 99000.00 | 1979-01-05 |
| 8 | 5 | Anil | Desai | Operations Manager | 75000.00 | 2016-06-30 |
| 9 | 2 | Hemant | Gupta | IT Support | 48000.00 | 2017-09-18 |
| 10 | 1 | Hina | Mehta | Software Engineer | 69000.00 | 2015-04-25 |
+-----+-----+-----+-----+-----+-----+-----+
```

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

5. Delete Department details which location is 'Mumbai'

=>

```
delete from Dept where Dept_location = 'Mumbai';
Query OK, 2 rows affected (1.24 sec)
```

6. Find the names of Projects with location 'pune' .

=>

```
select Proj_Name from Project where Proj_Location = 'Pune';
```

```
+-----+
| Proj_Name |
+-----+
| Website Redesign |
| Cloud Migration |
| Database Optimization |
+-----+
3 rows in set (2.27 sec)
```

7. Find the project having cost in between 100000 to 500000.

=>

```
select Proj_name from Project where Proj_Cost between 100000 and 500000;
```

```
+-----+
| Proj_name |
+-----+
| Website Redesign |
| Financial Audit |
| Operations Automation |
| Database Optimization |
| Payroll System |
| Logistics Revamp |
+-----+
6 rows in set (0.00 sec)
```

8. Find the project having maximum price and find average of Project cost

=>

```
select Proj_Name, max(Proj_Cost) from Project ;
```

```
+-----+-----+
| Proj_Name | max(Proj_Cost) |
+-----+-----+
| Website Redesign | 600000.00 |
+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> select avg(Proj_Cost) from Project;
```

```
+-----+
| avg(Proj_Cost) |
+-----+
```

```
| 285714.285714 |
+-----+
1 row in set (0.01 sec)
```

9. Display all employees with Emp\_id and Emp name in decreasing order of Emp\_lname  
=>

```
select Emp_id, Emp_fname, Emp_lname from Employee order by Emp_lname desc;
```

```
+-----+-----+-----+
| Emp_id | Emp_fname | Emp_lname |
+-----+-----+-----+
| 5 | Harish | Verma |
| 1 | Priya | Patel |
| 10 | Hina | Mehta |
| 3 | Rahul | Kumar |
| 7 | Peter | George |
| 8 | Anil | Desai |
+-----+-----+-----+
```

6 rows in set (0.00 sec)

```
mysql> select Emp_id, Emp_fname, Emp_lname from Employee order by Emp_lname;
```

```
+-----+-----+-----+
| Emp_id | Emp_fname | Emp_lname |
+-----+-----+-----+
| 8 | Anil | Desai |
| 7 | Peter | George |
| 3 | Rahul | Kumar |
| 10 | Hina | Mehta |
| 1 | Priya | Patel |
| 5 | Harish | Verma |
+-----+-----+-----+
```

6 rows in set (0.01 sec)

10. Display Proj\_name, Proj\_location, Proj\_cost of all project started in 2004, 2005, 2007  
=>

```
select Proj_Name, Proj_Location, Proj_Cost, Proj_year from Project where Proj_year
in(2004,2005,2007);
```

```
+-----+-----+-----+-----+
| Proj_Name | Proj_Location | Proj_Cost | Proj_year |
+-----+-----+-----+-----+
| Website Redesign | Pune | 150000.00 | 2004 |
| Financial Audit | Delhi | 120000.00 | 2007 |
| Cloud Migration | Pune | 600000.00 | 2007 |
| Database Optimization | Pune | 180000.00 | 2005 |
| Payroll System | Delhi | 200000.00 | 2007 |
+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

### Example of the View

```
mysql> create view empdetails as select e.Emp_id, e.Emp_fname,e.Emp_lname, d.Dept_name,
d.Dept_location from Employee e join Dept d where e.Dept_id=d.Dept_id;
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> select * from empdetails;
```

Emp_id	Emp_fname	Emp_lname	Dept_name	Dept_location
1	Priya	Patel	Computer	Pune
3	Rahul	Kumar	Computer	Pune
5	Harish	Verma	Finance	Delhi
7	Peter	George	Computer	Pune
8	Anil	Desai	Operations	Chennai
10	Hina	Mehta	Computer	Pune

6 rows in set (0.00 sec)

### Example of the on delete cascade

```
mysql> select * from Employee;
```

Emp_id	Dept_id	Emp_fname	Emp_lname	Emp_Position	Emp_salary	Emp_JoinDate
1	1	Priya	Patel	Software Engineer	77000.00	1980-03-12
3	1	Rahul	Kumar	Developer	60000.00	2010-08-15
5	3	Harish	Verma	Accountant	55000.00	2012-05-22
7	1	Peter	George	Team Lead	99000.00	1979-01-05
8	5	Anil	Desai	Operations Manager	75000.00	2016-06-30
10	1	Hina	Mehta	Software Engineer	69000.00	2015-04-25

6 rows in set (0.00 sec)

```
mysql> select * from Project;
```

Proj_id	Dept_id	Proj_Name	Proj_Location	Proj_cost	Proj_year
1	1	Website Redesign	Pune	150000.00	2004
3	3	Financial Audit	Delhi	120000.00	2007
5	5	Operations Automation	Chennai	450000.00	2006
6	1	Cloud Migration	Pune	600000.00	2007
8	1	Database Optimization	Pune	180000.00	2005
9	3	Payroll System	Delhi	200000.00	2007
10	5	Logistics Revamp	Chennai	300000.00	2008

7 rows in set (0.01 sec)

```
mysql> select * from Dept;
```

```
+-----+-----+-----+
| Dept_id | Dept_name | Dept_location |
+-----+-----+-----+
| 1 | Computer | Pune |
| 3 | Finance | Delhi |
| 5 | Operations | Chennai |
+-----+-----+-----+
```

3 rows in set (0.00 sec)

```
mysql> delete from Dept where Dept_id=5;
```

Query OK, 1 row affected (6.70 sec)

```
mysql> select * from Employee;
```

```
+-----+-----+-----+-----+-----+-----+-----+
| Emp_id | Dept_id | Emp_fname | Emp_lname | Emp_Position | Emp_salary | Emp_JoinDate |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | Priya | Patel | Software Engineer | 77000.00 | 1980-03-12 |
| 3 | 1 | Rahul | Kumar | Developer | 60000.00 | 2010-08-15 |
| 5 | 3 | Harish | Verma | Accountant | 55000.00 | 2012-05-22 |
| 7 | 1 | Peter | George | Team Lead | 99000.00 | 1979-01-05 |
| 10 | 1 | Hina | Mehta | Software Engineer | 69000.00 | 2015-04-25 |
+-----+-----+-----+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> select * from Dept;
```

```
+-----+-----+-----+
| Dept_id | Dept_name | Dept_location |
+-----+-----+-----+
| 1 | Computer | Pune |
| 3 | Finance | Delhi |
+-----+-----+-----+
```

2 rows in set (0.00 sec)

```
mysql> select * from Project;
```

```
+-----+-----+-----+-----+-----+-----+
| Proj_id | Dept_id | Proj_Name | Proj_Location | Proj_cost | Proj_year |
+-----+-----+-----+-----+-----+-----+
| 1 | 1 | Website Redesign | Pune | 150000.00 | 2004 |
| 3 | 3 | Financial Audit | Delhi | 120000.00 | 2007 |
| 6 | 1 | Cloud Migration | Pune | 600000.00 | 2007 |
| 8 | 1 | Database Optimization | Pune | 180000.00 | 2005 |
| 9 | 3 | Payroll System | Delhi | 200000.00 | 2007 |
+-----+-----+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)