



## PES UNIVERSITY EC CAMPUS DBMS LAB WEEK 7

NAME: PRIYA MOHATA  
SRN: PES2UG19CS301  
SECTION: E

### PROBLEM STATEMENT:

#### SQL - Set Operations-Union, intersect and minus

Write the SQL query using appropriate set operations (Union, Intersect and Except) for the following.

1. 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.

```
companydb=# (SELECT DISTINCT PNUMBER FROM EMPLOYEE,PROJECT,WORKS_ON WHERE SSN=ESSN AND PNO=PNUMBER AND LNAME='SMITH')
UNION
(SELECT DISTINCT PNUMBER FROM EMPLOYEE,PROJECT,DEPARTMENT WHERE SSN=MGR_SSN AND DNUM=DNUMBER AND LNAME='SMITH');
 pnumber
-----
      1
      2
(2 rows)

companydb=#
```

2. Retrieve the names of the employee who does not have dependents.

```
companydb=# SELECT FNAME,MINIT,LNAME FROM EMPLOYEE WHERE NOT EXISTS (SELECT * FROM DEPENDENT WHERE SSN=ESSN);
 fname | minit | lname
-----+-----+-----
 JAMES | E     | BORG
 ALICIA | J     | ZELAYA
 RAMESH | K     | NARAYAN
 JOYCE | A     | ENGLISH
 AHMAD | V     | JABBAR
(5 rows)
```

3. Retrieve the Social Security numbers of all employees who either work in department 5 or directly supervise an employee who works in department 5.

```
companydb=# (select ssn from employee where dno=5) union (select s.ssn from employee as e,employee as s where s.ssn=e.super_ssn and e.dno=5);
      ssn
-----
123456789
333445555
453453453
666884444
888665555
(5 rows)

companydb=# |
```

4. Using Intersect find all projects controlled by the department 5 and has employee ssn 123456789 working in that project.

```
companydb=# (SELECT PNAME,PNUMBER,PLOCATION FROM PROJECT WHERE DNUM=5)
INTERSECT
(SELECT PNAME,PNUMBER,PLOCATION FROM WORKS_ON,PROJECT WHERE ESSN='123456789' AND PNUMBER=PNO);
      pname | pnumber | plocation
-----+-----+-----
PRODUCTY   |        2 | SUGARLAND
PRODUCTX   |        1 | BELLAIRE
(2 rows)

companydb=# |
```

5. Using Except find all ssn of employees who works in department 5 but not in Bellaire location

```
companydb=# (SELECT SSN FROM EMPLOYEE WHERE DNO=5) EXCEPT
(SELECT W.ESSN FROM WORKS_ON AS W,PROJECT AS P,EMPLOYEE AS E WHERE E.SSN=W.ESSN AND W.PNO=P.PNUMBER AND P.PLOCATION='BELLAIRE');
      ssn
-----
333445555
666884444
(2 rows)

companydb=# |
```

6. Find the name of the employee who has the same name as the dependent of any employee (use intersect ).

```
companydb=# (SELECT FNAME AS NAME FROM EMPLOYEE) INTERSECT (SELECT DEPENDENT_NAME AS NAME FROM DEPENDENT);
      name
-----
(0 rows)

companydb=# |
```