



OCTOBER 10, 2024

HOMEWORK 3 B

CS 457 B

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20281 - SFBU

1. Creating the tables

```
1 CREATE TABLE EMPLOYEE (  
2     Fname VARCHAR(15) NOT NULL,  
3     Minit CHAR,  
4     Lname VARCHAR(15) NOT NULL,  
5     Ssn CHAR(9) NOT NULL,  
6     Bdate DATE,  
7     Address VARCHAR(30),  
8     Sex CHAR,  
9     Salary DECIMAL(10,2),  
10    Super_ssn CHAR(9),  
11    Dno INT NOT NULL,  
12    PRIMARY KEY (Ssn)  
13 );  
14  
15 CREATE TABLE DEPARTMENT (  
16     Dname VARCHAR(15) NOT NULL,  
17     Dnumber INT NOT NULL,  
18     Mgr_ssn CHAR(9) NOT NULL,  
19     Mgr_start_date DATE,  
20     PRIMARY KEY (Dnumber),  
21     UNIQUE (Dname),  
22     FOREIGN KEY (Mgr_ssn) REFERENCES EMPLOYEE(Ssn)  
23 );  
24  
25 CREATE TABLE DEPT_LOCATIONS (  
26     Dnumber INT NOT NULL,  
27     Dlocation VARCHAR(15) NOT NULL,  
28     PRIMARY KEY (Dnumber, Dlocation),  
29     FOREIGN KEY (Dnumber) REFERENCES DEPARTMENT(Dnumber)  
30 );  
31  
32 CREATE TABLE PROJECT (  
33     Pname VARCHAR(15) NOT NULL,  
34     Pnumber INT NOT NULL,  
35     Plocation VARCHAR(15),  
36     Dnum INT NOT NULL,  
37     PRIMARY KEY (Pnumber),  
38     UNIQUE (Pname),  
39     FOREIGN KEY (Dnum) REFERENCES DEPARTMENT(Dnumber)  
40 );  
41  
42 CREATE TABLE WORKS_ON (  
43     Essn CHAR(9) NOT NULL,  
44     Pno INT NOT NULL,  
45     Hours DECIMAL(3,1) NOT NULL,  
46     PRIMARY KEY (Essn, Pno),  
47     FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn),  
48     FOREIGN KEY (Pno) REFERENCES PROJECT(Pnumber)  
49 );  
50  
51 CREATE TABLE DEPENDENT (  
52     Essn CHAR(9) NOT NULL,  
53     Dependent_name VARCHAR(15) NOT NULL,  
54     Sex CHAR,  
55     Bdate DATE,  
56     Relationship VARCHAR(8),  
57     PRIMARY KEY (Essn, Dependent_name),  
58     FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn)  
59 );
```

