**Keegan Vaz**

**SE CMPN B 242**

**192120**

**ST. FRANCIS INSTITUTE OF TECHNOLOGY**

MT. POINSUR, BORIVALI (W), MUMBAI

/

**LAB MANUAL**

**EXPERIMENT NO. 6**

**Aim:** - Perform Join operations and Complex queries.

**Theory:-**

1. Different types of Joins.

1. **SQL JOINS:**

A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

Here are the different types of the JOINs in SQL:

1. **EQUI JOIN:** Most joins are “equi-joins” where the data from a column in one table exactly matches data in the column of another table. (P.K & F.K).

SELECT \* FROM

Employee e, department d WHERE

e.DepartmentID = d.DepartmentID;

2. **NATURAL JOIN:** Natural join is basically an equijoin followed by removal of the superfluous attributes.

SELECT \* FROM employee

NATURAL JOIN department;

3. **(INNER) JOIN**: Returns records that have matching values in both tables SELECT table1.column1,table1.column2,table2.column1,....

FROM table1

INNER JOIN table2

ON table1.matching\_column = table2.matching\_column;

4. **LEFT (OUTER) JOIN**: Returns all records from the left table, and the matched records from the right table.

SELECT table1.column1,table1.column2,table2.column1,....

FROM table1

LEFT JOIN table2

ON table1.matching\_column = table2.matching\_column;

5. **RIGHT (OUTER) JOIN**: Returns all records from the right table, and the matched records from the left table.

SELECT table1.column1,table1.column2,table2.column1,....

FROM table1

RIGHT JOIN table2

ON table1.matching\_column = table2.matching\_column;

6. **FULL (OUTER) JOIN**: Returns all records when there is a match in either left or right table.

SELECT table1.column1,table1.column2,table2.column1,....

FROM table1

FULL JOIN table2

ON table1.matching\_column = table2.matching\_column;

7. **SELF JOIN:** A self-join is joining a table to itself

SELECT a.column\_name, b.column\_name...

FROM table1 a, table1 b

WHERE a.common\_filed = b.common\_field;

2. Set Comparison & set membership operator :

**SET COMPARISON OPERATORS:**

A sub query is a Select-From-Where expression that is nested within another query. Sub query is to perform tests for

1. Set membership

o **IN** – tests for presence of set membership

▪ As Value

▪ Select distinct customer-name from borrower where address in

(‘Mumbai’, ’Pune’);

▪ As Query

▪ Select distinct customer-name from borrower where customer-name

in (select customer-name from depositor);

o **NOT IN** – tests for absence of set membership

▪ As Value

▪ Select distinct customer-name from borrower where customer-name

not in (‘Smith’, ’Jones’)

▪ As Query

▪ Select distinct customer-name from borrower where customer-name

not in (select customer-name from depositor)

2. Make Set comparisons

o **Some or any Clause: greater than at least one**

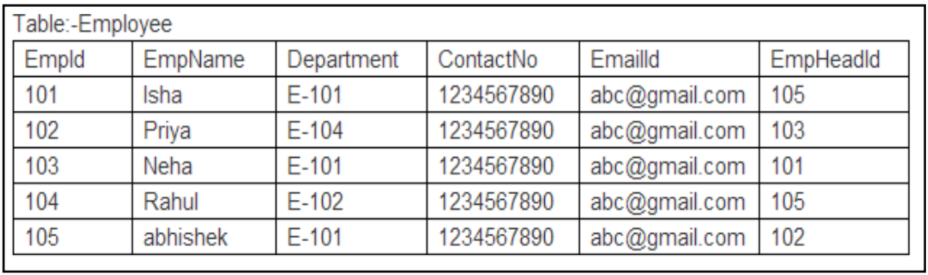
o Select b\_name from Branch Where assets >some (Select assets from branch where b\_city=‘Brooklyn’);

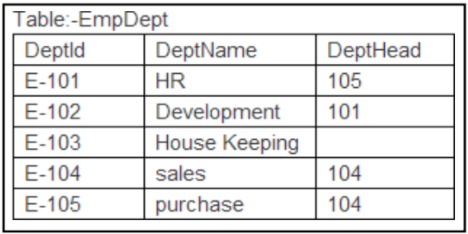
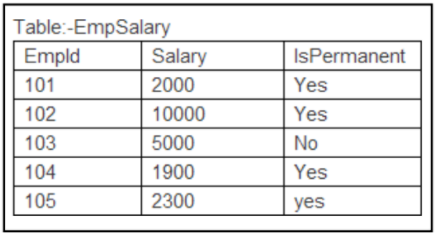
o **all Clause: greater than all**

▪ **Select b\_name from Branch Where assets >all (Select assets from branch where b\_city=‘Brooklyn’);**

**Lab Exercise:-**

**1.** For the following relational Schema, Solve the queries:



**TABLE EMPLOYEE:**

SQL> CREATE TABLE Employee (EmpId number(10) primary key, EmpName varchar2(20), Department varchar2(20), ContactNo number(10), Emailid varchar2(20), EmpHeadId number(10));

Table created.

