QUERY 01 : Create the above tables as emp_rollno and dept_rollno and display the data…

-> 1) Create dept table and insert records…

```
mysql> CREATE TABLE dept_21co56
    -> (        D_id int(3) PRIMARY KEY,
    ->          D_name varchar(20),
    ->          D_loc varchar(20),
    ->          Mgr_id int(3)
    -> );
Query OK, 0 rows affected, 2 warnings (0.02 sec)
```

```
mysql> INSERT INTO dept_21co56 VALUES
    -> (10, "Accounts", "Banglore", 702),
    -> (20, "Sales", "Delhi", 705),
    -> (30, "Research", "Pune", 707),
    -> (40, "Developing", "Hydrabad", NULL);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

-> 2) Create emp table…

```
mysql> CREATE TABLE emp_21co56
    -> (        E_id int(3) PRIMARY KEY,
    ->          E_name varchar(20),
    ->          E_salary int(4),
    ->          E_hireDate date,
    ->          E_job varchar(20),
    ->          D_id int(3) REFERENCES dept_21co56(D_id),
    ->          M_id int(3)
    -> );
Query OK, 0 rows affected, 4 warnings (0.02 sec)
```

-> 3) Alter the emp table by making mid foreign key referring to eid primary key of emp table…

```
mysql> ALTER TABLE emp_21co56
    -> ADD FOREIGN KEY(M_id) REFERENCES emp_21co56(E_id);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

-> 4) Insert the records in emp table

```
mysql> INSERT INTO emp_21co56 VALUES
    -> (701, "Deepak", 8000, "2001-01-05", "Analyst", 30, 707),
    -> (702, "Naresh", 9000, "2001-01-10", "Manager", 10, 707),
    -> (703, "Sumesh", 7000, "2001-02-05", "Salesman", 20, 705),
    -> (704, "Aditya", 9000, "2003-11-27", "Analyst", 30, 707),
    -> (705, "Lalit", 6500, "2002-10-08", "Manager", 20, 707),
    -> (706, "Amit", NULL, "2004-11-04", "Clerk", 10, 702),
    -> (707, "Vishal", 9500, "2001-01-01", "Manager", 30, NULL),
    -> (708, "Sumit", 8000, "2006-01-06", "Accountant", 10, 702);
Query OK, 8 rows affected (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT * FROM emp_21co56;
+------+--------+----------+------------+------------+------+------+
| E_id | E_name | E_salary | E_hireDate | E_job      | D_id | M_id |
+------+--------+----------+------------+------------+------+------+
|  701 | Deepak |     8000 | 2001-01-05 | Analyst    |   30 |  707 |
|  702 | Naresh |     9000 | 2001-01-10 | Manager    |   10 |  707 |
|  703 | Sumesh |     7000 | 2001-02-05 | Salesman   |   20 |  705 |
|  704 | Aditya |     9000 | 2003-11-27 | Analyst    |   30 |  707 |
|  705 | Lalit  |     6500 | 2002-10-08 | Manager    |   20 |  707 |
|  706 | Amit   |     NULL | 2004-11-04 | Clerk      |   10 |  702 |
|  707 | Vishal |     9500 | 2001-01-01 | Manager    |   30 | NULL |
|  708 | Sumit  |     8000 | 2006-01-06 | Accountant |   10 |  702 |
+------+--------+----------+------------+------------+------+------+
8 rows in set (0.00 sec)
```

