use company;

Database changed

mysql> CREATE TABLE DEPARTMENT

   -> (DNO VARCHAR(20) PRIMARY KEY,

   -> DNAME VARCHAR(20),

   -> MGR_SSN VARCHAR(20),

   -> MGR_START_DATE DATE);

Query OK, 0 rows affected (0.04 sec)

mysql>

mysql> CREATE TABLE EMPLOYEE

   -> (SSN VARCHAR(20) PRIMARY KEY,

   -> NAME VARCHAR(20),

   -> ADDRESS VARCHAR(20),

   -> SEX CHAR(1),

   -> SALARY INTEGER,

   -> SUPERSSN VARCHAR(20),

   -> DNO VARCHAR(20),

   -> FOREIGN KEY (SUPERSSN) REFERENCES EMPLOYEE (SSN),

   -> FOREIGN KEY (DNO) REFERENCES DEPARTMENT (DNO));

Query OK, 0 rows affected (0.05 sec)

mysql>

mysql>

mysql> ALTER TABLE DEPARTMENT

   -> ADD FOREIGN KEY (MGR_SSN) REFERENCES EMPLOYEE(SSN);

Query OK, 0 rows affected (0.09 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql>

mysql> CREATE TABLE DLOCATION

```
    -> (DLOC VARCHAR(20),

    -> DNO VARCHAR(20),

    -> FOREIGN KEY (DNO) REFERENCES DEPARTMENT(DNO),

    -> PRIMARY KEY (DNO, DLOC));
Query OK, 0 rows affected (0.03 sec)


mysql>

mysql> CREATE TABLE PROJECT

    -> (PNO INTEGER PRIMARY KEY,

    -> PNAME VARCHAR(20),

    -> PLOCATION VARCHAR(20),

    -> DNO VARCHAR(20),

    -> FOREIGN KEY (DNO) REFERENCES DEPARTMENT(DNO));
Query OK, 0 rows affected (0.04 sec)


mysql>

mysql> CREATE TABLE WORKS_ON

    -> (HOURS INTEGER,

    -> SSN VARCHAR(20),

    -> PNO INTEGER,

    -> FOREIGN KEY (SSN) REFERENCES EMPLOYEE(SSN),

    -> FOREIGN KEY (PNO) REFERENCES PROJECT(PNO),

    -> PRIMARY KEY (SSN, PNO));
Query OK, 0 rows affected (0.05 sec)


mysql>

mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES

    -> ('ABC01','BEN SCOTT','BANGALORE','M', 450000);
Query OK, 1 row affected (0.01 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
```

```
    -> ('ABC02','HARRY SMITH','BANGALORE','M', 500000);
Query OK, 1 row affected (0.01 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC03','LEAN BAKER','BANGALORE','M', 700000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC04','MARTIN SCOTT','MYSORE','M', 500000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC05','RAVAN HEGDE','MANGALORE','M', 650000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC06','GIRISH HOSUR','MYSORE','M', 450000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC07','NEELA SHARMA','BANGALORE','F', 800000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC08','ADYA KOLAR','MANGALORE','F', 350000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC09','PRASANNA KUMAR','MANGALORE','M', 300000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC10','VEENA KUMARI','MYSORE','M', 600000);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO EMPLOYEE (SSN, NAME, ADDRESS, SEX, SALARY) VALUES
    -> ('ABC11','DEEPAK RAJ','BANGALORE','M', 500000);
Query OK, 1 row affected (0.00 sec)


mysql>
mysql> SELECT * FROM EMPLOYEE;
+-------+----------------+-----------+------+--------+----------+------+
| SSN   | NAME           | ADDRESS   | SEX  | SALARY | SUPERSSN | DNO  |
+-------+----------------+-----------+------+--------+----------+------+
| ABC01 | BEN SCOTT      | BANGALORE | M    | 450000 | NULL     | NULL |
| ABC02 | HARRY SMITH    | BANGALORE | M    | 500000 | NULL     | NULL |
| ABC03 | LEAN BAKER     | BANGALORE | M    | 700000 | NULL     | NULL |
| ABC04 | MARTIN SCOTT   | MYSORE    | M    | 500000 | NULL     | NULL |
| ABC05 | RAVAN HEGDE    | MANGALORE | M    | 650000 | NULL     | NULL |
| ABC06 | GIRISH HOSUR   | MYSORE    | M    | 450000 | NULL     | NULL |
| ABC07 | NEELA SHARMA   | BANGALORE | F    | 800000 | NULL     | NULL |
| ABC08 | ADYA KOLAR     | MANGALORE | F    | 350000 | NULL     | NULL |
| ABC09 | PRASANNA KUMAR | MANGALORE | M    | 300000 | NULL     | NULL |
| ABC10 | VEENA KUMARI   | MYSORE    | M    | 600000 | NULL     | NULL |
| ABC11 | DEEPAK RAJ     | BANGALORE | M    | 500000 | NULL     | NULL |
+-------+----------------+-----------+------+--------+----------+------+
11 rows in set (0.00 sec)


mysql>
mysql>
mysql> INSERT INTO DEPARTMENT VALUES ('1','ACCOUNTS','ABC09', '2016-01-03');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO DEPARTMENT VALUES ('2','IT','ABC11', '2017-02-04');

Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO DEPARTMENT VALUES ('3','HR','ABC01', '2016-04-05');

Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO DEPARTMENT VALUES ('4','HELPDESK', 'ABC10', '2017-06-03');

Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO DEPARTMENT VALUES ('5','SALES','ABC06', '2017-01-08');

Query OK, 1 row affected (0.00 sec)


mysql>

mysql> UPDATE EMPLOYEE SET

    -> SUPERSSN=NULL, DNO='3'

    -> WHERE SSN='ABC01';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0


mysql>

mysql> UPDATE EMPLOYEE SET

    -> SUPERSSN='ABC03', DNO='5'

    -> WHERE SSN='ABC02';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1  Changed: 1  Warnings: 0


mysql>

mysql> UPDATE EMPLOYEE SET

    -> SUPERSSN='ABC04', DNO='5'

    -> WHERE SSN='ABC03';
```

