

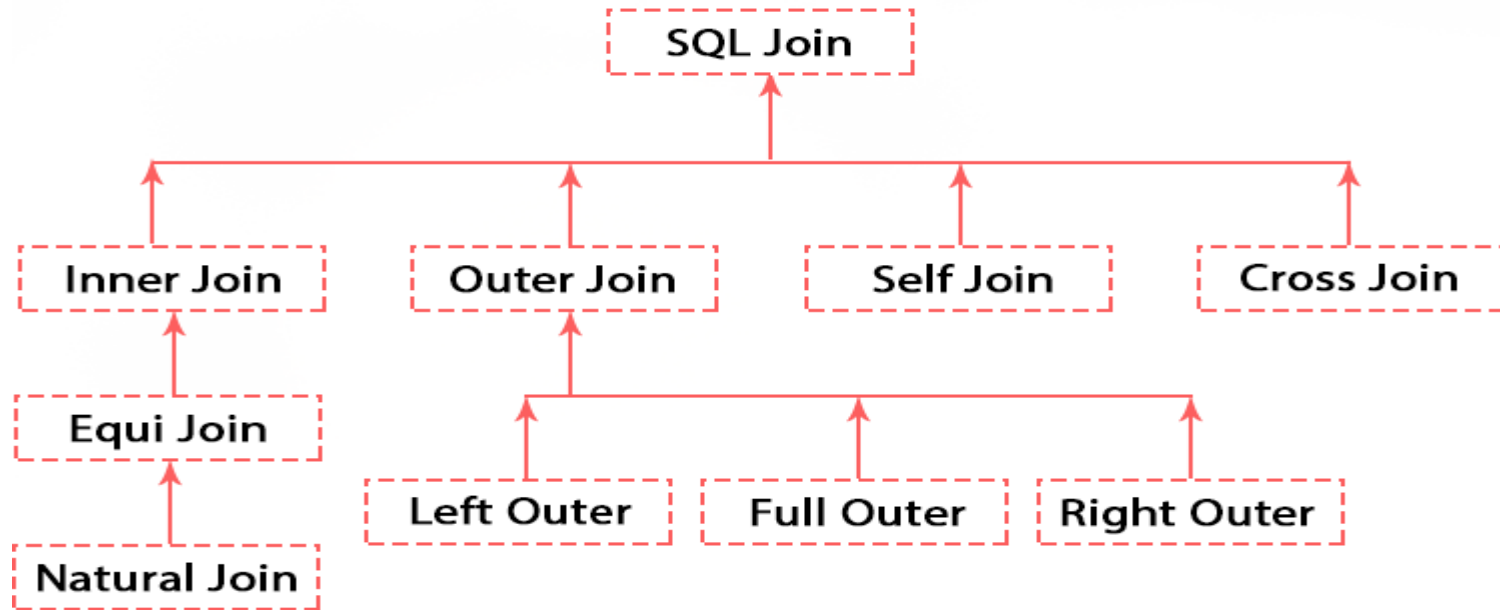
Chapter 7: More SQL (JOIN)

Outline

- JOIN Clause
- Inner Join
- Outer Join
- Cross Join
- Self Join
- Join Vs Subquery