QUERY 02 : Write a query to get all employee records against all the department records (**Cross join)**

```
mysql> SELECT * FROM emp_21co56
    -> CROSS JOIN dept_21co56;
+------+--------+----------+------------+------------+------+------+------+------------+----------+--------+
| E_id | E_name | E_salary | E_hireDate | E_job      | D_id | M_id | D_id | D_name     | D_loc    | Mgr_id |
+------+--------+----------+------------+------------+------+------+------+------------+----------+--------+
|  701 | Deepak |     8000 | 2001-01-05 | Analyst    |   30 |  707 |   40 | Developing | Hydrabad |   NULL |
|  701 | Deepak |     8000 | 2001-01-05 | Analyst    |   30 |  707 |   30 | Research   | Pune     |    707 |
|  701 | Deepak |     8000 | 2001-01-05 | Analyst    |   30 |  707 |   20 | Sales      | Delhi    |    705 |
|  701 | Deepak |     8000 | 2001-01-05 | Analyst    |   30 |  707 |   10 | Accounts   | Banglore |    702 |
|  702 | Naresh |     9000 | 2001-01-10 | Manager    |   10 |  707 |   40 | Developing | Hydrabad |   NULL |
|  702 | Naresh |     9000 | 2001-01-10 | Manager    |   10 |  707 |   30 | Research   | Pune     |    707 |
|  702 | Naresh |     9000 | 2001-01-10 | Manager    |   10 |  707 |   20 | Sales      | Delhi    |    705 |
|  702 | Naresh |     9000 | 2001-01-10 | Manager    |   10 |  707 |   10 | Accounts   | Banglore |    702 |
|  703 | Sumesh |     7000 | 2001-02-05 | Salesman   |   20 |  705 |   40 | Developing | Hydrabad |   NULL |
|  703 | Sumesh |     7000 | 2001-02-05 | Salesman   |   20 |  705 |   30 | Research   | Pune     |    707 |
|  703 | Sumesh |     7000 | 2001-02-05 | Salesman   |   20 |  705 |   20 | Sales      | Delhi    |    705 |
|  703 | Sumesh |     7000 | 2001-02-05 | Salesman   |   20 |  705 |   10 | Accounts   | Banglore |    702 |
|  704 | Aditya |     9000 | 2003-11-27 | Analyst    |   30 |  707 |   40 | Developing | Hydrabad |   NULL |
|  704 | Aditya |     9000 | 2003-11-27 | Analyst    |   30 |  707 |   30 | Research   | Pune     |    707 |
|  704 | Aditya |     9000 | 2003-11-27 | Analyst    |   30 |  707 |   20 | Sales      | Delhi    |    705 |
|  704 | Aditya |     9000 | 2003-11-27 | Analyst    |   30 |  707 |   10 | Accounts   | Banglore |    702 |
|  705 | Lalit  |     6500 | 2002-10-08 | Manager    |   20 |  707 |   40 | Developing | Hydrabad |   NULL |
|  705 | Lalit  |     6500 | 2002-10-08 | Manager    |   20 |  707 |   30 | Research   | Pune     |    707 |
|  705 | Lalit  |     6500 | 2002-10-08 | Manager    |   20 |  707 |   20 | Sales      | Delhi    |    705 |
|  705 | Lalit  |     6500 | 2002-10-08 | Manager    |   20 |  707 |   10 | Accounts   | Banglore |    702 |
|  706 | Amit   |     NULL | 2004-11-04 | Clerk      |   10 |  702 |   40 | Developing | Hydrabad |   NULL |
|  706 | Amit   |     NULL | 2004-11-04 | Clerk      |   10 |  702 |   30 | Research   | Pune     |    707 |
|  706 | Amit   |     NULL | 2004-11-04 | Clerk      |   10 |  702 |   20 | Sales      | Delhi    |    705 |
|  706 | Amit   |     NULL | 2004-11-04 | Clerk      |   10 |  702 |   10 | Accounts   | Banglore |    702 |
|  707 | Vishal |     9500 | 2001-01-01 | Manager    |   30 | NULL |   40 | Developing | Hydrabad |   NULL |
|  707 | Vishal |     9500 | 2001-01-01 | Manager    |   30 | NULL |   30 | Research   | Pune     |    707 |
|  707 | Vishal |     9500 | 2001-01-01 | Manager    |   30 | NULL |   20 | Sales      | Delhi    |    705 |
|  707 | Vishal |     9500 | 2001-01-01 | Manager    |   30 | NULL |   10 | Accounts   | Banglore |    702 |
|  708 | Sumit  |     8000 | 2006-01-06 | Accountant |   10 |  702 |   40 | Developing | Hydrabad |   NULL |
|  708 | Sumit  |     8000 | 2006-01-06 | Accountant |   10 |  702 |   30 | Research   | Pune     |    707 |
|  708 | Sumit  |     8000 | 2006-01-06 | Accountant |   10 |  702 |   20 | Sales      | Delhi    |    705 |
|  708 | Sumit  |     8000 | 2006-01-06 | Accountant |   10 |  702 |   10 | Accounts   | Banglore |    702 |
+------+--------+----------+------------+------------+------+------+------+------------+----------+--------+
```

