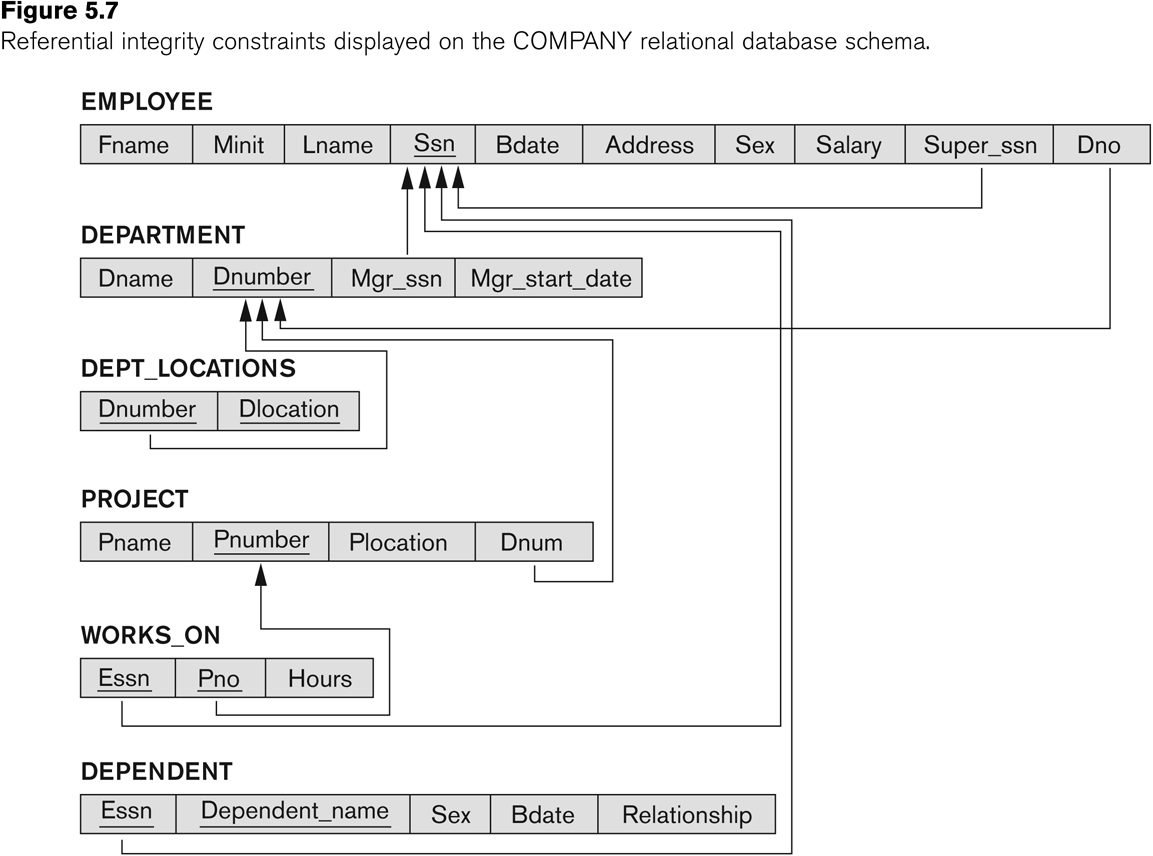
COMPANY DATABASE SCHEMA



**EMPLOYEE - PRIMARY KEY -SSN , FOREIGN KEY – DNO**

**DEPARTMENT – PK – DNUMBER FK – MGR-SSN**

**DEPT\_LOCATIONS – PK-(DNUMBER, DLOCATION) FK-DNUMBER**

**PROJECT – PK-PNUMBER FK – DNUM**

**WORKS\_ON – PK – (ESSN,PNO) FK – ESSN , FK – PNO**

**DEPENDENT - PK- (ESSN,DEPENDENT\_NAME) FK - ESSN**

CREATE TABLE EMPLOYEE

( Fname VARCHAR(10) NOT NULL,

Minit CHAR,

Lname VARCHAR(20) NOT NULL,

Ssn CHAR(9) NOT NULL,

Bdate DATE,

Address VARCHAR(30),

Sex CHAR(1),

Salary DECIMAL(5),

Super\_ssn CHAR(9),

Dno INT NOT NULL,

PRIMARY KEY (Ssn));

CREATE TABLE DEPARTMENT

( Dname VARCHAR(15) NOT NULL,

Dnumber INT NOT NULL,

Mgr\_ssn CHAR(9) NOT NULL,

Mgr\_start\_date DATE,

PRIMARY KEY (Dnumber),

UNIQUE (Dname),

FOREIGN KEY (Mgr\_ssn) REFERENCES EMPLOYEE(Ssn) );

