PES1UG19CS380
RAMYA NARASIMHA PRABHU
5F2

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);
```

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```
 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;
```

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```
  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)
```