2. Inserting The Data.



```
1 INSERT INTO EMPLOYEE (Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, Super_ssn, Dno) VALUES
2 ('John', 'B', 'Smith', '123456789', '1965-01-09', '731 Fondren, Houston, TX', 'M', 30000, '333445555', 5),
3 ('Franklin', 'T', 'Wong', '333445555', '1955-12-08', '638 Voss, Houston, TX', 'M', 40000, '888665555', 5),
4 ('Alicia', 'J', 'Zelaya', '999887777', '1968-01-19', '321 Castle, Spring, TX', 'F', 25000, '987654321', 4),
5 ('Jennifer', 'S', 'Wallace', '987654321', '1941-06-20', '291 Berry, Bellaire, TX', 'F', 43000, '888665555', 4),
6 ('Ramesh', 'K', 'Narayan', '666884444', '1962-09-15', '975 Fire Oak, Humble, TX', 'M', 38000, '333445555', 5),
7 ('Joyce', 'A', 'English', '453453453', '1972-07-31', '631 Rice, Houston, TX', 'F', 25000, '333445555', 5),
8 ('Ahmad', 'V', 'Jabbar', '987979897', '1969-03-29', '980 Dallas, Houston, TX', 'M', 25000, '987654321', 4),
9 ('James', 'E', 'Borg', '888665555', '1937-11-10', '450 Stone, Houston, TX', 'M', 55000, NULL, 1);
```



```
1 INSERT INTO DEPARTMENT (Dname, Dnumber, Mgr_ssn, Mgr_start_date) VALUES
2 ('Research', 5, '333445555', '1988-05-22'),
3 ('Administration', 4, '987654321', '1995-01-01'),
4 ('Headquarters', 1, '888665555', '1981-06-19');
```



```
1 INSERT INTO DEPT_LOCATIONS (Dnumber, Dlocation) VALUES
2 (1, 'Houston'),
3 (4, 'Stafford'),
4 (5, 'Bellaire'),
5 (5, 'Sugarland'),
6 (5, 'Houston');
```



```
1 INSERT INTO WORKS_ON (Essn, Pno, Hours) VALUES
2 ('123456789', 1, 32.5),
3 ('123456789', 2, 7.5),
4 ('666884444', 3, 40.0),
5 ('453453453', 1, 20.0),
6 ('453453453', 2, 20.0),
7 ('333445555', 2, 10.0),
8 ('333445555', 3, 10.0),
9 ('333445555', 10, 10.0),
10 ('333445555', 20, 10.0),
11 ('999887777', 30, 30.0),
12 ('999887777', 10, 10.0),
13 ('987979897', 10, 35.0),
14 ('987979897', 30, 5.0),
15 ('987654321', 30, 20.0),
16 ('987654321', 20, 15.0),
17 ('888665555', 20, NULL);
```



```
1 INSERT INTO PROJECT (Pname, Pnumber, Plocation, Dnum) VALUES
2 ('ProductX', 1, 'Bellaire', 5),
3 ('ProductY', 2, 'Sugarland', 5),
4 ('ProductZ', 3, 'Houston', 5),
5 ('Computerization', 10, 'Stafford', 4),
6 ('Reorganization', 20, 'Houston', 1),
7 ('Newbenefits', 30, 'Stafford', 4);
```



```
1 INSERT INTO DEPENDENT (Essn, Dependent_name, Sex, Bdate, Relationship) VALUES
2 ('333445555', 'Alice', 'F', '1986-04-05', 'Daughter'),
3 ('333445555', 'Theodore', 'M', '1983-10-25', 'Son'),
4 ('333445555', 'Joy', 'F', '1958-05-03', 'Spouse'),
5 ('987654321', 'Abner', 'M', '1942-02-28', 'Spouse'),
6 ('123456789', 'Michael', 'M', '1988-01-04', 'Son'),
7 ('123456789', 'Alice', 'F', '1988-12-30', 'Daughter'),
8 ('123456789', 'Elizabeth', 'F', '1967-05-05', 'Spouse');
```

QUERIES

1. Retrieving John B Smith's birthdate and address from employee table - **SELECT** Bdate, Address **FROM** EMPLOYEE **WHERE** Fname = 'John' **AND** Minit = 'B' **AND** Lname = 'Smith';

Bdate date	Address varchar(30)
1965-01-09	731 Fondren, Houston, TX

2. Gets first, last names and address for employees in Research department - **SELECT** Fname, Lname, Address **FROM** EMPLOYEE, DEPARTMENT **WHERE** Dname = 'Research' **AND** Dno = Dnumber;

Fname varchar	Lname varchar	Address varchar
John	Smith	731 Fondren, Houston, TX
Franklin	Wong	638 Voss, Houston, TX
Joyce	English	631 Rice, Houston, TX
Ramesh	Narayan	975 Fire Oak, Humble, TX

3. Joins the project, department and employee to find the all projects in Stafford location - **SELECT** Pnumber, Dnum, Lname, Address, Bdate **FROM** PROJECT, DEPARTMENT, EMPLOYEE **WHERE** Dnum = Dnumber **AND** Mgr_ssn = Ssn **AND** Plocation = 'Stafford';

Pnumber int	Dnum int	Lname varchar	Address varchar	Bdate date
10	4	Wallace	291 Berry, Bellaire, TX	1941-06-20
30	4	Wallace	291 Berry, Bellaire, TX	1941-06-20

4. This query shows the employee and their supervisors - **SELECT** e1.Fname, e1.Lname, e2.Fname, e2.Lname **FROM** EMPLOYEE e1, EMPLOYEE e2 **WHERE** e1.Super_ssn = e2.Ssn;

Fname varchar	Lname varchar	Fname varchar	Lname varchar
John	Smith	Franklin	Wong
Franklin	Wong	James	Borg
Joyce	English	Franklin	Wong
Ramesh	Narayan	Franklin	Wong
Jennifer	Wallace	James	Borg
Ahmad	Jabbar	Jennifer	Wallace
Alicia	Zelaya	Jennifer	Wallace

