# *SQL JOINS*

# Types of SQL JOIN

- EQUI JOIN

  - EQUI JOIN is a simple SQL join.
  - Uses the equal sign(=) as  the comparison operator for the condition

- NON EQUI JOIN

  - NON EQUI JOIN  uses comparison operator other than the equal sign.
  - The operators uses  like >, <, >=, <= with the condition.

# Types of SQL EQUI JOIN

- **INNER JOIN**

  - Returns only matched rows from the participating tables.
  - Match happened only at the key record of participating tables.

# List of SQL JOINS

- **INNER JOIN**
- **RIGHT JOIN OR RIGHT OUTER JOIN**
- **Left join and left outer join**
- **CROSS JOIN**

# INNER JOIN

- *The INNER JOIN selects all rows from both participating tables as long as there is a match between the columns.*
- *An SQL INNER JOIN is same as JOIN clause, combining rows from two or more tables.*

# Example : INNER JOIN

| A | M |
|---|---|
| 1 | m |
| 2 | n |
| 4 | o |

table_A

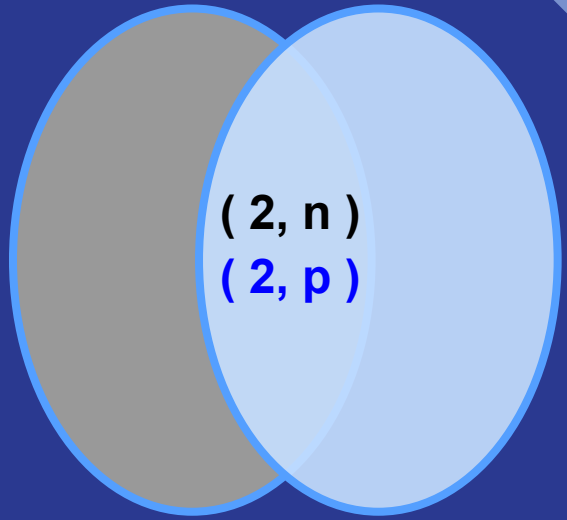
| A | N |
|---|---|
| 2 | p |
| 3 | q |
| 5 | r |

table_B

```
SELECT * FROM table_A
INNER JOIN table_B
ON table_A.A=table_B.A;
```

| A | M | A | N |
|---|---|---|---|
| 2 | n | 2 | p |

Output



# LEFT JOIN or LEFT OUTER JOIN

- ★ *The SQL LEFT JOIN, joins two tables and fetches rows based on a condition, which are matching in both the tables.*
- ★ *The unmatched rows will also be available from the RIGHT table before the JOIN clause.*

# Example : LEFT JOIN or LEFT OUTER JOIN

| A | M |
|---|---|
| 1 | m |
| 2 | n |
| 4 | o |

table_A

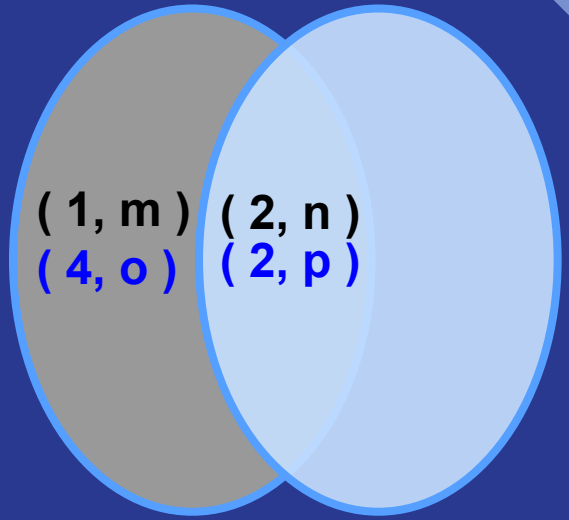
| A | N |
|---|---|
| 2 | p |
| 3 | q |
| 5 | r |

table_B

```
SELECT * FROM table_A
LEFT JOIN table_B
ON table_A.A=table_B.A;
```

| A | M | A | N |
|---|---|---|---|
| 2 | n | 2 | p |
| 1 | m | null | null |
| 4 | o | null | null |

Output



# RIGHT JOIN or RIGHT OUTER JOIN

- *The SQL RIGHT JOIN, joins two tables and fetches rows based on a condition, which are matching in both the tables.*
- *The unmatched rows will also be available from the LEFTtable written after the JOIN clause.*

