



**Instructor:**

- Mr. Nazeef Ul Haq (Lab)

**Learning Objectives:**

- Understanding of JOINS in SQL Server.

**Helping Material:**

**1. JOINS In SQL Server:**

A JOIN clause is used to combine rows from two or more tables, based on a related column between them. SQL server provides the following joins:

- Cross Join
- Natural Join
- Equi Join
- Inner Join
- Left Outer Join
- Right Outer Join
- Full Outer Join

**2. JOINS SYNTAX:**

**SELECT** ColumnName(s)

**FROM** Table\_1,Table\_2

**OR**

**SELECT** ColumnName(s)

**FROM** Table\_1 **CROSS JOIN** Table\_2

**SELECT** column\_name(s)

**FROM** table1 **INNER JOIN/ CROSS JOIN/ NATURAL JOIN/ LEFT JOIN/ RIGHT JOIN/ FULL OUTER JOIN** table2

**ON** table1.column\_name = table2.column\_name;

## **Lab Tasks + Home Tasks:**

- Perform all JOIN queries on any table using Northwind Schema.
- Perform self-cross join and see if there is any difference between cross join and self cross join.
- `SELECT Customers.custid, Customers.companyname, Orders.orderid, Orders.orderdate  
FROM Sales.Customers AS C  
INNER JOIN Sales.Orders AS O  
ON Customers.custid = Orders.custid;`

### Advanced Tasks:

- Return customers and their orders, including customers who placed no orders (CustomerID, OrderID, OrderDate)
- Report only those customer IDs who never placed any order. (CustomerID, OrderID, OrderDate)
- Report those customers who placed orders on July,1997. (CustomerID, OrderID, OrderDate)
- Report the total orders of each customer. (customerID, totalorders)
- Write a query to generate a five copies of each employee. (EmployeeID, FirstName, LastName)
- Write a query that returns a row for each employee and day in the range 04-07-1996 through 04-08-1997. (EmployeeID, Date)
- Return US customers, and for each customer return the total number of orders and total quantities. (CustomerID, Totalorders, totalquantity)
- Write a query that returns all customers in the output, but matches them with their respective orders only if they were placed on July 04,1997. (CustomerID, CompanyName, OrderID, Orderdate)
- Are there any employees who are older than their managers?
- List that names of those employees and their ages. (EmployeeName, Age, Manager Age)
- List the names of products which were ordered on 8th August 1997. (ProductName, OrderDate)
- List the addresses, cities, countries of all orders which were serviced by Anne and were shipped late. (Address, City, Country)
- List all countries to which beverages have been shipped. (Country)

## **HackerRank Tasks:**

### **What to Submit:**

You are required to submit the following files.

- 2021-CS-X.sql (You will replace the value of “X” with you roll number to keep name of file)
- Pdf report.