5. Find the Manager's SSN for each department - **SELECT** e.Ssn, d.Dname **FROM** EMPLOYEE e, DEPARTMENT d **WHERE** e.Ssn = d.Mgr_ssn;

Ssn string	Dname varchar
888665555	Headquarters
987654321	Administration
333445555	Research

6. Distinct list of salaries - **SELECT DISTINCT** Salary **FROM** EMPLOYEE;

Salary decimal(10,2) ▲▼
30000.00
40000.00
25000.00
38000.00
55000.00
43000.00

7. Get all salaries including duplicates - **SELECT** Salary **FROM** EMPLOYEE;

Salary decimal(10,2) ▲▼
30000.00
40000.00
25000.00
38000.00
55000.00
43000.00
25000.00
25000.00

8. Projects numbers of the projects associated with Smith's dept - **SELECT p.Pnumber FROM PROJECT p, EMPLOYEE e WHERE e.Lname = 'Smith' AND p.Dnum = e.Dno;**

Pnumber int
1
2
3

9. Returns all employees located in Houston - **SELECT * FROM EMPLOYEE WHERE Address LIKE '%Houston%';**

Fname varchar(15)	Minit char(1)	Lname varchar(15)	Ssn char(9)	Bdate date	Address varchar(30)	Sex char(1)	Salary decimal(10,2)	Super_ssn char(9)	Dno int
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000.00	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000.00	888665555	5
Joyce	A	English	453453453	1972-07-31	631 Rice, Houston, TX	F	25000.00	333445555	5
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000.00	(NULL)	1
Ahmad	V	Jabbar	987979897	1969-03-29	980 Dallas, Houston, TX	M	25000.00	987654321	4

10. Returns employees born in the 1950s - **SELECT * FROM EMPLOYEE WHERE Bdate LIKE '195%';**

Fname varchar(15)	Minit char(1)	Lname varchar(15)	Ssn char(9)	Bdate date	Address varchar(30)	Sex char(1)	Salary decimal(10,2)	Super_ssn char(9)	Dno int
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000.00	888665555	5

11. Calculates the 10% salary increase for employees associated with ProductX - **SELECT E.Fname, E.Lname, 1.1 * E.Salary AS Increased_sal FROM EMPLOYEE AS E, WORKS_ON AS W, PROJECT AS P WHERE E.Ssn = W.Essn AND W.Pno = P.Pnumber AND P.Pname = 'ProductX';**

Fname varchar	Lname varchar	Increased_sal newdecimal
John	Smith	33000.000
Joyce	English	27500.000

12. Find employees between 30K and 40K salaries in Department Number 5 - **SELECT * FROM EMPLOYEE WHERE (Salary BETWEEN 30000 AND 40000) AND Dno = 5;**

Fname varchar(15)	Minit char(1)	Lname varchar(15)	Ssn char(9)	Bdate date	Address varchar(30)	Sex char(1)	Salary decimal(10,2)	Super_ssn char(9)	Dno int
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000.00	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000.00	888665555	5
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000.00	333445555	5

13. Show's the departments, employees and the projects they are working on, ordered by department and employee name - **SELECT Dname, Lname, Fname, Pname FROM DEPARTMENT, EMPLOYEE, WORKS_ON, PROJECT WHERE Dnumber = Dno AND Ssn = Essn AND Pno = Pnumber ORDER BY Dname, Lname, Fname;**

Dname varchar	Lname varchar	Fname varchar	Pname varchar
Administration	Jabbar	Ahmad	Computerization
Administration	Jabbar	Ahmad	Newbenefits
Administration	Wallace	Jennifer	Reorganization
Administration	Wallace	Jennifer	Newbenefits
Administration	Zelaya	Alicia	Computerization
Administration	Zelaya	Alicia	Newbenefits
Headquarters	Borg	James	Reorganization
Research	English	Joyce	ProductX
Research	English	Joyce	ProductY
Research	Narayan	Ramesh	ProductZ
Research	Smith	John	ProductX
Research	Smith	John	ProductY
Research	Wong	Franklin	ProductY
Research	Wong	Franklin	ProductZ
Research	Wong	Franklin	Computerization
Research	Wong	Franklin	Reorganization

