**OUTPUT**

mysql> CREATE TABLE Employee(

-> Emp\_no int PRIMARY KEY,

-> Emp\_name varchar(50),

-> Job varchar(50),

-> Salary float,

-> Dept\_no int,

-> Grade char(2));

Query OK, 0 rows affected (0.03 sec)

mysql> DESC employee;

+----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+-------------+------+-----+---------+-------+

| Emp\_no | int | NO | PRI | NULL | |

| Emp\_name | varchar(50) | YES | | NULL | |

| Job | varchar(50) | YES | | NULL | |

| Salary | float | YES | | NULL | |

| Dept\_no | int | YES | | NULL | |

| Grade | char(2) | YES | | NULL | |

+----------+-------------+------+-----+---------+-------+

6 rows in set (0.00 sec)

mysql> INSERT INTO Employee VALUES(1,"abc","Clerk",25000,10,"A");

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee VALUES(2,"bcd","Mananger",100000,30,"C");

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee VALUES(3,"cde","Professor",200000,20,"D");

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee VALUES(4,"def","Manager",150000,20,"F");

Query OK, 1 row affected (0.01 sec)

mysql> SELECT \* FROM Employee;

+--------+----------+-----------+--------+---------+-------+

| Emp\_no | Emp\_name | Job | Salary | Dept\_no | Grade |

+--------+----------+-----------+--------+---------+-------+

| 1 | abc | Clerk | 25000 | 10 | A |

| 2 | bcd | Mananger | 100000 | 30 | C |

| 3 | cde | Professor | 200000 | 20 | D |

| 4 | def | Manager | 150000 | 20 | F |

+--------+----------+-----------+--------+---------+-------+

4 rows in set (0.00 sec)

mysql> CREATE TABLE Department(

-> Dept\_no int PRIMARY KEY,

-> Dept\_name varchar(50),

-> location varchar(50));

Query OK, 0 rows affected (0.03 sec)

mysql> desc Department;

+-----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------------+------+-----+---------+-------+

| Dept\_no | int | NO | PRI | NULL | |

| Dept\_name | varchar(50) | YES | | NULL | |

| location | varchar(50) | YES | | NULL | |

+-----------+-------------+------+-----+---------+-------+

3 rows in set (0.00 sec)

mysql> INSERT INTO Department VALUES(10,"Banking","Chennai");

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Department VALUES(20,"IT","Banglore");

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Department VALUES(30,"Finanace","Delhi");

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Department VALUES(40,"HR","Hydrabad");

Query OK, 1 row affected (0.01 sec)

mysql> SELECT \* FROM Department;

+---------+-----------+----------+

| Dept\_no | Dept\_name | location |

+---------+-----------+----------+

| 10 | Banking | Chennai |

| 20 | IT | Banglore |

| 30 | Finanace | Delhi |

| 40 | HR | Hydrabad |

+---------+-----------+----------+

4 rows in set (0.00 sec)

mysql> CREATE TABLE Grade(

-> Grade varchar(2) PRIMARY KEY,

-> low\_salary float,

-> high\_salary float);

Query OK, 0 rows affected (0.02 sec)

mysql> desc Grade;

+-------------+------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+------------+------+-----+---------+-------+

| Grade | varchar(2) | NO | PRI | NULL | |

| low\_salary | float | YES | | NULL | |

| high\_salary | float | YES | | NULL | |

+-------------+------------+------+-----+---------+-------+

3 rows in set (0.00 sec)

mysql> INSERT INTO Grade VALUES("A",20000,50000);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Grade VALUES("B",50001,99999);

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Grade VALUES("C",100000,149999);

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Grade VALUES("D",150000,199999);

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Grade VALUES("E",200000,250000);

Query OK, 1 row affected (0.00 sec)

mysql> SELECT \* FROM Grade;