CREATE TABLE DEPT\_LOCATIONS

( Dnumber INT NOT NULL,

Dlocation VARCHAR(15) NOT NULL,

PRIMARY KEY (Dnumber, Dlocation),

FOREIGN KEY (Dnumber) REFERENCES DEPARTMENT(Dnumber) );

CREATE TABLE PROJECT

( Pname VARCHAR(15) NOT NULL,

Pnumber INT NOT NULL,

Plocation VARCHAR(15),

Dnum INT NOT NULL,

PRIMARY KEY (Pnumber),

UNIQUE (Pname),

FOREIGN KEY (Dnum) REFERENCES DEPARTMENT(Dnumber) );

CREATE TABLE WORKS\_ON

( Essn CHAR(9) NOT NULL,

Pno INT NOT NULL,

Hours DECIMAL(3,1) NOT NULL,

PRIMARY KEY (Essn, Pno),

FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn),

FOREIGN KEY (Pno) REFERENCES PROJECT(Pnumber) );

CREATE TABLE DEPENDENT

( Essn CHAR(9) NOT NULL,

Dependent\_name VARCHAR(15) NOT NULL,

Sex CHAR,

Bdate DATE,

Relationship VARCHAR(8),

PRIMARY KEY (Essn, Dependent\_name),

FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn) );

ALTER TABLE DEPARTMENT

ADD CONSTRAINT Dep\_emp FOREIGN KEY (Mgr\_ssn) REFERENCES EMPLOYEE(Ssn);

ALTER TABLE EMPLOYEE

ADD CONSTRAINT Emp\_emp FOREIGN KEY (Super\_ssn) REFERENCES EMPLOYEE(Ssn);

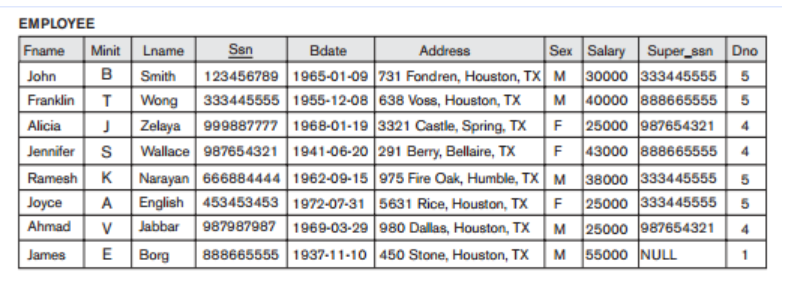
ALTER TABLE EMPLOYEE

ADD CONSTRAINT Emp\_dno FOREIGN KEY (Dno) REFERENCES DEPARTMENT(Dnumber);

ALTER TABLE EMPLOYEE

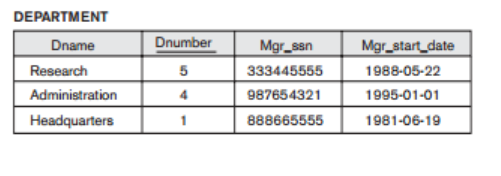
ADD CONSTRAINT Emp\_super FOREIGN KEY (Super\_ssn) REFERENCES EMPLOYEE(Ssn);

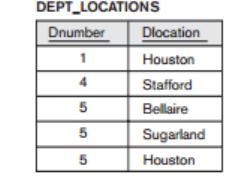
**INSERT THE FOLLOWING DATA INTO THE TABLES:**

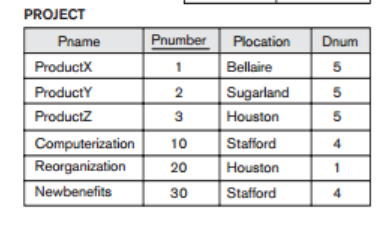


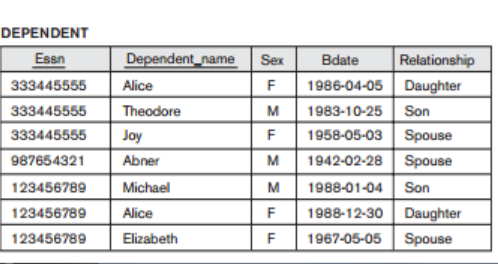
Delete department no 5 employees

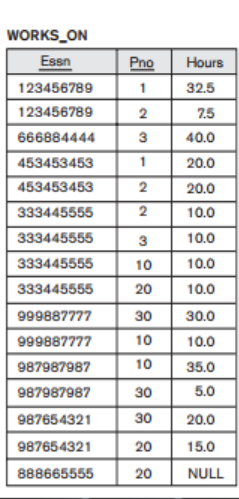
Delete from employee where











INSERT INTO EMPLOYEE

VALUES ('John','B','Smith',123456789,'1965-01-09','731 Fondren, Houston TX','M',30000,333445555,5),