14. Return employees who've worked more than 10 hours on ProjectX - **SELECT DISTINCT** Fname, Lname, Pname, Dno, Hours **FROM** EMPLOYEE **AS** E, PROJECT **AS** P, WORKS_ON **AS** W **WHERE** E.Dno = 5 **AND** P.Pname = 'ProductX' **AND** W.Hours >= 10 **AND** W.Essn = E.Ssn;

Fname varchar	Lname varchar	Pname varchar	Dno int	Hours newdecimal
John	Smith	ProductX	5	32.5
Franklin	Wong	ProductX	5	10.0
Joyce	English	ProductX	5	20.0
Ramesh	Narayan	ProductX	5	40.0

15. Returns the employees whose first names matches with their dependent's name which resulted in a empty set - **SELECT** Fname, Lname **FROM** EMPLOYEE, DEPENDENT **WHERE** Fname = Dependent_name **AND** Ssn = Essn;

Empty set (0.00 sec)

16. Employees managed by Franklin Wong - **SELECT** Fname, Lname **FROM** EMPLOYEE **WHERE** Super_ssn = (**SELECT** Ssn **FROM** EMPLOYEE **WHERE** Fname = 'Franklin' **AND** Lname = 'Wong');

Fname varchar	Lname varchar
John	Smith
Joyce	English
Ramesh	Narayan

17. Find employees without a manager - **SELECT** * **FROM** EMPLOYEE **WHERE** Super_ssn **IS** NULL;

Fname varchar(15)	Minit char(1)	Lname varchar(15)	Ssn char(9)	Bdate date	Address varchar(30)	Sex char(1)	Salary decimal(10,2)	Super_ssn char(9)	Dno int
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000.00	(NULL)	1

18. Employees who share their first name and gender with their dependents which none of them do so it resulted in a empty set - **SELECT** Fname, Lname **FROM** EMPLOYEE E, DEPENDENT Dp **WHERE** E.Fname = Dependent_name **AND** Dp.Sex = E.Sex;

Empty set (0.00 sec)

19. Employees without any dependents - **SELECT** Fname, Lname **FROM** EMPLOYEE **WHERE NOT EXISTS** (**SELECT** * **FROM** DEPENDENT **WHERE** Ssn = Essn);

Fname varchar	Lname varchar
Joyce	English
Ramesh	Narayan
James	Borg
Ahmad	Jabbar
Alicia	Zelaya

20. Employees who are a manager and have dependents - **SELECT** Fname, Lname **FROM** EMPLOYEE **WHERE EXISTS** (**SELECT** * **FROM** DEPENDENT **WHERE** Ssn = Essn) **AND EXISTS** (**SELECT** * **FROM** DEPARTMENT **WHERE** Ssn = Mgr_ssn);

Fname varchar	Lname varchar
Franklin	Wong
Jennifer	Wallace

21. Returns the SSN of the employees working on projects 1,2 or 3 - **SELECT DISTINCT** Essn **FROM** WORKS_ON **WHERE** Pno **IN** (1, 2, 3);

* Essn char(9)
123456789
453453453
333445555
666884444

22.

- a. Summarized all the employee salaries - **SELECT SUM(Salary), MAX(Salary), MIN(Salary), AVG(Salary) FROM EMPLOYEE;**

SUM(Salary) newdecimal	MAX(Salary) newdecimal	MIN(Salary) newdecimal	AVG(Salary) newdecimal
281000.00	55000.00	25000.00	35125.000000

- b. Summarized all the salaries for the employees in the Research department - **SELECT SUM(Salary), MAX(Salary), MIN(Salary), AVG(Salary) FROM EMPLOYEE, DEPARTMENT WHERE Dno = Dnumber AND Dname = 'Research';**

SUM(Salary) newdecimal	MAX(Salary) newdecimal	MIN(Salary) newdecimal	AVG(Salary) newdecimal
133000.00	40000.00	25000.00	33250.000000

23. Returns the total number of employees - **SELECT COUNT(*) FROM EMPLOYEE;**

COUNT(*) bigint
8

24. Counts the distinct salary values - **SELECT COUNT(DISTINCT Salary) FROM EMPLOYEE;**

COUNT(DISTINCT Salary) bigint
6

25. Groups employees by department and show count and average salary - **SELECT COUNT(*), Dno, AVG(Salary) FROM EMPLOYEE GROUP BY Dno;**

COUNT(*) bigint	* Dno int	AVG(Salary) newdecimal
4	5	33250.000000
1	1	55000.000000
3	4	31000.000000

