

Assignment 9 – Some more Nested Queries and complex subqueries

1. Retrieve the names of employees who have no dependents.

```
SELECT * FROM EMPLOYEE WHERE SSN NOT IN (SELECT ESSN FROM DEPENDENT);
```

	FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPER_SSNN	DNO
1	Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000.00	333445555	5
2	Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000.00	333445555	5
3	James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000.00	NULL	1
4	Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston, TX	M	25000.00	987654321	4
5	Alicia	J	Zolaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000.00	987654321	4

2. Retrieve all supervisees of a supervisory employee e at all levels—that is, all employees e' directly supervised by e, all employees e'' directly supervised by each employee e', all employees e''' directly supervised by each employee e'', and so on.

```
WITH RECURSIVE SUP_EMP(SUPER_SSNN, SSN) AS(
SELECT SUPER_SSNN, SSN FROM EMPLOYEE
UNION
SELECT E.SSN, S.SUPER_SSNN
FROM EMPLOYEE AS E , SUP_EMP AS S
WHERE E.SUPER_SSNN = S.SSN)
SELECT * FROM SUP_EMP;
```

SUPER_SSNN	SSN
333445555	123456789
888665555	333445555
333445555	453453453
333445555	666884444
NULL	888665555
888665555	987654321
987654321	987987987
987654321	999887777
123456789	888665555
333445555	NULL
453453453	888665555
666884444	888665555
987654321	NULL
987987987	888665555
999887777	888665555
333445555	999887777
333445555	987987987
987654321	666884444
987654321	453453453
987654321	123456789

3. For every project located in ‘Stafford’, list the project number, the controlling department number, and the department manager’s last name, address, and birth date.

```
SELECT P.PNUMBER, P.DNUM, E.LNAME, E.ADDRESS, E.BDATE FROM PROJECT AS P, DEPARTMENT ASD, EMPLOYEE AS E
WHERE P.PLOCATION = 'Stafford' AND P.DNUM = D.DNUMBER AND D.MGR_SSNN = E.SSN;
```

4. Make a list of all project numbers for projects that involve an employee whose last name is ‘Smith’, either as a worker or as a manager of the department that controls the project.

```
(SELECT W.PNO FROM WORKS_ON AS W, EMPLOYEE AS E WHERE E.LNAME = 'Smith' AND E.SSN = W.ESSN)
UNION
(SELECT W.PNO FROM WORKS_ON AS W, PROJECT AS P, EMPLOYEE AS E, DEPARTMENT AS D
WHERE E.LNAME = 'Smith' AND W.PNO = P.PNUMBER AND P.DNUM = D.DNUMBER AND D.MGR_SSNN = E.SSN);
```

Results				
Messages				
1	PNUMBER	DNUM	LNAME	ADDRESS
1	10	4	Wallace	291 Berry, Beilaire, TX
2	30	4	Wallace	291 Berry, Beilaire, TX
1	BDATE			
2	1941-06-20			
1				
2				
PNO				
1	1			
2	2			

5. Retrieve the names of all employees in department 5 who work more than 10 hours per week on the ProductX project.

```
SELECT DISTINCT(E.FNAME) FROM EMPLOYEE AS E, WORKS_ON AS W, PROJECT AS P
WHERE P.PNAME = 'ProductX' AND P.PNUMBER = W.PNO AND W.HOURS > 10 AND W.ESSN = E.SSN AND
E.DNO = 5;
```

6. List the names of all employees who have a dependent with the same first name as themselves. [SELECT](#) E.FNAME [FROM](#) EMPLOYEE AS E, DEPENDENT AS D [WHERE](#) E.FNAME = D.DEPENDENT_NAME [AND](#) E.SSN = D.ESSN;

7. Retrieve a list of employees and the projects they are working on, ordered by department and, within each department, ordered alphabetically by last name, then first name.

```
SELECT E.FNAME, E.LNAME, P.PNAME FROM EMPLOYEE AS E, DEPARTMENT AS D, WORKS_ON AS W,
PROJECT AS P
WHERE W.ESSN = E.SSN AND W.PNO = P.PNUMBER AND P.DNUM = D.DNUMBER
ORDER BY D.DNAME, E.LNAME, E.FNAME;
```

8. Show the resulting salaries if every employee working on the 'ProductX' project is given a 15 percent raise.

```
SELECT E.SALARY*1.15 AS SALARY_15 FROM PROJECT AS P, WORKS_ON AS W, EMPLOYEE AS E WHERE
P.PNAME = 'ProductX' AND P.PNUMBER = W.PNO and W.ESSN = E.SSN;
```

Results				
Messages				
1	FNAME			
2	John			
1	Joyce			
FNAME				
1	Ahmad	LNAME	PNAME	
2	Ahmad	Jabbar	Computerization	
3	Jennifer	Wallace	Newbenefits	
4	Franklin	Wong	Computerization	
5	Alicia	Zolaya	Computerization	
6	Alicia	Zolaya	Newbenefits	
7	James	Borg	Reorganization	
8	Jennifer	Wallace	Reorganization	
9	Franklin	Wong	Reorganization	
10	Joyce	English	ProductX	
11	Joyce	English	ProductY	
12	Rame...	Naray...	ProductZ	
13	John	Smith	ProductX	
14	John	Smith	ProductY	
15	Franklin	Wong	ProductY	
16	Franklin	Wong	ProductZ	
SALARY_15				
1	34500.0000			
2	28750.0000			