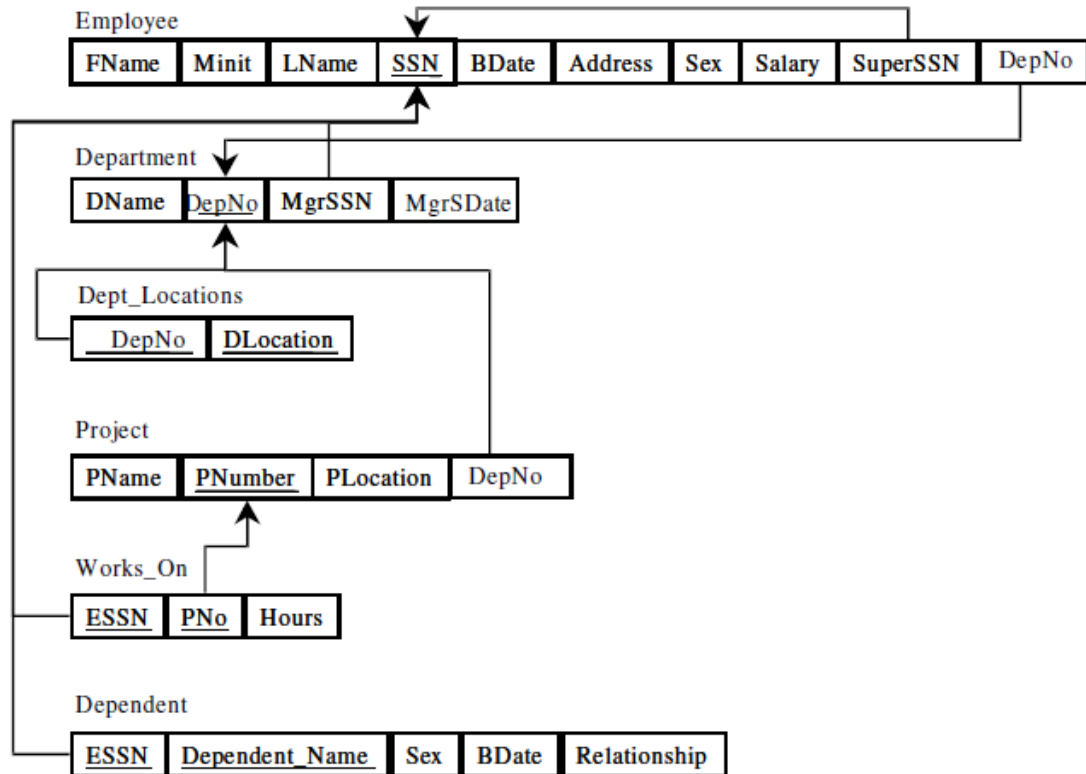


### EXERCISE 3



1. Create tables based on the following schema. Don't forget to mention the constraints - primary key and foreign key.
2. Also, give the check, unique, default and not null constraints where ever required.
3. Insert data as per given below:

```

INSERT INTO employee VALUES
('James','E','Borg','888665555','10-NOV-27','450 Stone, Houston,
TX','M',55000,null,null);
INSERT INTO employee VALUES
('Franklin','T','Wong','333445555','08-DEC-45','638 Voss, Houston,
TX','M',40000,'888665555',null);
INSERT INTO employee VALUES
('Jennifer','S','Wallace','987654321','20-JUN-31','291 Berry, Bellaire,
TX','F',43000,'888665555',null);
INSERT INTO employee VALUES
('Jared','D','James','111111100','10-OCT-1966','123 Peachtree, Atlanta,
GA','M',85000,null,null);
INSERT INTO employee VALUES
('Alex','D','Freed','444444400','09-OCT-1950','4333 Pillsbury, Milwaukee,
WI','M',89000,null,null);
INSERT INTO employee VALUES
('John','C','James','555555500','30-JUN-1975','7676 Bloomington,
Sacramento, CA','M',81000,null,null);
    
```

```

--
INSERT INTO department VALUES ('Research', 5, '333445555', '22-MAY-78');
INSERT INTO department VALUES ('Administration', 4, '987654321', '01-JAN-85');
INSERT INTO department VALUES ('Headquarters', 1, '888665555', '19-JUN-71');
INSERT INTO department VALUES ('Software', 6, '111111100', '15-MAY-1999');
INSERT INTO department VALUES ('Hardware', 7, '444444400', '15-MAY-1998');
INSERT INTO department VALUES ('Sales', 8, '555555500', '01-JAN-1997');
--
UPDATE employee SET dno = 5 WHERE ssn = '333445555';
UPDATE employee SET dno = 4 WHERE ssn = '987654321';
UPDATE employee SET dno = 1 WHERE ssn = '888665555';
UPDATE employee SET dno = 6 WHERE ssn = '111111100';
UPDATE employee SET dno = 7 WHERE ssn = '444444400';
UPDATE employee SET dno = 6 WHERE ssn = '555555500';