26. Groups employees by department and show count as Employee_NUM and average salary - **SELECT COUNT(*) AS Employee_NUM, Dno, AVG(Salary) FROM EMPLOYEE GROUP BY Dno;**

Employee_NUM bigint	* Dno int	AVG(Salary) newdecimal
4	5	33250.000000
1	1	55000.000000
3	4	31000.000000

27. This shows all projects with more than 2 employees - **SELECT Pnumber, Pname, COUNT(*) FROM PROJECT, WORKS_ON WHERE Pnumber = Pno GROUP BY Pnumber, Pname HAVING COUNT(*) > 2;**

Pnumber int	Pname varchar	COUNT(*) bigint
10	Computerization	3
30	Newbenefits	3
2	ProductY	3
20	Reorganization	3

28. This shows all projects within department 5 with more than 2 employees - **SELECT Pnumber, Pname, COUNT(*) > 2 FROM PROJECT, WORKS_ON, EMPLOYEE WHERE Pnumber = Pno AND Ssn = Essn AND Dno = 5 GROUP BY Pnumber, Pname;**

Pnumber int	Pname varchar	COUNT(*) > 2 bigint
1	ProductX	0
2	ProductY	1
3	ProductZ	0
10	Computerization	0
20	Reorganization	0

29. This query shows departments with average salaries more than 40K and more than 5 employees -
SELECT Dnumber, **COUNT**(*) **FROM** DEPARTMENT, EMPLOYEE **WHERE** Dnumber = Dno **AND** Salary > 40000 **AND** Dno **IN** (**SELECT** Dno **FROM** EMPLOYEE **GROUP BY** Dno **HAVING** **COUNT**(*) > 5) **GROUP BY** Dnumber;

Empty set (0.00 sec)

30. Shows departments where average salaries exceed 30K - **SELECT** Dname, **COUNT**(*) **FROM** DEPARTMENT, EMPLOYEE **WHERE** Dnumber = Dno **GROUP BY** Dname **HAVING** **AVG**(Salary) > 30000;

Dname varchar	COUNT(*) bigint
Research	4
Headquarters	1
Administration	3

31.

- a. Male employees with average salaries exceeding 30K - **SELECT** Dname, **COUNT**(*) **FROM** DEPARTMENT, EMPLOYEE **WHERE** Dnumber = Dno **AND** Sex = 'M' **AND** Dno **IN** (**SELECT** Dno **FROM** EMPLOYEE **GROUP BY** Dno **HAVING** **AVG**(Salary) > 30000) **GROUP BY** Dname;

Dname varchar	COUNT(*) bigint
Research	3
Headquarters	1
Administration	1

- b. A view that lists the department names, manager names, and their salaries - **CREATE VIEW** V1 **AS** **SELECT** Dname, **CONCAT**(Fname, " ", Lname) **AS** Manager_Name, Salary **FROM** DEPARTMENT, EMPLOYEE **WHERE** Mgr_ssn = Ssn;

* Dname varchar(15)	Manager_Name varchar(31)	Salary decimal(10,2)
Headquarters	James Borg	55000.00
Administration	Jennifer Wallace	43000.00
Research	Franklin Wong	40000.00

- c. A view that shows employees in the 'Research' Department, their supervisors name and employee salaries - **CREATE VIEW Employee_Supervisor_Salary AS SELECT E.Fname AS Employee_Fname, E.Lname AS Employee_Lname, S.Fname AS Supervisor_Fname, S.Lname AS Supervisor_Lname, E.Salary FROM EMPLOYEE E JOIN EMPLOYEE S ON E.Super_ssn = S.Ssn JOIN DEPARTMENT D ON E.Dno = D.Dnumber WHERE D.Dname = 'Research';**

* Employee_Fname varchar(15)	* Employee_Lname varchar(15)	* Supervisor_Fname varchar(15)	* Supervisor_Lname varchar(15)	Salary decimal(10,2)
John	Smith	Franklin	Wong	30000.00
Franklin	Wong	James	Borg	40000.00
Joyce	English	Franklin	Wong	25000.00
Ramesh	Narayan	Franklin	Wong	38000.00

