LAB#8

Equi Join

```
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName FROM Employe
es, Departments WHERE Employees.DepartmentID = Departments.DepartmentID;
 employeeid | firstname | lastname | departmentname
------------+-----------+----------+----------------
          1 | John      | Doe      | HR
          2 | Jane      | Smith    | Finance
          3 | Mike      | Johnson  | HR
          4 | Emily     | Davis    | IT
          5 | James     | Wilson   | Finance
(5 rows)
```

Non Equi Join

```
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Departments.DepartmentName FROM Employees JOIN Departments
ON Employees.DepartmentID<Departments.DepartmentID;
 employeeid | firstname | departmentname
------------+-----------+----------------
          1 | John      | Finance
          1 | John      | IT
          2 | Jane      | IT
          3 | Mike      | Finance
          3 | Mike      | IT
          5 | James     | IT
(6 rows)
```

Cross Join

```
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Departments.DepartmentName FROM Employees CROSS JOIN Depart
ments;
 employeeid | firstname | departmentname
------------+-----------+----------------
          1 | John      | HR
          2 | Jane      | HR
          3 | Mike      | HR
          4 | Emily     | HR
          5 | James     | HR
          1 | John      | Finance
          2 | Jane      | Finance
          3 | Mike      | Finance
          4 | Emily     | Finance
          5 | James     | Finance
          1 | John      | IT
          2 | Jane      | IT
          3 | Mike      | IT
          4 | Emily     | IT
          5 | James     | IT
(15 rows)
```

Natural Join

```
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName FROM Employe
es NATURAL JOIN Departments;
 employeeid | firstname | lastname | departmentname
------------+-----------+----------+----------------
          1 | John      | Doe      | HR
          2 | Jane      | Smith    | Finance
          3 | Mike      | Johnson  | HR
          4 | Emily     | Davis    | IT
          5 | James     | Wilson   | Finance
(5 rows)
```

Inner Join

```
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName FROM Employe
es INNER JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
 employeeid | firstname | lastname | departmentname
------------+-----------+----------+----------------
          1 | John      | Doe      | HR
          2 | Jane      | Smith    | Finance
          3 | Mike      | Johnson  | HR
          4 | Emily     | Davis    | IT
          5 | James     | Wilson   | Finance
(5 rows)
```

Outer Join

```
postgres=# -- Right Join
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName FROM Employe
es RIGHT JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
 employeeid | firstname | lastname | departmentname
------------+-----------+----------+----------------
          1 | John      | Doe      | HR
          2 | Jane      | Smith    | Finance
          3 | Mike      | Johnson  | HR
          4 | Emily     | Davis    | IT
          5 | James     | Wilson   | Finance
(5 rows)
```

```
postgres=# -- Right Join
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName FROM Employe
es RIGHT JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
 employeeid | firstname | lastname | departmentname
------------+-----------+----------+----------------
          1 | John      | Doe      | HR
          2 | Jane      | Smith    | Finance
          3 | Mike      | Johnson  | HR
          4 | Emily     | Davis    | IT
          5 | James     | Wilson   | Finance
(5 rows)
```

```
postgres=# -- Full Join
postgres=# SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName, Departments.DepartmentName FROM Employe
es FULL OUTER JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
 employeeid | firstname | lastname | departmentname
------------+-----------+----------+----------------
          1 | John      | Doe      | HR
          2 | Jane      | Smith    | Finance
          3 | Mike      | Johnson  | HR
          4 | Emily     | Davis    | IT
          5 | James     | Wilson   | Finance
(5 rows)
```

Self Join

```
postgres=# SELECT E1.EmployeeID AS Employee1ID, E1.FirstName AS Employee1FirstName, E2.EmployeeID AS Employee2ID, E2.Fir
stName AS Employee2FirstName FROM Employees E1, Employees E2 WHERE E1.Salary > E2.Salary;
 employee1id | employee1firstname | employee2id | employee2firstname
-------------+--------------------+-------------+--------------------
           1 | John               |           3 | Mike
           1 | John               |           5 | James
           2 | Jane               |           1 | John
           2 | Jane               |           3 | Mike
           2 | Jane               |           5 | James
           4 | Emily              |           1 | John
           4 | Emily              |           2 | Jane
           4 | Emily              |           3 | Mike
           4 | Emily              |           5 | James
           5 | James              |           3 | Mike
(10 rows)
```