--
INSERT INTO employee VALUES
    ('John', 'B', 'Smith', '123456789', '09-Jan-55', '731 Fondren, Houston, TX', 'M', 30000, '333445555', 5);
INSERT INTO employee VALUES
    ('Alicia', 'J', 'Zelaya', '999887777', '19-JUL-58', '3321 Castle, Spring, TX', 'F', 25000, '987654321', 4);
INSERT INTO employee VALUES
    ('Ramesh', 'K', 'Narayan', '666884444', '15-SEP-52', '971 Fire Oak, Humble, TX', 'M', 38000, '333445555', 5);
INSERT INTO employee VALUES
    ('Joyce', 'A', 'English', '453453453', '31-JUL-62', '5631 Rice Oak, Houston, TX', 'F', 25000, '333445555', 5);
INSERT INTO employee VALUES
    ('Ahmad', 'V', 'Jabbar', '987987987', '29-MAR-59', '980 Dallas, Houston, TX', 'M', 25000, '987654321', 4);
insert into EMPLOYEE values
    ('Jon', 'C', 'Jones', '111111101', '14-NOV-1967', '111 Allgood, Atlanta, GA', 'M', 45000, '111111100', 6);
insert into EMPLOYEE values
    ('Justin', null, 'Mark', '111111102', '12-JAN-1966', '2342 May, Atlanta, GA', 'M', 40000, '111111100', 6);
insert into EMPLOYEE values
    ('Brad', 'C', 'Knight', '111111103', '13-FEB-1968', '176 Main St., Atlanta, GA', 'M', 44000, '111111100', 6);
insert into EMPLOYEE values
    ('Evan', 'E', 'Wallis', '222222200', '16-JAN-1958', '134 Pelham, Milwaukee, WI', 'M', 92000, null, 7);
insert into EMPLOYEE values
    ('Josh', 'U', 'Zell', '222222201', '22-MAY-1954', '266 McGrady, Milwaukee, WI', 'M', 56000, '222222200', 7);
insert into EMPLOYEE values
    ('Andy', 'C', 'Vile', '222222202', '21-JUN-1944', '1967 Jordan, Milwaukee, WI', 'M', 53000, '222222200', 7);
insert into EMPLOYEE values
    ('Tom', 'G', 'Brand', '222222203', '16-DEC-1966', '112 Third St, Milwaukee, WI', 'M', 62500, '222222200', 7);
insert into EMPLOYEE values
    ('Jenny', 'F', 'Vos', '222222204', '11-NOV-1967', '263 Mayberry, Milwaukee, WI', 'F', 61000, '222222201', 7);
insert into EMPLOYEE values