- d. This view summarizes each project's employee involvement and total working hours - **CREATE VIEW V3 AS SELECT Pname, Dname, (SELECT COUNT(*) FROM WORKS_ON W1 WHERE W1.Pno = P1.Pnumber) AS Num_Employee, (SELECT SUM(W2.Hours) FROM WORKS_ON W2 WHERE W2.Pno = P1.Pnumber GROUP BY Pno) AS Total_Hours FROM PROJECT P1, DEPARTMENT D1 WHERE P1.Dnum = D1.Dnumber;**

Pname varchar(15)	* Dname varchar(15)	Num_Employee bigint	Total_Hours decimal(25,1)
Computerization	Administration	3	55.0
Newbenefits	Administration	3	55.0
Reorganization	Headquarters	3	25.0
ProductX	Research	2	52.5
ProductY	Research	3	37.5
ProductZ	Research	2	50.0

32. Similar to V3 but limited to projects that have more than 1 employee - **CREATE VIEW V4 AS SELECT** Pname, Dname, (**SELECT COUNT(*) FROM WORKS_ON W1 WHERE W1.Pno = P1.Pnumber**) **AS** Num_Employee, (**SELECT SUM(W2.Hours) FROM WORKS_ON W2 WHERE W2.Pno = P1.Pnumber GROUP BY Pno**) **AS** Total_Hours **FROM** PROJECT P1, DEPARTMENT D1 **WHERE** P1.Dnum = D1.Dnumber **AND** (**SELECT COUNT(*) FROM WORKS_ON W2 WHERE W2.Pno = P1.Pnumber GROUP BY W2.Pno**) > 1;

Pname varchar(15)	* Dname varchar(15)	Num_Employee bigint	Total_Hours decimal(25,1)
Computerization	Administration	3	55.0
Newbenefits	Administration	3	55.0
Reorganization	Headquarters	3	25.0
ProductX	Research	2	52.5
ProductY	Research	3	37.5
ProductZ	Research	2	50.0

TABLE DATA**1. EMPLOYEE TABLE**

* Fname varchar(15)	Minit char(1)	* Lname varchar(15)	* Ssn char(9)	Bdate date	Address varchar(30)	Sex char(1)	Salary decimal(10,2)	Super_ssn char(9)	* Dno int
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000.00	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000.00	888665555	5
Joyce	A	English	453453453	1972-07-31	631 Rice, Houston, TX	F	25000.00	333445555	5
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000.00	333445555	5
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000.00	(NULL)	1
Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000.00	888665555	4
Ahmad	V	Jabbar	987979897	1969-03-29	980 Dallas, Houston, TX	M	25000.00	987654321	4
Alicia	J	Zelaya	999887777	1968-01-19	321 Castle, Spring, TX	F	25000.00	987654321	4

2. DEPARTMENT TABLE

* Dname varchar(15)	* Dnumber int	* Mgr_ssr char(9)	Mgr_start_date date
Headquarters	1	888665555	1981-06-19
Administration	4	987654321	1995-01-01
Research	5	333445555	1988-05-22

3. DEPT_LOCATIONS TABLE

* Dnumber int	* Dlocation varchar(15)
1	Houston
4	Stafford
5	Bellaire
5	Houston
5	Sugarland

4. PROJECT TABLE

* Pname varchar(15)	* Pnumber int	Plocation varchar(15)	* Dnum int
ProductX	1	Bellaire	5
ProductY	2	Sugarland	5
ProductZ	3	Houston	5
Computerization	10	Stafford	4
Reorganization	20	Houston	1
Newbenefits	30	Stafford	4

5. WORKS_ON TABLE

* Essn char(9)	* Pno int	Hours decimal(3,1)
123456789	1	32.5
123456789	2	7.5
333445555	2	10.0
333445555	3	10.0
333445555	10	10.0
333445555	20	10.0
453453453	1	20.0
453453453	2	20.0
666884444	3	40.0
888665555	20	(NULL)
987654321	20	15.0
987654321	30	20.0
987979897	10	35.0
987979897	30	5.0
999887777	10	10.0
999887777	30	30.0

6. DEPENDENT TABLE

*  Essn char(9)	* Dependent_name varchar(15)	Sex char(1)	Bdate date	Relationship varchar(8)
123456789	Alice	F	1988-12-30	Daughter
123456789	Elizabeth	F	1967-05-05	Spouse
123456789	Michael	M	1988-01-04	Son
333445555	Alice	F	1986-04-05	Daughter
333445555	Joy	F	1958-05-03	Spouse
333445555	Theodore	M	1983-10-25	Son
987654321	Abner	M	1942-02-28	Spouse