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> SUPERSSN='ABC06', DNO='5'

   -> WHERE SSN='ABC04';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='5', SUPERSSN='ABC06'

   -> WHERE SSN='ABC05';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='5', SUPERSSN='ABC07'

   -> WHERE SSN='ABC06';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='5', SUPERSSN=NULL

   -> WHERE SSN='ABC07';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='1', SUPERSSN='ABC09'

   -> WHERE SSN='ABC08';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='1', SUPERSSN=NULL

   -> WHERE SSN='ABC09';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='4', SUPERSSN=NULL

   -> WHERE SSN='ABC10';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE EMPLOYEE SET

   -> DNO='2', SUPERSSN=NULL

   -> WHERE SSN='ABC11';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> INSERT INTO DLOCATION VALUES ('BENGALURU', '1');

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO DLOCATION VALUES ('BENGALURU', '2');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO DLOCATION VALUES ('BENGALURU', '3');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO DLOCATION VALUES ('MYSORE', '4');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO DLOCATION VALUES ('MYSORE', '5');

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> INSERT INTO PROJECT VALUES (1000,'IOT','BENGALURU','5');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1001,'CLOUD','BENGALURU','5');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1002,'BIGDATA','BENGALURU','5');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1003,'SENSORS','BENGALURU','3');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1004,'BANK MANAGEMENT','BENGALURU','1');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1005,'SALARY MANAGEMENT','BANGALORE','1');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1006,'OPENSTACK','BENGALURU','4');

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PROJECT VALUES (1007,'SMART CITY','BENGALURU','2');

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> INSERT INTO WORKS_ON VALUES (4, 'ABC02', 1000);

