

# DBMS LAB WEEK7

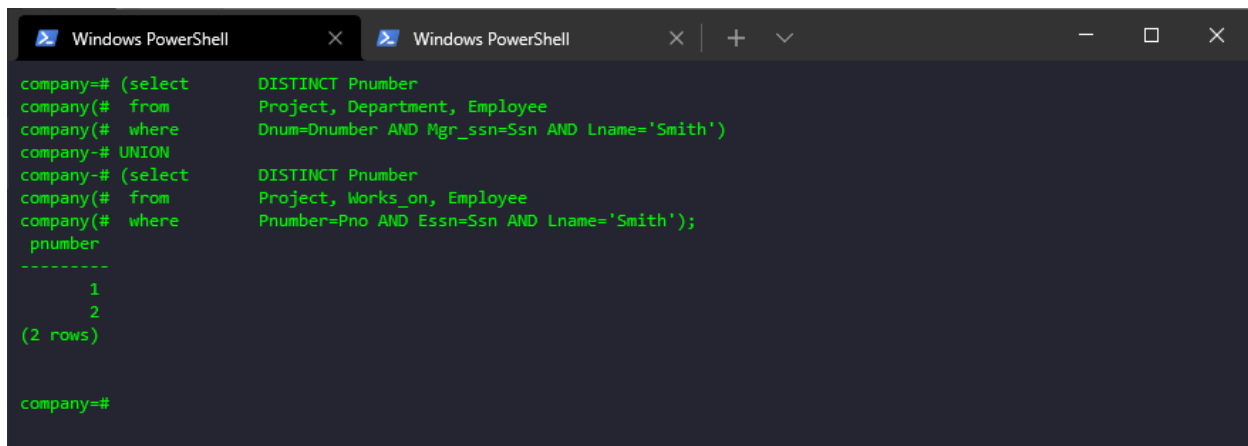
**ATUL ANURAG**  
**PES2UG19CS075**  
**SECTION B**

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

### **Problem Statement:**

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

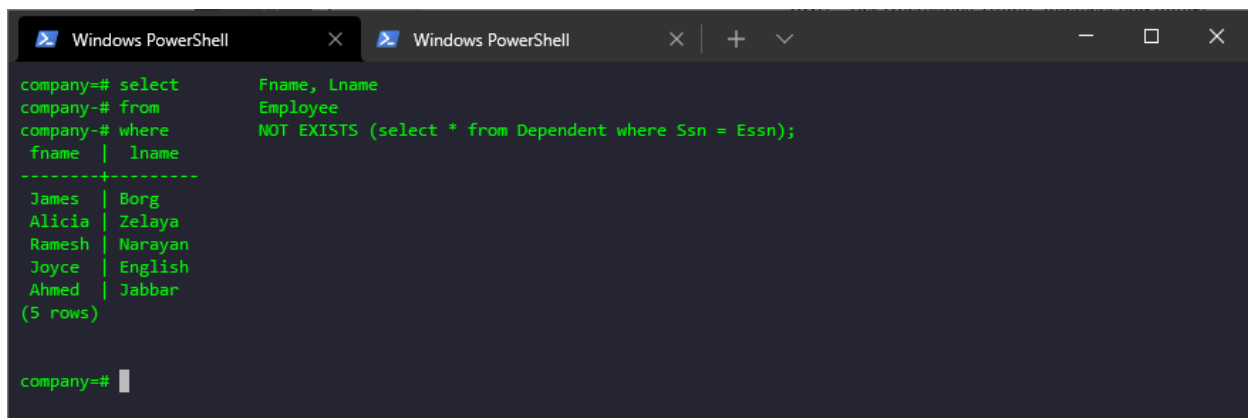
1. Make a list of all project numbers for projects that involve an employee whose last name is 'Smith', either as a worker or as a manager of the department that controls the project.



```
company=# (select DISTINCT Pnumber
company=# from Project, Department, Employee
company=# where Dnum=Dnumber AND Mgr_ssn=Ssn AND Lname='Smith')
company=# UNION
company=# (select DISTINCT Pnumber
company=# from Project, Works_on, Employee
company=# where Pnumber=Pno AND Essn=Ssn AND Lname='Smith');
pnumber
-----
1
2
(2 rows)

company=#
```

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



```
company=# select Fname, Lname
company=# from Employee
company=# where NOT EXISTS (select * from Dependent where Ssn = Essn);
fname | lname
-----+-----
James | Borg
Alicia | Zelaya
Ramesh | Narayan
Joyce | English
Ahmed | Jabbar
(5 rows)

company=#
```

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.

```
Windows PowerShell
company=# (select      Ssn
company(# from      Employee
company(# where      Dno=5)
company-# UNION
company-# (select      Super_Ssn
company(# from      Employee
company(# where      Dno=5);
      ssn
-----
123456789
333445555
453453453
666884444
888665555
(5 rows)

company=#
```

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

```
Windows PowerShell
company=# select * from Project
company-# where Pnumber IN (
company(#      (select Pnumber from Project where Dnum=5)
company(#      INTERSECT
company(#      (select Pno from Works_On where Essn='123456789'));
  pname | pnumber | plocation | dnum
-----+-----+-----+-----
ProductX |      1 | Bellaire |    5
ProductY |      2 | Sugarland |    5
(2 rows)

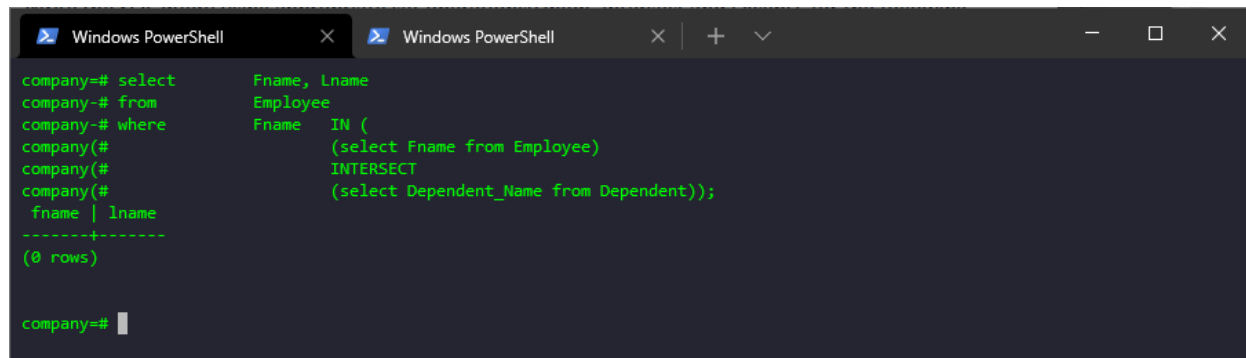
company=#
```

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

```
Windows PowerShell
company=# (select      Ssn
company(# from      Employee
company(# where      Dno=5)
company-# EXCEPT
company-# (select      Essn
company(# from      Works_On
company(# where      Pno      IN (
company(#              select Pnumber
company(#              from Project
company(#              where Plocation='Bellaire'));
      ssn
-----
666884444
333445555
(2 rows)

company=#
```

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



```
company=# select      Fname, lname
company-# from        Employee
company-# where        Fname IN (
company-#              (select Fname from Employee)
company-#              INTERSECT
company-#              (select Dependent_Name from Dependent));
  fname | lname
-----+-----
(0 rows)

company=#
```