**1. Joins**

* Joins are used to combine columns from two or more tables based on related columns between them.
* **Types of Joins**:
  + **Inner Join**: Only shows rows where there is a match in both tables.
  + **Left Outer Join**: Shows all rows from the left table and matching rows from the right table. If no match is found in the right table, it shows NULL.
  + **Right Outer Join**: Shows all rows from the right table and matching rows from the left table. If no match is found in the left table, it shows NULL.
  + **Full Outer Join**: Shows all rows when there is a match in one of the tables.
  + **Cross Join**: Produces a result set that is the combination of each row from the first table with each row from the second table, creating a "Cartesian product."

**2. Self Join**

* This is a join where a table is joined with itself. It’s helpful when you want to compare rows within the same table.

**3. Union**

* Instead of combining columns from tables, a union combines rows from two or more SELECT statements. Each SELECT must have the same number of columns, with compatible data types, to work.

**FROM Clause**:

* Start with the main table, customers, since we want customer data in the result.

**JOIN Clause**:

* Use JOIN to add the orders table, connecting it to customers by matching customers.customer\_id with orders.customer\_id. This ensures that each order is associated with the correct customer.
* Next, use another JOIN to add the order\_details table, connecting it to orders by matching orders.order\_id with order\_details.order\_id. This links each order with its items.

 **SELECT Clause**:

* Choose the columns you want in the result. Here, we’re selecting columns from all three tables (customers, orders, and order\_details).