

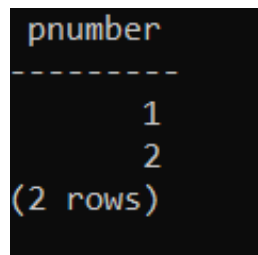
SQL – Set Operations-Union, intersect and minus

WEEK 7

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.

```
(SELECT DISTINCT PNUMBER
FROM PROJECT, DEPARTMENT, EMPLOYEE
WHERE DNUM = DNUMBER AND MGR_SSN = SSN AND LNAME = 'Smith')
UNION
(SELECT DISTINCT PNUMBER
FROM PROJECT, WORKS_ON, EMPLOYEE
WHERE PNUMBER = PNO AND ESSN = SSN AND LNAME = 'Smith');
```



```
pnumber
-----
      1
      2
(2 rows)
```

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

```
(SELECT FNAME, LNAME
FROM EMPLOYEE)
EXCEPT
(SELECT FNAME, LNAME
FROM EMPLOYEE, DEPENDENT
WHERE ESSN = SSN);
```

fname	lname
Alicia	Zelaya
Ramesh	Narayan
James	Borg
Ahmed	Jabbar
Joyce	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.

```
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.

```
select pname
from project
where dnum=5
intersect
select pname
from project as P, works_on as W
where W.essn='123456789' and P.pnumber = W.pno;
```

pname
ProductX
ProductY
(2 rows)

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

```
select ssn
from employee as E
where dno=5
EXCEPT
select essn
from works_on W, project P
where P.dnum=5 and W.pno=P.pnumber and P.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 (use intersect).

```
select fname
from employee
intersect
select dependent_name
from dependent;
```

fname
(0 rows)