('Franklin','T','Wong',333445555,'1965-12-08','638 Voss, Houston TX','M',40000,888665555,5),

('Alicia','J','Zelaya',999887777,'1968-01-19','3321 Castle, Spring TX','F',25000,987654321,4),

('Jennifer','S','Wallace',987654321,'1941-06-20','291 Berry, Bellaire TX','F',43000,888665555,4),

('Ramesh','K','Narayan',666884444,'1962-09-15','975 Fire Oak, Humble TX','M',38000,333445555,5),

('Joyce','A','English',453453453,'1972-07-31','5631 Rice, Houston TX','F',25000,333445555,5),

('Ahmad','V','Jabbar',987987987,'1969-03-29','980 Dallas, Houston TX','M',25000,987654321,4),

('James','E','Borg',888665555,'1937-11-10','450 Stone, Houston TX','M',55000,null,1);

INSERT INTO DEPARTMENT

VALUES ('Research',5,333445555,'1988-05-22'),

('Administration',4,987654321,'1995-01-01'),

('Headquarters',1,888665555,'1981-06-19');

INSERT INTO PROJECT

VALUES ('ProductX',1,'Bellaire',5),

('ProductY',2,'Sugarland',5),

('ProductZ',3,'Houston',5),

('Computerization',10,'Stafford',4),

('Reorganization',20,'Houston',1),

('Newbenefits',30,'Stafford',4);

INSERT INTO WORKS\_ON

VALUES (123456789,1,32.5),

(123456789,2,7.5),

(666884444,3,40.0),

(453453453,1,20.0),

(453453453,2,20.0),

(333445555,2,10.0),

(333445555,3,10.0),

(333445555,10,10.0),

(333445555,20,10.0),

(999887777,30,30.0),

(999887777,10,10.0),

(987987987,10,35.0),

(987987987,30,5.0),

(987654321,30,20.0),

(987654321,20,15.0),

(888665555,20,16.0);

INSERT INTO DEPENDENT

VALUES (333445555,'Alice','F','1986-04-04','Daughter'),

(333445555,'Theodore','M','1983-10-25','Son'),

(333445555,'Joy','F','1958-05-03','Spouse'),

(987654321,'Abner','M','1942-02-28','Spouse'),

(123456789,'Michael','M','1988-01-04','Son'),

(123456789,'Alice','F','1988-12-30','Daughter'),

(123456789,'Elizabeth','F','1967-05-05','Spouse');

INSERT INTO DEPT\_LOCATIONS

VALUES (1,'Houston'),

(4,'Stafford'),

(5,'Bellaire'),

(5,'Sugarland'),

(5,'Houston');

NOTE : after inserting you have to compare whether all the values are entered by seeing above tables that have values

**Now execute these queries**

**QUERIES**

1. For every project located in 'Stafford', list the project number, the controlling department number and name.
2. For every project located in 'Houston', list the project number, the controlling department number, and the department manager's last name, address, and birthdate.
3. Retrieve the names of the managers for each department
4. Show the resulting salaries if every employee working on the ‘ProductX’ project is given a 10 percent raise
5. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor.
6. Retrieve a list of employees and the projects they are working on,order by department

**Task 1:**

1. Retrieve the birthdate and address of the employee whose name is 'John B. Smith'.
2. List the employees working in department 10
3. Retrieve distinct salary values from employee table
4. Retrieve all employees whose address is in ‘Houston,Texas’
5. Find all employees who were born during 1950s
6. Add a column phone\_no to dept\_location table.
7. Add ‘super\_ssn’ as a foreign key for employee table.
8. Modify the size of address column in employee table to 30.
9. Change the salary of ‘franklin wong’ to 35000
10. Change the location and controlling department number of project no 10 to ‘Bellaire’ and 5.
11. Update the salary of all employees in department no 10 by 10%
12. List the employees between the salary range 30000 to 40000
13. List the names and salaries of employees earning a salary of 35000 or more.
14. List the employees who are staying in ‘Houston’ and earning a salary greater than 30000
15. Retrieve the Female employees who belongs to either department 4 or 1
16. Retrieve the projects controlled by department 10
17. Delete the employee with name ‘joyce’
18. Retrieve all the Male employees from employee.
19. List the departments with ‘e’ as the second letter in their name.

**Task 2:**

1. Retrieve the name and address of all employees who work for the 'Research' department.
2. For every project located in 'Stafford', list the project number, the controlling department number and name.
3. For every project located in 'Houston', list the project number, the controlling department number, and the department manager's last name, address, and birthdate.
4. Retrieve the names of the managers for each department
5. Show the resulting salaries if every employee working on the ‘ProductX’ project is given a 10 percent raise
6. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor.
7. Retrieve a list of employees and the projects they are working on,order by department