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Digital Assignment

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Exercise-VI

Aim: To understand how to relate and access data from multiple tables.

Q.1. Retrieve the names of all employees in department 5 who work more than 10 hours per week on ProductX project.

COMMAND

```
SELECT
EMPLOYEE.fname,EMPLOYEE.lname,PROJECT.depno,PROJECT.pname FROM
EMPLOYEE
JOIN PROJECT ON PROJECT.depno=EMPLOYEE.depno
WHERE EMPLOYEE.fname IN (SELECT EMPLOYEE.fname FROM EMPLOYEE
JOIN WORKS_ONN ON EMPLOYEE.ssn=WORKS_ONN.EMPLOYESSN
WHERE WORKS_ONN.HOURS>10 AND EMPLOYEE.depno=5) AND
PROJECT.PNAME='ProjectX';
```

OUTPUT

```
SQL> SELECT EMPLOYEE.fname,EMPLOYEE.lname,PROJECT.depno,PROJECT.pname FROM EMPLOYEE
  2  JOIN PROJECT ON PROJECT.depno=EMPLOYEE.depno
  3  WHERE EMPLOYEE.fname IN (SELECT EMPLOYEE.fname FROM EMPLOYEE
  4  JOIN WORKS_ONN ON EMPLOYEE.ssn=WORKS_ONN.EMPLOYESSN
  5  WHERE WORKS_ONN.HOURS>10 AND EMPLOYEE.depno=5)
  6  AND PROJECT.PNAME='ProjectX';

no rows selected

SQL>
```

Q.2. List the names of all employees who have a dependent with the same first name as themselves.

COMMAND

```
select fname,ssn,dependentts.dependentname
FROM employee,dependentts
where employee.fname=dependentts.dependentname;
```

OUTPUT

```
SQL> select fname,ssn,dependentts.dependentname FROM employee,dependentts where employee.fname=dependentts.dependentname;

no rows selected

SQL>
```

Q.3. Find the names of all the employees who are directly supervised by 'Franklin Wong'.

COMMAND

```
select employee.fname,employee.lname from employee  where
superssn = (select ssn from employee where
fname='Frankin' and lname = 'Wong');
```

OUTPUT

```
SQL> select employee.fname,employee.lname from employee where superssn = (select ssn from employee where fname='Frankin' and lname = 'Wong');

FNAME           LNAME
--------------- ---------------
John            Smith
Ramesh          Narayan
Joyce           English

SQL>
```

Q.4.

Retrieve the names of all who do not work on any project.

COMMAND

```
select fname from employee where ssn not in (select
distinct(employee.ssn) from employee join  works_onn on
employee.ssn = works_onn.employessn where employee.ssn in
(select distinct(employessn) from works_onn));
```

OUTPUT

```
SQL> select fname from employee where ssn not in (select distinct(employee.ssn)
  2  from employee join works_onn on employee.ssn = works_onn.employessn where
  3  employee.ssn in (select distinct(employessn) from works_onn));

FNAME
---------------
Jennifer
James
Ahmad
Robert

SQL>
```

Find the names and addresses of all employees who work on atleast one project located in Houston but whose department has no location in Houston.

COMMAND

```
SELECT e.FirstName, e.LastName, e. Address
```

Q.5.

```
FROM Employee e

JOIN Works_On w ON e. SSNNUMBER = W. EMPLOYEESSN

JOIN Project p ON w. ProjectNumber = p.ProjectNumber

JOIN Department d ON e. DepartmentNumber = d
.DepartmentNumber
JOIN Dept_Locations dl ON d. DepartmentNumber = dl.
DepartmentNumber
WHERE p. ProjectLocation = 'Houston’
AND dl. DepartmentLocation <> 'Houston'
```

OUTPUT

```
SQL> SELECT e.FirstName, e.LastName, e.Address
  2  FROM Employee e
  3  JOIN Works_On w ON e.SSNNUMBER = w.EMPLOYEESSN
  4  JOIN Project p ON w.ProjectNumber = p.ProjectNumber
  5  JOIN Department d ON e.DepartmentNumber = d.DepartmentNumber
  6  JOIN Dept_Locations dl ON d.DepartmentNumber = dl.DepartmentNumber
  7  WHERE p.ProjectLocation = 'Houston'
  8    AND dl.DepartmentLocation <> 'Houston';

FIRSTNAME       LASTNAME
--------------- ---------------
ADDRESS
--------------------------------------------------
John            Smith
731 Fondren, Houston, TX

Frankin         Wong
638 Voss, Houston, TX

Ramesh          Narayan
975 Fire Oak, Humble, TX
```

List the names of all managers who have no dependents.