+-------+------------+-------------+

| Grade | low\_salary | high\_salary |

+-------+------------+-------------+

| A | 20000 | 50000 |

| B | 50001 | 99999 |

| C | 100000 | 149999 |

| D | 150000 | 199999 |

| E | 200000 | 250000 |

+-------+------------+-------------+

5 rows in set (0.00 sec)

mysql> ALTER TABLE Employee ADD FOREIGN KEY (Dept\_no) REFERENCES Department(Dept\_no);

Query OK, 4 rows affected (0.04 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE Employee ADD FOREIGN KEY (Grade) REFERENCES Grade(Grade);

Query OK, 4 rows affected (0.05 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> DESC Employee;

+----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+-------------+------+-----+---------+-------+

| Emp\_no | int | NO | PRI | NULL | |

| Emp\_name | varchar(50) | YES | | NULL | |

| Job | varchar(50) | YES | | NULL | |

| Salary | float | YES | | NULL | |

| Dept\_no | int | YES | MUL | NULL | |

| Grade | varchar(2) | YES | MUL | NULL | |

+----------+-------------+------+-----+---------+-------+

6 rows in set (0.00 sec)

mysql> SELECT Dept\_name from Department WHERE Dept\_no IN (Select DISTINCT Dept\_no from Employee);

+-----------+

| Dept\_name |

+-----------+

| Banking |

| IT |

| Finanace |

+-----------+

3 rows in set (0.03 sec)

mysql> SELECT Emp\_name FROM Employee WHERE Salary > (SELECT Salary FROM Employee WHERE Emp\_name = "bcd");

+----------+

| Emp\_name |

+----------+

| cde |

| def |

+----------+

2 rows in set (0.00 sec)

mysql> SELECT Emp\_name FROM Employee WHERE Job = (SELECT Job FROM Employee WHERE Emp\_name = "def");

+----------+

| Emp\_name |

+----------+

| bcd |

| def |

+----------+

2 rows in set (0.00 sec)

mysql> SELECT Emp\_name, Salary FROM Employee WHERE Salary > (SELECT Salary FROM Employee WHERE Dept\_no = 30);

+----------+--------+

| Emp\_name | Salary |

+----------+--------+

| cde | 200000 |

| def | 150000 |

+----------+--------+

2 rows in set (0.00 sec)

mysql> SELECT low\_salary FROM Grade WHERE Grade = (SELECT Grade FROM Employee WHERE Emp\_name = "abc");

+------------+

| low\_salary |

+------------+

| 20000 |

+------------+

1 row in set (0.02 sec)

mysql> SELECT Dept\_name FROM Department WHERE Dept\_no = (SELECT Dept\_no FROM Employee WHERE Salary = (SELECT MAX(Salary) from Employee));

+-----------+

| Dept\_name |

+-----------+

| IT |

+-----------+

1 row in set (0.01 sec)

mysql> Select AVG(Salary) as Average\_Salary FROM Employee WHERE Dept\_no = (SELECT Dept\_no FROM Department WHERE Dept\_name = "IT");

+----------------+

| Average\_Salary |

+----------------+

| 175000 |

+----------------+

1 row in set (0.00 sec)

mysql> SELECT Emp\_name,Job FROM Employee WHERE Dept\_no = (SELECT Dept\_no FROM Department WHERE Dept\_name = "IT") ORDER BY Emp\_name;

+----------+-----------+

| Emp\_name | Job |

+----------+-----------+

| cde | Professor |

| def | Manager |

+----------+-----------+

2 rows in set (0.00 sec)

mysql> SELECT Emp\_name FROM Employee WHERE Salary > (SELECT AVG(low\_salary) FROM Grade) and Salary > (SELECT AVG(high\_salary) FROM Grade);

+----------+

| Emp\_name |

+----------+

| cde |

| def |

+----------+

2 rows in set (0.00 sec)

mysql> SELECT Dept\_name FROM Department WHERE Dept\_no = (SELECT Dept\_no FROM Employee GROUP BY Dept\_no HAVING COUNT(\*) > (SELECT COUNT(\*) FROM Department WHERE Dept\_name = 'Banking'));

+-----------+

| Dept\_name |

+-----------+

| IT |

+-----------+

1 row in set (0.00 sec)