

DBMS Lab Week 7

Name : Abhishek Aditya BS

SRN : PES1UG19CS019

Section : A

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.

Command : select pno from works_on where essn in(select ssn from employee where lname='Smith' and ssn not in(select mgr_ssn from department)) UNION select pno from works_on where essn in(select ssn from employee where lname='Smith' and ssn in(select mgr_ssn from department));

```
company=# select pno from works_on where essn in(select ssn from employee where lname='Smith' and ssn not in(select mgr_ssn from department)) UNION select pno from works_on where essn in(select ssn from employee where lname='Smith' and ssn in(select mgr_ssn from department));
 pno
-----
  1
  2
(2 rows)
```

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

Command : select fname, minit, lname from employee where ssn in(select ssn from employee EXCEPT select essn from dependent);

```
company=# select fname, minit, lname from employee where ssn in(select ssn from employee EXCEPT select essn from dependent);
 fname | minit |  lname
-----+-----+-----
 Ramesh | K     | Narayan
 Alicia | J     | Zelaya
 Ahmed  | V     | Jabbar
 James  | E     | Borg
 Joyce  | A     | English
(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.

Command: select ssn from employee where dno=5 UNION select ssn from employee where ssn in(select super_ssn from employee where dno=5);

```
company=# select ssn from employee where dno=5 UNION select ssn from employee where ssn in(select super_ssn from employee where dno=5);
      ssn
-----
123456789
333445555
453453453
666884444
888665555
(5 rows)
```

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

Command: select pname from project where dnum=5 INTERSECT select pname from project where dnum=5 and pnumber in(select pno from works_on where essn='123456789');

```
company=# select pname from project where dnum=5 INTERSECT select pname from project where dnum=5 and pnumber in(select pno from works_on where essn='123456789');
      pname
-----
ProductY
ProductX
(2 rows)
```

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

Command: select ssn from employee where ssn in(select essn from works_on where pno in(select pnumber from project where dnum=5 EXCEPT select pnumber from project where plocation='Bellaire'));

```
company=# select ssn from employee where ssn in(select essn from works_on where pno in(select pnumber from project where dnum=5 EXCEPT select pnumber from project where plocation='Bellaire'));
      ssn
-----
453453453
666884444
333445555
123456789
(4 rows)
```

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

Command:select fname from employee INTERSECT select dependent_name from dependent;

```
company=# select fname from employee INTERSECT select dependent_name from dependent;
fname
-----
(0 rows)
```