CIS430/530 **Lab Assignment 4**
SS Chung

Querying a Relational Database COMPANY database
For Lab4, you use the Company database that you built in Lab2 and used for Lab3

1. Update the following new changes into the database:

1) Joyce English with Ssn = 453453453 got married with Joe Anderson. (Joe is not an Employee of the Company)
2) Jenifer Wallace with Ssn = 987654321 just had a new daughter named Erica.
3) Jenifer Wallace with Ssn = 987654321 is just assigned to a new project number '10' to work on with 0 initial hours.

Add these new entries into Dependent, Works_On tables in your database then Select * from Dependent and Select * from Works_On to show the updated table content.
Note that if you don't insert these data as directed, your query results for Q1 – Q5 won't be correct.

2. Write SQL Select statements to retrieve data in the followings:

Q1:
For each department, list all the employees who are working in the department with the employee's first and last name and first and last name of his or her immediate supervisor. Include all the departments and all the employees (including who do not have any supervisor). List the result in the order of each department number and first name of each employee.

Different version of Q1:
Q1_1: List the same information as Q1 with a change: List all the employees (including who do not have any supervisor) but do not list the departments that no employee is working for in the output.

Q2:
Get SSN and the last name of married female employees who work on three or more projects

Q3:
List the name of employees who is working for 'Research' department and are married but have no children.

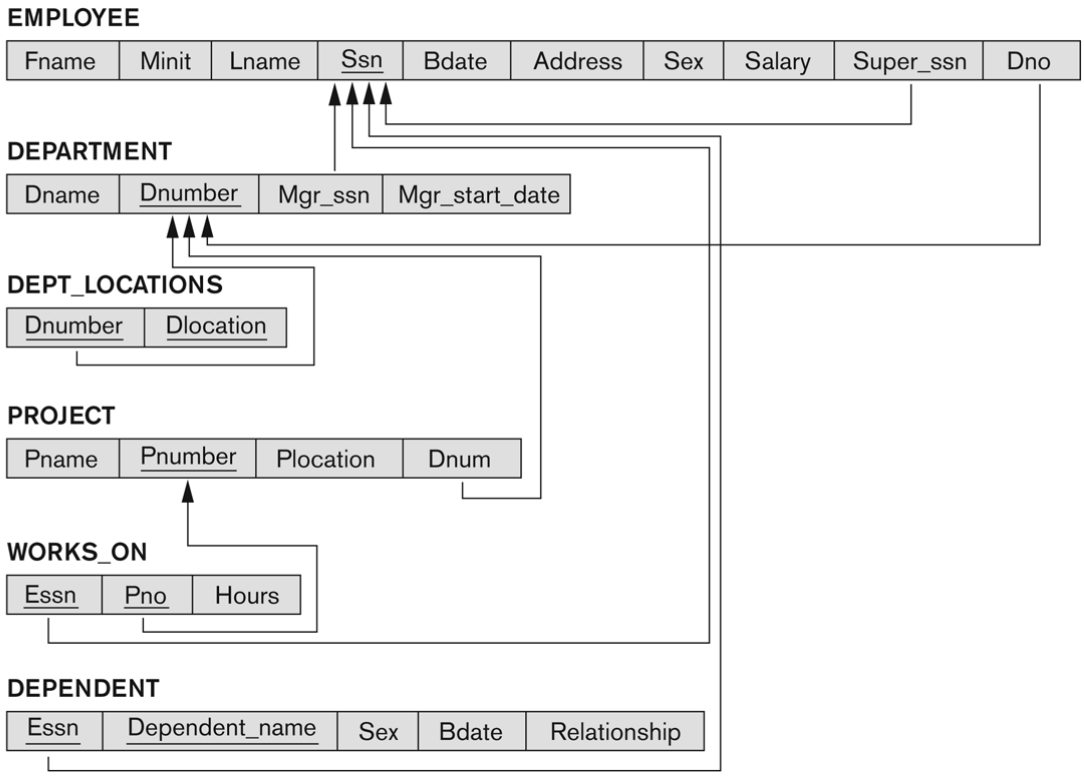
```
--Married = Select ESSN From Dependent Where relationship = 'spouse';
--Girls = Select ESSN From Dependent Where relationship = 'daughter';
--Boys = Select ESSN From Dependent Where relationship = 'son';
```

Q4:
Get the last name of married employees who only have daughters.

Married = Select ESSN From Dependent Where relationship = ‘spouse’;
Girls = Select ESSN From Dependent Where relationship = ‘daughter’;
Boys = Select ESSN From Dependent Where relationship = ‘son’;

Q5:
Give the last name and ssn of those employees who work in any project(s) where there are more female than male employees.

Figure 5.7
Referential integrity constraints displayed on the COMPANY relational database schema.



COMPANY DATABASE

EMPLOYEE

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
John	B	Smith	123456789	09-Jan-55	731 Fondren, Houston, TX	M	30000	987654321	5
Franklin	T	Wong	333445555	08-Dec-45	638 Voss, Houston, TX	M	40000	888665555	5
Joyce	A	English	453453453	31-Jul-62	5631 Rice, Houston, TX	F	25000	333445555	5
Ramesh	K	Narayan	666884444	15-Sep-52	975 Fire Oak, Humble, TX	M	38000	333445555	5
James	E	Borg	888665555	10-Nov-27	450 Stone, Houston, TX	M	55000		1
Jennifer	S	Wallace	987654321	20-Jun-31	291 Berry, Bellaire, TX	F	43000	888665555	4
Ahmad	V	Jabbar	987987987	29-Mar-59	980 Dallas, Houston, TX	M	25000	987654321	4
Alicia	J	Zelaya	999887777	19-Jul-58	3321 Castle, SPring, TX	F	25000	987654321	4

DEPARTMENT

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
Headquarters	1	888665555	19-Jun-71
Administration	4	987654321	01-Jan-85
Research	5	333445555	22-May-78
Automation	7	123456789	06-Oct-05

DEPENDENT

ESSN	DEPENDENT_NAME	SEX	BDATE	RELATIONSHIP
123456789	Alice	F	31-Dec-78	Daughter
123456789	Elizabeth	F	05-May-57	Spouse
123456789	Michael	M	01-Jan-78	Son
333445555	Alice	F	05-Apr-76	Daughter
333445555	Joy	F	03-May-48	Spouse
333445555	Theodore	M	25-Oct-73	Son
987654321	Abner	M	29-Feb-32	Spouse

DEPT_LOCATIONS

DNUMBER	DLOCATION
1	Houston
4	Stafford

5	Bellaire
5	Sugarland
5	Houston

PROJECT

PNAME	PNUMBER	PLOCATION	DNUM
ProductX	1	Bellaire	5
ProductY	2	Sugarland	5
ProductZ	3	Houston	5
Computerization	10	Stafford	4
Reorganization	20	Houston	1
Newbenefits	30	Stafford	4

WORKS_ON

ESSN	PNO	Hours
123456789	1	32.5
123456789	2	7.5
333445555	2	10
333445555	3	10
333445555	10	10
333445555	20	10
453453453	1	20
453453453	2	20
666884444	3	40
888665555	20	
987654321	20	15
987654321	30	20
987987987	10	35
987987987	30	5
999887777	10	10
999887777	30	30