**SQL - Practice Questions**

Use COMPANY database schema and specify following queries in SQL.

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

SELECT Fname, Lname

FROM Employee E, Works\_on W, Project P

WHERE E.Ssn=W.Ssn AND W.Pno=P.Pno

AND E.Dno= 5 AND Hours>10 AND Pname=’ProductX’

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

SELECT Fname, Lname

FROM Employee E, Dependent D

WHERE E.Ssn=D.Essn AND E.Fname=D.Dependent\_name

**3.** Find the names of all employees who are directly supervised by ‘Franklin Wong’.

SELECT E.Fname, E.Lname

FROM Employee E, Employee S

WHERE E.SuperSSN=S.SSN AND S.Fname=’Franklin’ AND S.Lname=’Wong’

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

SELECT Pname, SUM(Hours)

FROM Project P, Works\_On W

WHERE P.Pno=W.Pno

GROUP BY Pname

**5.** Retrieve the names of all employees who work on every project.

SELECT Fname, Lname

FROM Employee E

WHERE NOT EXISTS(

(SELECT Pno FROM Project)

MINUS

(SELECT Pno FROM Works\_ON W

W.SSN=E.SSN

)

);

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

SELECT Fname, Lname

FROM Employee

WHERE SSN NOT IN( SELECT DISTINCT SSN FROM Works\_ON);

**7.** For each department, retrieve the department name and the average salary of all employees working in that department.

SELECT Dno, Dname, AVG(Salary)

FROM Employee E, Department D

WHERE E.Dno=D.Dno

GROUP BY Dno, Dname

**8.** Retrieve the average salary of all female employees within each department.

SELECT Dname, AVG(Salary)

FROM Employee E, Department D

WHERE E.Dno=D.Dno AND Gender=’F’

GROUP BY Dname

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

SELECT Fname, Lname, Address

FROM Employee E

WHERE SSN IN (SELECT SSN FROM Works\_ON W, Project P

WHERE W.Pno=P.Pno AND Plocation=’Houston’)

AND Dno NOT IN (SELECT Dno FROM Dept\_Location WHERE DLocation = ‘Houston’)

**10.** List the last names of all department managers who have no dependents.

SELECT Fname, Lname

FROM Department D, Employee E

WHERE D.MgrSSN=E.SSN AND D.MgrSSN NOT IN (SELECT Essn FROM Dependent)

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COMPANY Database Schema

Employee (FName, LName, SSN, BDate, Address, Gender, Salary, SuperSSN, DNo)

Department (DName, DNo, MgrSSN, MgrStartDate)

Project(PName, PNo, PLocation, DNo)

Works\_On (SSN, PNo, Hours)

Dept\_Location (Dno, DLocation)

Dependent (Essn, Dependent\_name, Gender, Bdate, Relationship)