

Query: List project #s that involve an emp whose lname = 'wong' either as a worker or as a manager of the dept that controls the project.

Output { 1, 2, 3, 10, 20 }

Select Pnumber

from Project, Department, Employee  
where ( mgr\_ssn = ssn and  
          lname = 'wong' and  
          Dnum = Dnumber )

UNION

Select Pno

from works-on, Emp  
where ( Essn = ssn and lname = 'wong' );

Another solution?

X

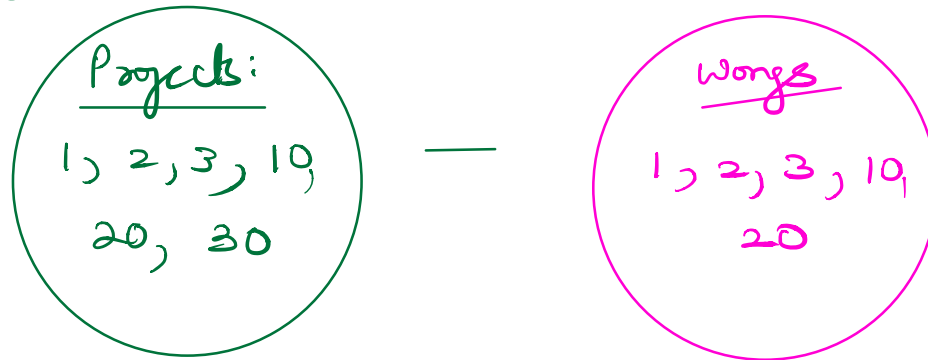
Select DISTINCT Pnumber

from Project, Department, Emp, Workson  
where ( Dnum = Dnumber and  
          mgr\_ssn = ssn and  
          lname = 'wong' )

OR

( Essn = ssn and lname = 'wong' );

Query Select projects that do not have 'wong' as a worker or manager.



= {30}

SQL does not have  $-$  or  $\cap$

IN operator  $\equiv$  relational calculus

$\in$   $\notin$   
 /      \  
 IN      NOT IN

$A = \{x, y, z\}$

$x \in A$  TRUE

$x \notin A$  False

$w \in A$  False

$w \notin A$  True

Query:     Select Fname  
              from Emp  
              where Dno IN (4,5);

### Nested Query:

Query: List Fname of emp who work in  
          depts located in 'Stafford' or 'Bellaire'.

      Select Fname  
      from Emp  
      where Dno IN  
          ( Select Dnumber  
              from Dept-Location     → {4,5}  
              where Dlocation = 'Stafford' or  
                     Dlocation = 'Bellaire' ) ;

Query: List emp Fname without dependents.

      Select Fname  
      from Emp  
      where SSN NOT IN  
          ( Select esn from Dependent ) ;