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO WORKS_ON VALUES (6, 'ABC02', 1001);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO WORKS_ON VALUES (8, 'ABC02', 1002);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO WORKS_ON VALUES (10,'ABC03', 1000);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO WORKS_ON VALUES (3, 'ABC05', 1000);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO WORKS_ON VALUES (4, 'ABC06', 1001);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO WORKS_ON VALUES (5, 'ABC07', 1002);

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO WORKS_ON VALUES (6, 'ABC04', 1002);

Query OK, 1 row affected (0.00 sec)

```
mysql> INSERT INTO WORKS_ON VALUES (7, 'ABC01', 1003);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO WORKS_ON VALUES (5, 'ABC08', 1004);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO WORKS_ON VALUES (6, 'ABC09', 1005);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO WORKS_ON VALUES (4, 'ABC10', 1006);
Query OK, 1 row affected (0.00 sec)


mysql> INSERT INTO WORKS_ON VALUES (10,'ABC11', 1007);
Query OK, 1 row affected (0.00 sec)


mysql>
mysql> SELECT DISTINCT P.PNO
    -> FROM PROJECT P, DEPARTMENT D, EMPLOYEE E
    -> WHERE E.DNO=D.DNO
    -> AND D.MGR_SSN=E.SSN
    -> AND E.NAME LIKE '%SCOTT'
    -> UNION
    -> SELECT DISTINCT P1.PNO
    -> FROM PROJECT P1, WORKS_ON W, EMPLOYEE E1
    -> WHERE P1.PNO=W.PNO
    -> AND E1.SSN=W.SSN
    -> AND E1.NAME LIKE '%SCOTT';
+------+
| PNO  |
+------+
```

| 1004 |

| 1005 |

| 1007 |

| 1003 |

| 1006 |

| 1000 |

| 1001 |

| 1002 |

+------+

8 rows in set (0.01 sec)

mysql> SELECT E.name,1.1*E.SALARY AS INCR_SAL

   -> FROM EMPLOYEE E, WORKS_ON W, PROJECT P

   -> WHERE E.SSN=W.SSN

   -> AND W.PNO=P.PNO

   -> AND P.PNAME='IOT';

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

| name | INCR_SAL |

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

| HARRY SMITH | 550000.0 |

| LEAN BAKER | 770000.0 |

| RAVAN HEGDE | 715000.0 |

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

3 rows in set (0.01 sec)

mysql> SELECT SUM(E.SALARY), MAX(E.SALARY), MIN(E.SALARY), AVG(E.SALARY)

   -> FROM EMPLOYEE E, DEPARTMENT D

   -> WHERE E.DNO=D.DNO

   -> AND D.DNAME='ACCOUNTS';

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

| SUM(E.SALARY) | MAX(E.SALARY) | MIN(E.SALARY) | AVG(E.SALARY) |

```
+--------------+--------------+--------------+--------------+
|     650000 |     350000 |     300000 | 325000.0000 |
+--------------+--------------+--------------+--------------+
1 row in set (0.01 sec)


mysql> SELECT E.NAME
    -> FROM EMPLOYEE E
    -> WHERE NOT EXISTS(SELECT PNO FROM PROJECT WHERE DNO='5' AND PNO NOT IN (SELECT
    -> PNO FROM WORKS_ON
    -> WHERE E.SSN=SSN));
+-------------+
| NAME        |
+-------------+
| HARRY SMITH |
+-------------+
1 row in set (0.00 sec)


mysql> SELECT D.DNO, COUNT(*)
    -> FROM DEPARTMENT D, EMPLOYEE E
    -> WHERE D.DNO=E.DNO
    -> AND E.SALARY > 600000
    -> AND D.DNO IN (SELECT E1.DNO
    -> FROM EMPLOYEE E1
    -> GROUP BY E1.DNO
    -> HAVING COUNT(*)>5)
    -> GROUP BY D.DNO;
+-----+----------+
| DNO | COUNT(*) |
+-----+----------+
| 5   |     3 |
+-----+----------+
```

1 row in set (0.00 sec)

mysql>