JOIN Clause

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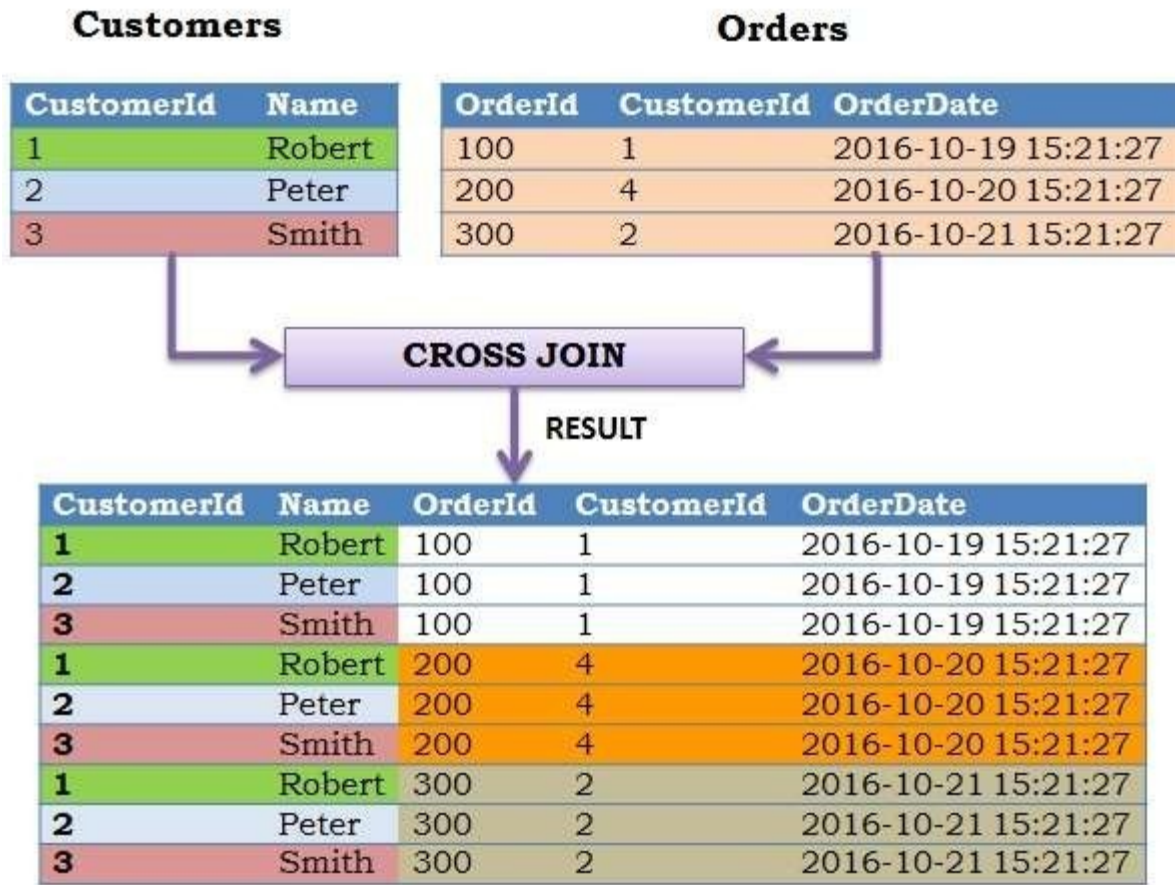
(SQL JOIN TYPES)

JOIN and ON

```
SELECT employee.LastName, employee.DepartmentID,  
       department.DepartmentName  
FROM employee  
JOIN department  
ON employee.DepartmentID =  
   department.DepartmentID
```

CROSS JOIN

CROSS JOIN



- CROSSJOIN returns the Cartesian product of rows from tables in the join.

INNER JOIN

INNER JOIN

Customers

CustomerId	Name
1	Robert
2	Peter
3	Smith

Orders

OrderId	CustomerId	OrderDate
100	1	2016-10-19 15:21:27
200	4	2016-10-20 15:21:27
300	2	2016-10-21 15:21:27

