DBMS Laboratory

UE19CS304

5th Semester, Academic Year 2021-22

Week #: 7 - Set Theory Operations

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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.

```
company=# (select pnumber from project, department, employee where dnum = dnumber and super_ssn = ssn and lname = 'Smith') union (select pnumber from project, works_on, employee where pnumber = pno and e
ssn = ssn and lname = 'Smith')
;
 pnumber
---------
       2
       1
(2 rows)

company=#
```

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

```
company=# select fname, lname from employee where not exists (select * from dependent where ssn = essn);
 fname  |  lname
--------+---------
 James  | Borg
 Alicia | Zelaya
 Ramesh | Narayan
 Joyce  | English
 Ahmed  | 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.

```
company=# (select ssn from employee where dno = 5) union (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 has employee ssn 123456789 working in that project.

```
company=# (select pname, pnumber from project where dnum = 5) intersect (select pname, pnumber from project, works_on where project.pnumber = works_on.pno and works_on.essn = '123456789');
  pname   | pnumber
----------+---------
 ProductY |       2
 ProductX |       1
(2 rows)
```

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

```
company=# (select ssn from employee where dno = 5) except (select essn from works_on, project where pno = pnumber and plocation = 'Bellaire');
    ssn
-----------
 666884444
 333445555
(2 rows)
```

6. Find the name of the employee who has the same name as the dependent of any employee

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