## USE OF INBUILT FUNCTIONS AND RELATIONAL ALGEBRA OPERATIONS

**LAB - 7** 

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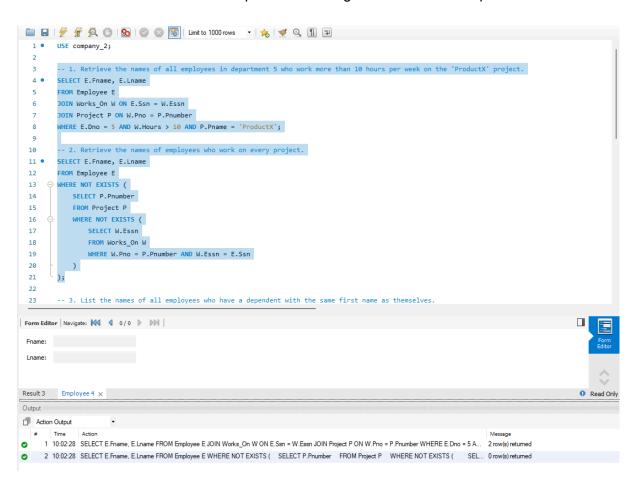
## **EXPERIMENT - 7**

Title: Use of Inbuilt functions and relational algebra operation

Objective: To understand the use of inbuilt function and relational algebra with sql query.

Write and execute the following queries using the Relational Algebra on the COMPANY database schema.

- 1. Retrieve the names of all employees in department 5 who work more than 10 hours
- 2. per week on the 'ProductX' project.
- 3. List the names of all employees who have a dependent with the same first name as
- 4. themselves.
- 5. Find the names of employees who are directly supervised by 'Franklin Wong'.
- 6. Retrieve the names of employees who work on every project.
- 7. Retrieve the names of employees who do not work on any project.
- 8. Retrieve the names and addresses of all employees who work on at least one project
- 9. located in Houston but whose department has no location in Houston.
- 10. Retrieve the last names of all department managers who have no dependents.



```
22
         -- 3. List the names of all employees who have a dependent with the same first name as themselves.
  23
  24 •
         SELECT E.Fname, E.Lname
  25
          FROM Employee E
          JOIN Dependent D ON E.Ssn = D.Essn
  27
         WHERE E.Fname = D.Dependent_name;
  28
           - 4. Find the names of employees who are directly supervised by 'Franklin Wong'.
  29
         SELECT E.Fname, E.Lname
  30 •
  31
         FROM Employee E
         JOIN Employee S ON E.Super_ssn = S.Ssn
  32
         WHERE S.Fname = 'Franklin' AND S.Lname = 'Wong';
  33
  34
  35
          -- 5. Retrieve the names of employees who do not work on any project.
         SELECT E.Fname, E.Lname
          FROM Employee E
  38
         LEFT JOIN Works_On W ON E.Ssn = W.Essn
         WHERE W.Essn IS NULL;
  39
  40
          -- 6. Retrieve the names and addresses of all employees who work on at least one project located in Houston but whose department has no location
  41
 Export: Wrap Cell Content: IA
Fname Lname

James Borg
Result 5 Result 6 Result 7 ×

    Read Only

Output :::
Action Output
# Time Action Message
1 10:02:28 SELECT E.Fname, E.Lname FROM Employee E JOIN Works_On W ON E.Ssn = W.Essn JOIN Project P ON W.Pno = P.Pnumber WHERE E.Dno = 5 A... 2 row(s) returned
2 10:02:28 SELECT E.Fname, E.Lname FROM Employee E WHERE NOT EXISTS ( SELECT P.Pnumber FROM Project P WHERE NOT EXISTS ( SEL... 0 row(s) returned
3 10:04:07 SELECT E.Fname, E.Lname FROM Employee E JOIN Dependent D ON E.Ssn = D.Essn WHERE E.Fname = D.Dependent_name LIMIT 0, 1000
                                                                                                                       0 row(s) returned
5 10:04:07 SELECT E.Fname, E.Lname FROM Employee E LEFT JOIN Works_On W ON E.Ssn = W.Essn WHERE W.Essn IS NULL LIMIT 0, 1000
         -- 6. Retrieve the names and addresses of all employees who work on at least one project located in Houston but whose department has no location
  41
         SELECT E.Fname, E.Lname, E.Address
  42 •
  43
         FROM Employee E
         JOIN Works_On W ON E.Ssn = W.Essn
         JOIN Project P ON W.Pno = P.Pnumbe
  46
         JOIN Dept_Locations DL ON E.Dno = DL.Dnumber
  47
         WHERE P.Plocation = 'Houston'

    AND E.Dno NOT IN (
  48
           SELECT DL2.Dnumber
  49
            FROM Dept_Locations DL2
  50
            WHERE DL2.Dlocation = 'Houston'
  51
  52
  53
         -- 7. Retrieve the last names of all department managers who have no dependents.
  55 •
         FROM Employee E
         JOIN Department D ON E.Ssn = D.Mgr_ssn
         LEFT JOIN Dependent Dep ON E.Ssn = Dep.Essn
  58
         WHERE Dep.Essn IS NULL;
  59
  60
Export: Wrap Cell Content: 1A
  Lname
▶ Borg
Result 8 Result 9 ×
                                                                                                                                              Read Only
Output ::::
1 10.04:34 SELECT E.Fname, E.Lname, E.Address FROM Employee E JOIN Works_On W ON E.Ssn = W.Essn JOIN Project P ON W.Pno = P.Pnumber JOIN Dept... 1 row(s) returned
2 10:04:34 SELECT E.Lname FROM Employee E JOIN Department D ON E.Ssn = D.Mgr_ssn LEFT JOIN Dependent Dep ON E.Ssn = Dep.Essn WHERE Dep.Ess... 1 row(s) returned
```