**INNER JOIN on
CustomerId Column**

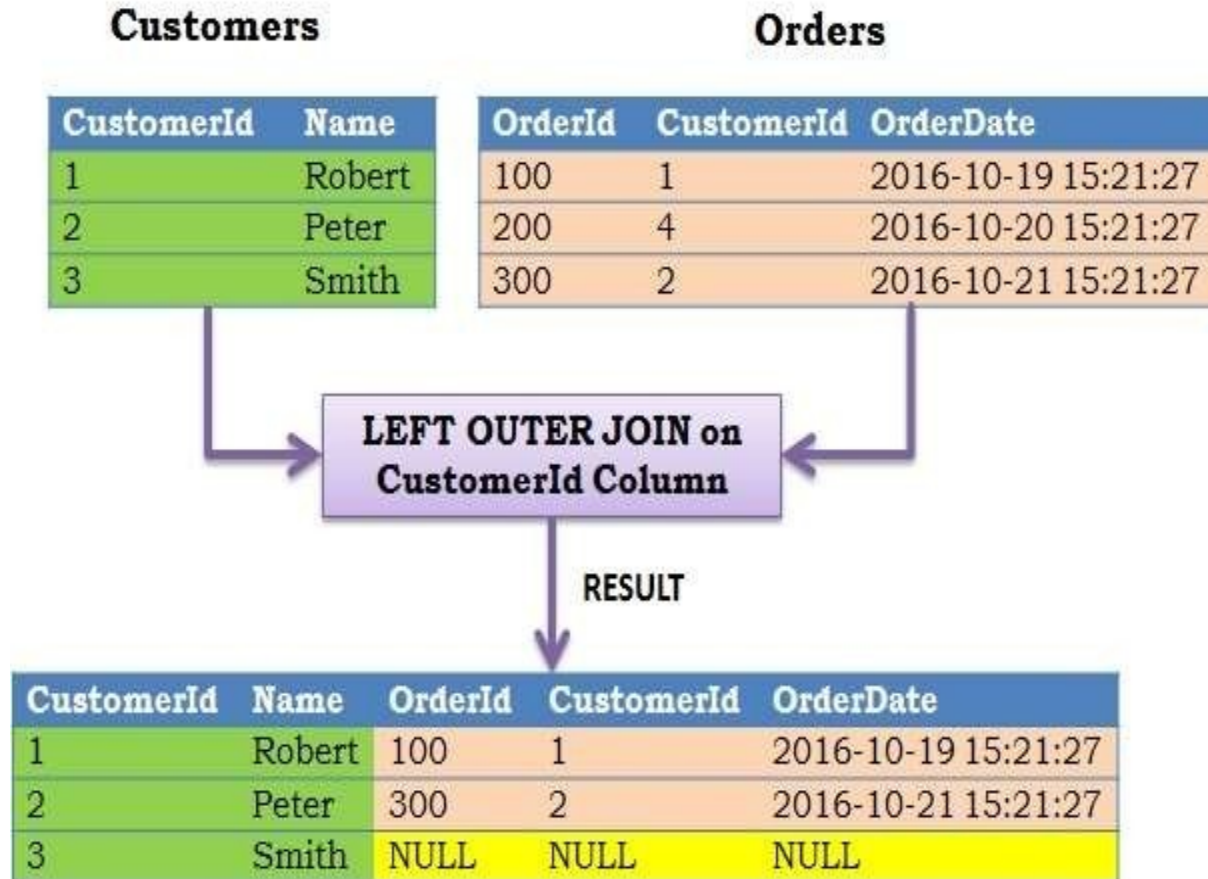
RESULT

CustomerId	Name	OrderId	CustomerId	OrderDate
1	Robert	100	1	2016-10-19 15:21:27
2	Peter	300	2	2016-10-21 15:21:27

- INNER JOIN returns the matching rows.

OUTER JOIN (LEFT JOIN)

LEFT OUTER JOIN



OUTER JOIN (RIGHT JOIN)

RIGHT OUTER JOIN



OUTER JOIN (FULL JOIN)

FULL OUTER JOIN

Customers

CustomerId	Name
1	Shree
2	Kalpana
3	Basavaraj

Orders

OrderId	CustomerId	OrderDate
100	1	2014-01-29 23:56:57.700
200	4	2014-01-30 23:56:57.700
300	3	2014-01-31 23:56:57.700

FULL OUTER JOIN on
CustomerId Column

RESULT

CustomerId	Name	OrderId	CustomerId	OrderDate
1	Shree	100	1	2014-01-30 23:48:32.850
2	Kalpana	NULL	NULL	NULL
3	Basavaraj	300	3	2014-02-01 23:48:32.853
NULL	NULL	200	4	2014-01-31 23:48:32.853

It returns all the rows from both the tables, if there is no matching row in either of the sides then it displays NULL values in the result for table columns such as in rows.

JOIN more than TWO tables

Get the first and last names of all analysts whose department is located in Seattle:

```
USE sample;
SELECT emp_fname, emp_lname
      FROM works_on JOIN employee ON works_on.emp_no=employee.emp_no
      JOIN department ON employee.dept_no=department.dept_no
      AND location = 'Seattle'
      AND job = 'analyst';
```

Reading Assignment

7.2.1 Specifying general constraints as Assertions in SQL

Summary

- JOIN and Types of JOIN