# Example : RIGHT JOIN or RIGHT OUTER JOIN

| A | M |
|---|---|
| 1 | m |
| 2 | n |
| 4 | o |

table_A

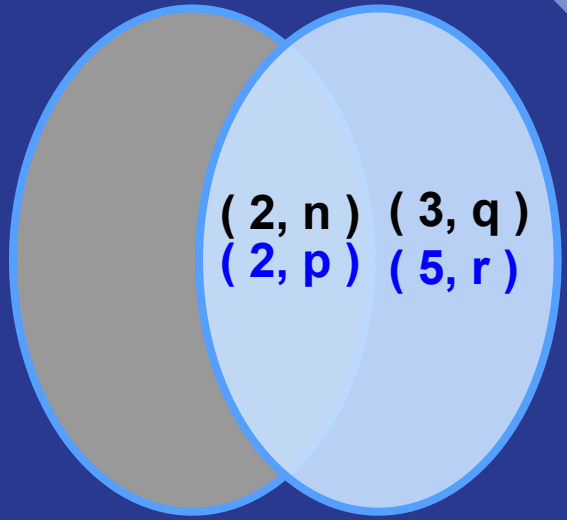
| A | N |
|---|---|
| 2 | p |
| 3 | q |
| 5 | r |

table_B

```
SELECT * FROM table_A
RIGHT JOIN table_B
ON table_A.A=table_B.A;
```

| A | M | A | N |
|---|---|---|---|
| 2 | n | 2 | p |
| null | null | 3 | q |
| null | null | 5 | r |

Output



# CROSS JOIN

- *The SQL CROSS JOIN produces a result set which is the number of rows in the first table multiplied by the number of rows in the second table, if no WHERE clause is used along with CROSS JOIN.*
- *This kind of result is called as Cartesian Product.*
- *If, WHERE clause is used with CROSS JOIN, it functions like an INNER JOIN.*

# Example : CROSS JOIN

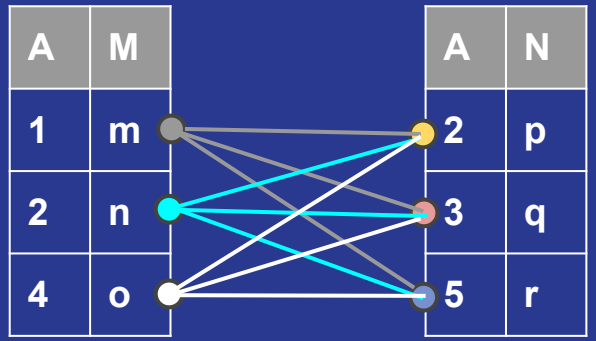
| A | M |
|---|---|
| 1 | m |
| 2 | n |
| 4 | o |

table_A

```
SELECT *
FROM table_A
CROSS JOIN  table_B;
```

| A | N |
|---|---|
| 2 | p |
| 3 | q |
| 5 | r |

table_B




| A | M | A | N |
|---|---|---|---|
| 1 | m | 2 | p |
| 2 | n | 2 | p |
| 4 | o | 2 | p |
| 1 | m | 3 | q |
| 2 | n | 3 | q |
| 4 | o | 3 | q |
| 1 | m | 5 | r |
| 2 | n | 5 | r |
| 4 | o | 5 | r |

Output

# union

The UNION operator is used to combine the result-set of two or more SELECT statements.

- Every SELECT statement within UNION must have the same number of columns
- The columns must also have similar data types
- The columns in every SELECT statement must also be in the same order

SELECT *column_name(s)* FROM *table1*
UNION
SELECT *column_name(s)* FROM *table2*;

# SUB QUERY

In SQL a Subquery can be simply defined as a query within another query. In other words we can say that a Subquery is a query that is embedded in WHERE clause of another SQL query.

ımportant rules for Subqueries:

1)You can place the Subquery in a number of SQL clauses: WHERE clause, HAVING clause, FROM clause.
2)Subqueries can be used with SELECT, UPDATE, INSERT, DELETE statements along with expression operator. It could be equality operator or comparison operator such as =, >, =, <= and Like operator.

3)The subquery generally executes first, and its output is used to complete the query condition for the main or outer query.

4)Subquery must be enclosed in parentheses.

# SYNTAX:

```
SELECT column_name
FROM table_name
WHERE column_name expression operator
    ( SELECT COLUMN_NAME  from TABLE_NAME    WHERE ... );
```

# THANK YOU