SQL> DESC Employee;

 Name                                      Null?    Type

 ----------------------------------------- -------- ---------------------------

 EMPID                                     NOT NULL NUMBER(10)

 EMPNAME                                            VARCHAR2(20)

 DEPARTMENT                                         VARCHAR2(20)

 CONTACTNO                                          NUMBER(10)

 EMAILID                                            VARCHAR2(20)

 EMPHEADID                                          NUMBER(10)

SQL> INSERT INTO Employee VALUES (101, 'Isha', 'E-101', 1234567890, 'abc@gmail.com', 105);

1 row created.

SQL> INSERT INTO Employee VALUES (102, 'Priya', 'E-104', 1234567890, 'abc@gmail.com', 103);

1 row created.

SQL> INSERT INTO Employee VALUES (103, 'Neha', 'E-101', 1234567890, 'abc@gmail.com', 101);

1 row created.

SQL> INSERT INTO Employee VALUES (104, 'Rahul', 'E-102', 1234567890, 'abc@gmail.com', 105);

1 row created.

SQL> INSERT INTO Employee VALUES (105, 'Abhishek', 'E-101', 1234567890, 'abc@gmail.com', 102);

1 row created.

SQL> SELECT \* FROM Employee;

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       101 Isha                 E-101                1234567890

abc@gmail.com               105

       102 Priya                E-104                1234567890

abc@gmail.com               103

       103 Neha                 E-101                1234567890

abc@gmail.com               101

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       104 Rahul                E-102                1234567890

abc@gmail.com               105

       105 Abhishek             E-101                1234567890

abc@gmail.com               102

**TABLE EMPSALARY:**

SQL> CREATE TABLE EmpSalary (EmpId number(10) primary key, Salary number(15), IsPermanent varchar2(20));

Table created.

SQL> DESC EmpSalary;

 Name                                      Null?    Type

 ----------------------------------------- -------- ----------------------------

 EMPID                                     NOT NULL NUMBER(10)

 SALARY                                             NUMBER(15)

 ISPERMANENT                                        VARCHAR2(20)

SQL> INSERT INTO EmpSalary VALUES (101, 2000, 'Yes');

1 row created.

SQL> INSERT INTO EmpSalary VALUES (102, 10000, 'Yes');

1 row created.

SQL> INSERT INTO EmpSalary VALUES (103, 5000, 'No');

1 row created.

SQL> INSERT INTO EmpSalary VALUES (104, 1900, 'Yes');

1 row created.

SQL> INSERT INTO EmpSalary VALUES (105, 2300, 'Yes');

1 row created.

SQL> SELECT \* FROM EmpSalary;

     EMPID     SALARY ISPERMANENT

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       101       2000 Yes

       102      10000 Yes

       103       5000 No

       104       1900 Yes

       105       2300 Yes

**TABLE EMPDEPT:**

SQL> CREATE TABLE EmpDept (DeptId varchar2(20) primary key, DeptName varchar2(20), DeptHead number(10) NULL);

Table created.

SQL> DESC EmpDept;

 Name                                      Null?    Type

 ----------------------------------------- -------- ----------------------------

 DEPTID                                    NOT NULL VARCHAR2(20)

 DEPTNAME                                           VARCHAR2(20)

 DEPTHEAD                                           NUMBER(10)

SQL> INSERT INTO EmpDept VALUES ('E-101', 'HR', 105);

1 row created.

SQL> INSERT INTO EmpDept VALUES ('E-102', 'Development', 101);

1 row created.

SQL> INSERT INTO EmpDept VALUES ('E-103', 'House Keeping', NULL);

1 row created.

SQL> INSERT INTO EmpDept VALUES ('E-104', 'Sales', 104);

1 row created.

SQL> INSERT INTO EmpDept VALUES ('E-105', 'Purchase', 104);

1 row created.