```

```

('Chris','A','Carter','222222205','21-MAR-1960','565 Jordan, Milwaukee,
WI','F',43000,'222222201',7);
insert into EMPLOYEE values
('Kim','C','Grace','333333300','23-OCT-1970','6677 Mills Ave, Sacramento,
CA','F',79000,null,6);
insert into EMPLOYEE values
('Jeff','H','Chase','333333301','07-JAN-1970','145 Bradbury, Sacramento,
CA','M',44000,'333333300',6);
insert into EMPLOYEE values
('Bonnie','S','Bays','444444401','19-JUN-1956','111 Hollow, Milwaukee,
WI','F',70000,'444444400',7);
insert into EMPLOYEE values
('Alec','C','Best','444444402','18-JUN-1966','233 Solid, Milwaukee,
WI','M',60000,'444444400',7);
insert into EMPLOYEE values
('Sam','S','Snedden','444444403','31-JUL-1977','987 Windy St, Milwaukee,
WI','M',48000,'444444400',7);
insert into EMPLOYEE values
('Nandita','K','Ball','555555501','16-APR-1969','222 Howard, Sacramento,
CA','M',62000,'555555500',6);
insert into EMPLOYEE values
('Bob','B','Bender','666666600','17-APR-1968','8794 Garfield, Chicago,
IL','M',96000,null,8);
insert into EMPLOYEE values
('Jill','J','Jarvis','666666601','14-JAN-1966','6234 Lincoln, Chicago,
IL','F',36000,'666666600',8);
insert into EMPLOYEE values
('Kate','W','King','666666602','16-APR-1966','1976 Boone Trace, Chicago,
IL','F',44000,'666666600',8);
insert into EMPLOYEE values
('Lyle','G','Leslie','666666603','09-JUN-1963','417 Hancock Ave, Chicago,
IL','M',41000,'666666601',8);
insert into EMPLOYEE values
('Billie','J','King','666666604','01-JAN-1960','556 Washington, Chicago,
IL','F',38000,'666666603',8);
insert into EMPLOYEE values
('Jon','A','Kramer','666666605','22-AUG-1964','1988 Windy Creek, Seattle,
WA','M',41500,'666666603',8);
insert into EMPLOYEE values
('Ray','H','King','666666606','16-AUG-1949','213 Delk Road, Seattle,
WA','M',44500,'666666604',8);
insert into EMPLOYEE values
('Gerald','D','Small','666666607','15-MAY-1962','122 Ball Street, Dallas,
TX','M',29000,'666666602',8);
insert into EMPLOYEE values
('Arnold','A','Head','666666608','19-MAY-1967','233 Spring St, Dallas,
TX','M',33000,'666666602',8);
insert into EMPLOYEE values
('Helga','C','Pataki','666666609','11-MAR-1969','101 Holyoke St, Dallas,
TX','F',32000,'666666602',8);
insert into EMPLOYEE values
('Naveen','B','Drew','666666610','23-MAY-1970','198 Elm St, Philadelphia,
PA','M',34000,'666666607',8);
insert into EMPLOYEE values
('Carl','E','Reedy','666666611','21-JUN-1977','213 Ball St, Philadelphia,
PA','M',32000,'666666610',8);
insert into EMPLOYEE values

```

```

    ('Sammy','G','Hall','666666612','11-JAN-1970','433 Main Street, Miami,
FL','M',37000,'666666611',8);
insert into EMPLOYEE values
    ('Red','A','Bacher','666666613','21-MAY-1980','196 Elm Street, Miami,
FL','M',33500,'666666612',8);
--
INSERT INTO project VALUES ('ProductX',1,'Bellaire',5);
INSERT INTO project VALUES ('ProductY',2,'Sugarland',5);
INSERT INTO project VALUES ('ProductZ',3,'Houston',5);
INSERT INTO project VALUES ('Computerization',10,'Stafford',4);
INSERT INTO project VALUES ('Reorganization',20,'Houston',1);
INSERT INTO project VALUES ('Newbenefits',30,'Stafford',4);
INSERT INTO project VALUES ('OperatingSystems',61,'Jacksonville',6);
INSERT INTO project VALUES ('DatabaseSystems',62,'Birmingham',6);
INSERT INTO project VALUES ('Middleware',63,'Jackson',6);
INSERT INTO project VALUES ('InkjetPrinters',91,'Phoenix',7);
INSERT INTO project VALUES ('LaserPrinters',92,'LasVegas',7);
--
INSERT INTO dept_locations VALUES (1,'Houston');
INSERT INTO dept_locations VALUES (4,'Stafford');
INSERT INTO dept_locations VALUES (5,'Bellaire');
INSERT INTO dept_locations VALUES (5,'Sugarland');
INSERT INTO dept_locations VALUES (5,'Houston');
INSERT INTO dept_locations VALUES (6,'Atlanta');
INSERT INTO dept_locations VALUES (6,'Sacramento');
INSERT INTO dept_locations VALUES (7,'Milwaukee');
INSERT INTO dept_locations VALUES (8,'Chicago');
INSERT INTO dept_locations VALUES (8,'Dallas');
INSERT INTO dept_locations VALUES (8,'Philadephia');
INSERT INTO dept_locations VALUES (8,'Seattle');
INSERT INTO dept_locations VALUES (8,'Miami');
--
INSERT INTO dependent VALUES ('333445555','Alice','F','05-APR-
76','Daughter');
INSERT INTO dependent VALUES ('333445555','Theodore','M','25-OCT-73','Son');
INSERT INTO dependent VALUES ('333445555','Joy','F','03-MAY-48','Spouse');
INSERT INTO dependent VALUES ('987654321','Abner','M','29-FEB-32','Spouse');
INSERT INTO dependent VALUES ('123456789','Michael','M','01-JAN-78','Son');
INSERT INTO dependent VALUES ('123456789','Alice','F','31-DEC-
78','Daughter');
INSERT INTO dependent VALUES ('123456789','Elizabeth','F','05-MAY-
57','Spouse');
INSERT INTO dependent VALUES ('444444400','Johnny','M','04-APR-1997','Son');
INSERT INTO dependent VALUES ('444444400','Tommy','M','07-JUN-1999','Son');
INSERT INTO dependent VALUES ('444444401','Chris','M','19-APR-
1969','Spouse');
INSERT INTO dependent VALUES ('444444402','Sam','M','14-FEB-1964','Spouse');
--
INSERT INTO works_on VALUES ('123456789',1, 32.5);
INSERT INTO works_on VALUES ('123456789',2, 7.5);
INSERT INTO works_on VALUES ('666884444',3, 40.0);
INSERT INTO works_on VALUES ('453453453',1, 20.0);
INSERT INTO works_on VALUES ('453453453',2, 20.0);
INSERT INTO works_on VALUES ('333445555',2, 10.0);
INSERT INTO works_on VALUES ('333445555',3, 10.0);
INSERT INTO works_on VALUES ('333445555',10,10.0);
INSERT INTO works_on VALUES ('333445555',20,10.0);

