

#CREATE TABLES.....

```
CREATE TABLE DEPARTMENT
(DNO VARCHAR(20) PRIMARY KEY,
DNAME VARCHAR(20),
MGR_SSN VARCHAR(20),
MGR_START_DATE DATE);
```

DESC DEPARTMENT;

```
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));
```

DESC EMPLOYEE;

```
ALTER TABLE DEPARTMENT
ADD FOREIGN KEY (MGR_SSN) REFERENCES EMPLOYEE(SSN);
```

```
CREATE TABLE DLOCATION
(DLOC VARCHAR(20),
DNO VARCHAR(20),
FOREIGN KEY (DNO) REFERENCES DEPARTMENT(DNO),
PRIMARY KEY (DNO, DLOC));
```

DESC DLOCATION;

```
CREATE TABLE PROJECT
(PNO INTEGER PRIMARY KEY,
PNAME VARCHAR(20),
PLOCATION VARCHAR(20),
DNO VARCHAR(20),
FOREIGN KEY (DNO) REFERENCES DEPARTMENT(DNO));
```

DESC PROJECT;

```
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));
```

DESC WORKS_ON;

#INSERTION.....

```
INSERT INTO EMPLOYEE VALUES
('ABC01','BEN SCOTT','BANGALORE','M', 450000,NULL,'3'),
('ABC02','HRITHIK RAJ','BANGALORE','M', 500000,'ABC03','5'),
```

```
( 'ABC03', 'NITNEM SINGH', 'BANGALORE', 'M', 700000, 'ABC04', '5'),
( 'ABC04', 'BITTU SCOTT', 'MYSORE', 'M', 500000, 'ABC05', '2'),
( 'ABC05', 'BHUVAN SHEKHAR', 'MANGALORE', 'M', 650000, 'ABC06', '3'),
( 'ABC06', 'GIRISH RAM', 'MYSORE', 'M', 450000, 'ABC07', '4'),
( 'ABC07', 'SAUMYA TIWARI', 'BANGALORE', 'F', 800000, 'ABC08', '5'),
( 'ABC08', 'RIYA SINGH', 'MANGALORE', 'F', 350000, 'ABC09', '1'),
( 'ABC09', 'PRASHANT KUMAR', 'MANGALORE', 'M', 300000, 'ABC10', '4'),
( 'ABC10', 'KAJAL KUMARI', 'MYSORE', 'M', 600000, 'ABC11', '3'),
( 'ABC11', 'ADITYA RAJ', 'BANGALORE', 'M', 500000, NULL, '2');
```

```
SELECT * FROM EMPLOYEE;
```

```
INSERT INTO DEPARTMENT VALUES ('1', 'ACCOUNTS', 'ABC09', '2016-01-16');
INSERT INTO DEPARTMENT VALUES ('2', 'IT', 'ABC11', '2017-03-04');
INSERT INTO DEPARTMENT VALUES ('3', 'HR', 'ABC01', '2016-07-25');
INSERT INTO DEPARTMENT VALUES ('4', 'HELPDESK', 'ABC10', '2018-06-09');
INSERT INTO DEPARTMENT VALUES ('5', 'SALES', 'ABC06', '2019-01-28');
```

```
ALTER TABLE EMPLOYEE (
FOREIGN KEY (SUPERSSN) REFERENCES EMPLOYEE (SSN),
FOREIGN KEY (DNO) REFERENCES DEPARTMENT (DNO));
```

```
SELECT * FROM DEPARTMENT;
```

```
INSERT INTO DLOCATION VALUES ('BENGALURU', '1');
INSERT INTO DLOCATION VALUES ('BENGALURU', '2');
INSERT INTO DLOCATION VALUES ('BENGALURU', '3');
INSERT INTO DLOCATION VALUES ('MYSORE', '4');
INSERT INTO DLOCATION VALUES ('MYSORE', '5');
```

```
SELECT * FROM DLOCATION;
```

```
INSERT INTO PROJECT VALUES (1000, 'IOT', 'BENGALURU', '5');
INSERT INTO PROJECT VALUES (1001, 'CLOUD', 'BENGALURU', '5');
INSERT INTO PROJECT VALUES (1002, 'BIGDATA', 'BENGALURU', '4');
INSERT INTO PROJECT VALUES (1003, 'SENSORS', 'BENGALURU', '3');
INSERT INTO PROJECT VALUES (1004, 'DATA FEED', 'BENGALURU', '1');
INSERT INTO PROJECT VALUES (1005, 'SALARY MANAGEMENT', 'BANGALORE', '1');
INSERT INTO PROJECT VALUES (1006, 'FULLSTACK', 'BENGALURU', '4');
INSERT INTO PROJECT VALUES (1007, 'HEALTH CONTROL', 'BENGALURU', '2');
```

```
SELECT * FROM PROJECT;
```

```
INSERT INTO WORKS_ON VALUES (4, 'ABC02', 1000);
INSERT INTO WORKS_ON VALUES (6, 'ABC02', 1001);
INSERT INTO WORKS_ON VALUES (8, 'ABC02', 1002);
INSERT INTO WORKS_ON VALUES (10, 'ABC03', 1000);
INSERT INTO WORKS_ON VALUES (3, 'ABC05', 1000);
INSERT INTO WORKS_ON VALUES (4, 'ABC06', 1001);
INSERT INTO WORKS_ON VALUES (5, 'ABC07', 1002);
INSERT INTO WORKS_ON VALUES (6, 'ABC04', 1002);
```

```
INSERT INTO WORKS_ON VALUES (7, 'ABC01', 1003);
INSERT INTO WORKS_ON VALUES (5, 'ABC08', 1004);
INSERT INTO WORKS_ON VALUES (6, 'ABC09', 1005);
INSERT INTO WORKS_ON VALUES (4, 'ABC10', 1006);
INSERT INTO WORKS_ON VALUES (10, 'ABC11', 1007);
```

```
SELECT * FROM WORKS_ON;
```

```
#QUERIES.....
```

```
#Q1)
```

```
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';
```

```
#Q2)....
```

```
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';
```

```
#Q3).....
```

```
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';
```

```
#Q4).....
```

```
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));
```

```
#Q5).....
```

```
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(*)>2)
GROUP BY D.DNO;
```