SQL> SELECT \* FROM EmpDept;

DEPTID               DEPTNAME               DEPTHEAD

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E-101                HR                          105

E-102                Development                 101

E-103                House Keeping

E-104                Sales                       104

E-105                Purchase                    104

**Queries:**

**1. For the above given Relational Schema, Perform the following Join Operations**:

i. Use Natural Join, to join employee and EmpDept tables.

**CODE:**

SQL> SELECT \* FROM Employee NATURAL JOIN EmpDept;

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-101                HR

       105

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-102                Development

       101

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

----------

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-103                House Keeping

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-104                Sales

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-105                Purchase

       104

       102 Priya                E-104                1234567890

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

----------

abc@gmail.com               103 E-101                HR

       105

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-102                Development

       101

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

----------

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-103                House Keeping

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-104                Sales

       104

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       102 Priya                E-104                1234567890

abc@gmail.com               103 E-105                Purchase

       104

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-101                HR

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       105

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-102                Development

       101

       103 Neha                 E-101                1234567890

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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abc@gmail.com               101 E-103                House Keeping

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-104                Sales

       104

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-105                Purchase

       104

       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-101                HR

       105

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-102                Development

       101

       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-103                House Keeping

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-104                Sales

       104

       104 Rahul                E-102                1234567890

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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abc@gmail.com               105 E-105                Purchase

       104

       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-101                HR

       105

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

----------

       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-102                Development

       101

       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-103                House Keeping

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-104                Sales

       104

       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-105                Purchase

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104

25 rows selected.

ii. Use Right outer Join, to join employee and EmpDept tables.

**CODE:**

SQL> SELECT \* FROM Employee RIGHT OUTER JOIN EmpDept ON Employee.Department = EmpDept.DeptId;

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-101                HR

       105

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-104                Sales

       104

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-101                HR

       105

       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-102                Development

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       101

       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-101                HR

       105

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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                                E-103                House Keeping

                                E-105                Purchase

       104

7 rows selected.

iii. Use Self Join, to display the names of Employee head along with each employee details.

**CODE:**

SQL> SELECT a.EmpId, a.EmpName, a.Department, a.ContactNo, a.Emailid, b.EmpName as head from Employee a,Employee b where a.EmpHeadId=b.EmpId;

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID              HEAD

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       103 Neha                 E-101                1234567890

abc@gmail.com        Isha

       105 Abhishek             E-101                1234567890

abc@gmail.com        Priya

       102 Priya                E-104                1234567890

abc@gmail.com        Neha

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID              HEAD

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       101 Isha                 E-101                1234567890

abc@gmail.com        Abhishek

       104 Rahul                E-102                1234567890

abc@gmail.com        Abhishek

iv. Use Inner Join, to join employee and EmpDept tables for department id doesn’t match.

**CODE:**

SQL> SELECT \* FROM Employee INNER JOIN EmpDept ON Employee.Department != EmpDept.DeptId;

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

----------

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-102                Development

       101

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-103                House Keeping

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

----------

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-104                Sales

       104

       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-105                Purchase

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-101                HR

       105

       102 Priya                E-104                1234567890

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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abc@gmail.com               103 E-102                Development

       101

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-103                House Keeping

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       102 Priya                E-104                1234567890

abc@gmail.com               103 E-105                Purchase

       104

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-102                Development

       101

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-103                House Keeping

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-104                Sales

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-105                Purchase

       104

       104 Rahul                E-102                1234567890

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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abc@gmail.com               105 E-101                HR

       105

       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-103                House Keeping

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-104                Sales

       104

       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-105                Purchase

       104

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-102                Development

       101

       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-103                House Keeping

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-104                Sales

       104

       105 Abhishek             E-101                1234567890

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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abc@gmail.com               102 E-105                Purchase

       104

20 rows selected.

v. Use Equi Join, to join employee and EmpDept tables.

**CODE:**

SQL> SELECT \* FROM Employee, EmpDept WHERE Employee.Department = EmpDept.DeptId;

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       101 Isha                 E-101                1234567890

abc@gmail.com               105 E-101                HR

       105

       103 Neha                 E-101                1234567890

abc@gmail.com               101 E-101                HR

       105

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102 E-101                HR

       105

       104 Rahul                E-102                1234567890

abc@gmail.com               105 E-102                Development

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID DEPTID               DEPTNAME

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  DEPTHEAD

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       101

       102 Priya                E-104                1234567890

abc@gmail.com               103 E-104                Sales

       104

**2. For the above given Relational Schema, Perform the following Nested Sub Query Operations:**

i. Display the department details of a company which is assigned to the employee with employee id above 103.