```

```

INSERT INTO works_on VALUES ('999887777',30,30.0);
INSERT INTO works_on VALUES ('999887777',10,10.0);
INSERT INTO works_on VALUES ('987987987',10,35.0);
INSERT INTO works_on VALUES ('987987987',30, 5.0);
INSERT INTO works_on VALUES ('987654321',30,20.0);
INSERT INTO works_on VALUES ('987654321',20,15.0);
INSERT INTO works_on VALUES ('888665555',20,null);
INSERT INTO works_on VALUES ('111111100',61,40.0);
INSERT INTO works_on VALUES ('111111101',61,40.0);
INSERT INTO works_on VALUES ('111111102',61,40.0);
INSERT INTO works_on VALUES ('111111103',61,40.0);
INSERT INTO works_on VALUES ('222222200',62,40.0);
INSERT INTO works_on VALUES ('222222201',62,48.0);
INSERT INTO works_on VALUES ('222222202',62,40.0);
INSERT INTO works_on VALUES ('222222203',62,40.0);
INSERT INTO works_on VALUES ('222222204',62,40.0);
INSERT INTO works_on VALUES ('222222205',62,40.0);
INSERT INTO works_on VALUES ('333333300',63,40.0);
INSERT INTO works_on VALUES ('333333301',63,46.0);
INSERT INTO works_on VALUES ('444444400',91,40.0);
INSERT INTO works_on VALUES ('444444401',91,40.0);
INSERT INTO works_on VALUES ('444444402',91,40.0);
INSERT INTO works_on VALUES ('444444403',91,40.0);
INSERT INTO works_on VALUES ('555555500',92,40.0);
INSERT INTO works_on VALUES ('555555501',92,44.0);
INSERT INTO works_on VALUES ('666666601',91,40.0);
INSERT INTO works_on VALUES ('666666603',91,40.0);
INSERT INTO works_on VALUES ('666666604',91,40.0);
INSERT INTO works_on VALUES ('666666605',92,40.0);
INSERT INTO works_on VALUES ('666666606',91,40.0);
INSERT INTO works_on VALUES ('666666607',61,40.0);
INSERT INTO works_on VALUES ('666666608',62,40.0);
INSERT INTO works_on VALUES ('666666609',63,40.0);
INSERT INTO works_on VALUES ('666666610',61,40.0);
INSERT INTO works_on VALUES ('666666611',61,40.0);
INSERT INTO works_on VALUES ('666666612',61,40.0);
INSERT INTO works_on VALUES ('666666613',61,30.0);
INSERT INTO works_on VALUES ('666666613',62,10.0);

```

4. Find the minimum salary of each department.
5. Find the average salary of each department if this is more than 40000
6. Find the number of employees in department number 6.
7. Find the number of employees of each department of those employees whose name starts with 'J'
8. Find the number of projects for each department.