COMMAND

```
select fname, lname,ssn from employee where ssn in
(select managerssn from dept where managerssn not in (select
distinct(dept.managerssn) from dept join dependents on
dept.managerssn=dependents.departmentname));
```

Q.6.

OUTPUT

```
  2
SQL>
SQL> select fname, lname,ssn from employee where ssn in
  2  (select managerssn from dept where managerssn not in (select distinct(dept.managerssn)
  3  from dept join dependents on dept.managerssn=dependents.departmentname));

FNAME           LNAME           SSN
--------------- --------------- ---------
James           Borg            888665555
Jennifer        Wallace         987654321
Frankin         Wong            333445555
Joyce           PAN             543216789
Doug            Gilbert         554433221

SQL> _
```

Q.7. List the employee's names and the department names if they happen to manage a department.

COMMAND

```
select employee.fname, employee.lname ,dept.department_name
from employee join dept on dept.managerssn=employee.ssn;
```

OUTPUT

```
SQL> select employee.fname, employee.lname ,dept.department_name from
  2  employee join dept on dept.managerssn=employee.ssn;

FNAME           LNAME           DEPARTMENT_NAME
--------------- --------------- ---------------
Doug            Gilbert         Headquarter
Joyce           PAN             Administration
Frankin         Wong            Research
Jennifer        Wallace         Finance
James           Borg            Manufacture

SQL> _
```

Q.8.

For each project retrieve the project number, project name and the number of employees who work on that project.

COMMAND

```
SELECT CNT,PN,PROJECT.pname FROM (SELECT COUNT(EMPLOYESSN)
CNT, projectnumber PN FROM WORKS_ONN WHERE projectnumber IN
(SELECT DISTINCT(projectnumber) FROM WORKS_ONN) GROUP BY
projectnumber) JOIN PROJECT ON PN=PROJECT.pnumber;
```

OUTPUT

```
SQL> SELECT CNT,PN,PROJECT.pname FROM (SELECT COUNT(EMPLOYESSN) CNT,projectnumber  PN FROM WORKS_ONN WHERE projectnumber  IN
  2  (SELECT DISTINCT(projectnumber) FROM WORKS_ONN) GROUP BY projectnumber) JOIN PROJECT ON PN=PROJECT.pnumber;

       CNT         PN PNAME
---------- ---------- --------------
         2       3388 ProjectA
         2       1945 ProjectB
         1       6688 ProjectC
         2       7745 ProjectE
         2       1234 ProjectG
         1       4345 ProjectI
         3       2212 ProjectJ

7 rows selected.

SQL>
```

For each project, list the project name and the total hours per week (by all employees) spent on that project.

COMMAND

Q.9.

```
select sum_hours, project.pnumber, project.pname from
(select sum(hours) as sum_hours, projectnumber
FROM works_onn group by projectnumber) subquery join
project on subquery.projectnumber = project.pnumber;
```

OUTPUT

```
SQL>
SQL> select sum_hours, project.pnumber, project.pname
  2  from (select sum(hours) as sum_hours, projectnumber FROM works_onn group by projectnumber) subquery
  3  join project on subquery.projectnumber = project.pnumber;

 SUM_HOURS    PNUMBER PNAME
---------- ---------- --------------
      72.5       3388 ProjectA
        29       1945 ProjectB
        10       6688 ProjectC
        30       7745 ProjectE
      24.5       1234 ProjectG
        35       4345 ProjectI
      65.5       2212 ProjectJ

7 rows selected.

SQL>
```

Retrieve the names of the employees who have 2 or more dependents.

COMMAND

```
select ssn,count_dependent,employee.fname from
(select count(employeessn) count_dependent,employeessn
```

Q.10.

```
from dependentts group by employeessn) join
employee on employeessn=employee.ssn where
count_dependent>=2;
```

OUTPUT

```
SQL>
SQL>
SQL>
SQL> select ssn,count_dependent,employee.fname from
  2  (select count(employeessn) count_dependent,employeessn from dependentts group by employeessn)
  3  join employee on employeessn=employee.ssn where count_dependent>=2;

SSN       COUNT_DEPENDENT FNAME
--------- --------------- ---------------
333445555               3 Frankin
123456789               2 John

SQL>
```