**CODE:**

SQL> SELECT \* FROM EmpDept WHERE DeptId IN (SELECT Department FROM Employee WHERE EmpId>103 );

DEPTID               DEPTNAME               DEPTHEAD

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E-101                HR                          105

E-102                Development                 101

ii. Display the details of Employee who is working under ‘Priya’.

**CODE:**

SQL> SELECT \* FROM Employee WHERE EmpHeadId IN (SELECT EmpId FROM Employee WHERE EmpName = 'Priya');

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102

iii. Display the details of Employee who is the department head of HR. iv. Display the detail of employee who is working in ‘development’ department and they are permanent.

**CODE:**

SQL> SELECT \* FROM Employee WHERE EmpId IN (SELECT DeptHead FROM EmpDept WHERE DeptName = 'HR');

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102

iv. Display the detail of employee who is working in ‘development’ department and they are permanent.

**CODE:**

SQL> SELECT \* FROM Employee WHERE EmpId IN (SELECT EmpId FROM EmpSalary WHERE IsPermanent = 'Yes') AND Department IN (SELECT DeptId FROM EmpDept WHERE DeptName = 'Development');

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       104 Rahul                E-102                1234567890

abc@gmail.com               105

v. Display the salary of the employee who is currently working in the HR Department and is a permanent employee.

**CODE:**

SQL> SELECT Salary FROM EmpSalary WHERE IsPermanent = 'Yes' AND EmpId IN (SELECT EmpId FROM Employee WHERE Department IN (SELECT DeptId FROM EmpDept WHERE DeptName = 'HR'));

    SALARY

----------

      2000

      2300

SQL>

vi. Display the maximum salary of an employee with its details from each department.

**CODE:**

SQL> SELECT \* FROM Employee INNER JOIN EmpSalary ON Employee.EmpId = EmpSalary.EmpId WHERE Employee.EmpId IN (SELECT EmpId FROM EmpSalary WHERE Salary IN (SELECT MAX(Salary) FROM Employee NATURAL JOIN EmpSalary GROUP BY Department));

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID      EMPID     SALARY ISPERMANENT

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       102 Priya                E-104                1234567890

abc@gmail.com               103        102      10000 Yes

       104 Rahul                E-102                1234567890

abc@gmail.com               105        104       1900 Yes

       103 Neha                 E-101                1234567890

abc@gmail.com               101        103       5000 No

**3. For the above given Relational Schema, Perform the following Set Operator Operations:**

i. Display the department which is not yet being assigned to any employee up till now.

**CODE:**

SQL> SELECT DeptId FROM EmpDept MINUS SELECT Department FROM Employee;

DEPTID

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E-103

E-105

ii. Find Id of employee for salary less than 5000 and greater than 2300.

**CODE:**

SQL> SELECT EmpId FROM EmpSalary WHERE Salary<5000 AND Salary>2300;

no rows selected

iii. Find Id of employee for salary less than 2000.

**CODE:**

SQL> SELECT EmpId From EmpSalary WHERE SALARY<2000;

     EMPID

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       104

iv. Find Employee Names starting from A, P and N.

**CODE:**

SQL> SELECT EmpName FROM Employee WHERE EmpName LIKE 'A%' OR EmpName LIKE 'P%' OR EmpName LIKE 'N%';

EMPNAME

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Priya

Neha

Abhishek

v. Find employee details other than employee having salary less than 2000.

**CODE:**

SQL> SELECT \* FROM Employee WHERE EmpId IN (SELECT EmpId FROM Employee MINUS SELECT EmpId FROM EmpSalary WHERE Salary<2000);

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       101 Isha                 E-101                1234567890

abc@gmail.com               105

       102 Priya                E-104                1234567890

abc@gmail.com               103

       103 Neha                 E-101                1234567890

abc@gmail.com               101

     EMPID EMPNAME              DEPARTMENT            CONTACTNO

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EMAILID               EMPHEADID

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       105 Abhishek             E-101                1234567890

abc@gmail.com               102

**Conclusion:**

1. The various Join operations have been learnt and practically implemented on complex queries for the employee table.
2. It can be concluded that the join clause is used to combine rows from two or more tables, based on a related column.
3. The set comparison operators are used to perform nested queries in SQL.
4. Thus, the queries based on SQL join operators have been performed and the obtained results have been recorded.