QUERY 03 : Write a query to Display EID and DName of all employees by joining over DID.

```
mysql> SELECT E_id, D_name FROM dept_21co56 AS d, emp_21co56 AS e
    -> WHERE d.D_id = e.D_id;
+------+----------+
| E_id | D_name   |
+------+----------+
|  701 | Research |
|  702 | Accounts |
|  703 | Sales    |
|  704 | Research |
|  705 | Sales    |
|  706 | Accounts |
|  707 | Research |
|  708 | Accounts |
+------+----------+
8 rows in set (0.00 sec)
```

QUERY 04 : Display EID and DName of employees by joining over MID. (**By using left outer join, Right outer join and Full outer join**).

// Left outer join….

```
mysql> SELECT e.E_id, d.D_name FROM dept_21co56 AS d
    -> LEFT OUTER JOIN emp_21co56 AS e
    -> ON d.Mgr_id=e.M_id;
+------+------------+
| E_id | D_name     |
+------+------------+
|  706 | Accounts   |
|  708 | Accounts   |
|  703 | Sales      |
|  701 | Research   |
|  702 | Research   |
|  704 | Research   |
|  705 | Research   |
| NULL | Developing |
+------+------------+
8 rows in set (0.00 sec)
```

//Right outer join…

```
mysql> SELECT e.E_id, d.D_name FROM dept_21co56 AS d
    -> RIGHT OUTER JOIN emp_21co56 AS e
    -> ON d.Mgr_id=e.M_id;
+------+----------+
| E_id | D_name   |
+------+----------+
|  707 | NULL     |
|  706 | Accounts |
|  708 | Accounts |
|  703 | Sales    |
|  701 | Research |
|  702 | Research |
|  704 | Research |
|  705 | Research |
+------+----------+
8 rows in set (0.00 sec)
```

// Full outer join….

```
mysql> SELECT e.E_id, d.D_name FROM dept_21co56 AS d
    -> LEFT OUTER JOIN emp_21co56 AS e
    -> ON d.Mgr_id=e.M_id
    -> UNION
    -> SELECT e.E_id, d.D_name FROM dept_21co56 AS d
    -> RIGHT OUTER JOIN emp_21co56 AS e
    -> ON d.Mgr_id=e.M_id;
+------+------------+
| E_id | D_name     |
+------+------------+
|  706 | Accounts   |
|  708 | Accounts   |
|  703 | Sales      |
|  701 | Research   |
|  702 | Research   |
|  704 | Research   |
|  705 | Research   |
| NULL | Developing |
|  707 | NULL       |
+------+------------+
9 rows in set (0.01 sec)
```

QUERY 05 : Display the name of employees and name of their managers. (**Self join**)

```
mysql> SELECT a.E_name AS manager, b.E_name
    -> FROM emp_21co56 AS a
    -> JOIN emp_21co56 AS b
    -> ON a.E_id = b.M_id;
+---------+--------+
| manager | E_name |
+---------+--------+
| Vishal  | Deepak |
| Vishal  | Naresh |
| Lalit   | Sumesh |
| Vishal  | Aditya |
| Vishal  | Lalit  |
| Naresh  | Amit   |
| Naresh  | Sumit  |
+---------+--------+
7 rows in set (0.00 sec)
```

QUERY 06 : Display EID and DName of all employees by joining over DID (**Natural Join**)

```
mysql> SELECT e.E_id, d.D_name
    -> FROM emp_21co56 AS e
    -> NATURAL JOIN dept_21co56 AS d;
+------+----------+
| E_id | D_name   |
+------+----------+
|  701 | Research |
|  702 | Accounts |
|  703 | Sales    |
|  704 | Research |
|  705 | Sales    |
|  706 | Accounts |
|  707 | Research |
|  708 | Accounts |
+------+----------+
8 rows in set (0.01 sec)
```