**\* Merge (Join) in Power BI**  
In **Power BI**, **Merge** is used to combine **columns from two tables** based on a **common field/key**, similar to SQL **JOINs**.

### 1. ****Left Outer Join**** (default)

**All rows from the first (left) table**, and matching rows from the second (right) table.

* If there's no match, you'll get null for the right table's column

### 2. ****Right Outer Join****

**All rows from the second (right) table**, and matching rows from the first (left) table

### 3. ****Full Outer Join****

**All rows from both tables**, matching wherever possible.

* If no match, you'll get null for unmatched side.

### 4. ****Inner Join****

**Only matching rows from both tables** are kept.

### 5. ****Left Anti Join****

**Only rows from the left table that do NOT match** any row in the right table.

Example:  
Show sales records where the customer ID is **not** in the customer table (possible data error or missing info).

### 6. ****Right Anti Join****

**Only rows from the right table that do NOT match** any row in the left table.

### Example: Show customers who have **never made a purchase**. \* Append Queries **Appending** in Power BI means **combining rows** from **two or more tables** with the **same column structure** — like stacking data vertically, one table below the other. It’s similar to the **UNION** operation in SQL. \* All tables being appended must have the **same columns**, \*Group BY The **GROUP BY** feature in Power BI is used to **summarize data** by one or more columns. It helps you **aggregate** your data — like **SUM, COUNT, AVERAGE**, etc. Why use Advanced Group By?

* **Group by multiple columns** at once (e.g., by Region *and* Product).
* **Add multiple aggregations** at the same time (e.g., sum of sales, count of orders, average quantity).
* Have **full control** over how to summarize your data.

**\* Functions Inside Home Pane**  
 **Data Type**: Assigns a specific data type (e.g., text, number, date) to a column for accurate data transformation.

 **Use First Row as Headers**: Promotes the first row of data to be used as column headers.

 **Replace Values**: Finds and replaces specific values in a selected column.

 **Split Column**: Divides a column into multiple columns based on a delimiter or number of characters.

 **Remove Rows**: Deletes unwanted rows, including top rows, bottom rows, duplicates, or blank rows.

 **Keep Rows**: Keeps only the selected rows and removes the rest (e.g., top N, bottom N, range, or matching rows).

 **Remove Columns**: Deletes selected columns from the table.

 **Choose Columns**: Selects which columns to keep from the dataset.

 **Properties**: Edits the query name and description.

 **Advanced Editor**: Opens the M code editor to view or manually edit the query steps in code format.

 **Manage (Delete, Duplicate, Reference)**:

* **Delete**: Removes the selected query.
* **Duplicate**: Creates a copy of the query.
* **Reference**: Creates a new query that references the original one.

 **Refresh Preview**: Refreshes the data preview in Power Query to reflect recent changes.

 **Manage Parameters**: Lets you view and edit existing parameters.

 **Create Parameter**: Allows you to define a dynamic value that can be reused in queries.

 **Data Source Settings**: Manages the credentials and privacy settings for data sources.

 **Enter Data**: Enables manual data entry to create a new table directly in Power Query.  
  
**\* Transform Pane Functions**  
  
 **Transpose**: Swaps rows and columns—rows become columns and columns become rows.

 **Reverse Rows**: Flips the order of rows from top to bottom (last row becomes first).

 **Count Rows**: Returns the total number of rows in the table.

 **Detect Data Type**: Automatically sets the most appropriate data type for each column based on its values.

 **Rename**: Allows renaming of a column or query for better clarity or consistency.

 **Fill**:

* **Up**: Fills null cells with the value from the cell below.
* **Down**: Fills null cells with the value from the cell above.

 **Move**: Lets you reposition columns to the beginning, end, left, or right in the table.

 **Convert to List**: Converts a column (or entire table) into a list of values.

 **Extract**: Pulls out parts of text in a column, like first characters, last characters, or text before/after a delimiter.

 **Parse**: Converts text into a specific data type like date, time, or number  
  
  
 **\* ADD Column pane Functions** **Column from Examples**:  
Creates a new column by providing sample output values. Power Query infers the transformation logic based on your examples.

 **Custom Column**:  
Lets you create a new column using M code (Power Query formula language) to define custom logic and expressions.

 **Invoke Custom Function**:  
Allows you to create a new column by applying a custom function (you’ve defined earlier) to each row.

 **Conditional Column**:  
Builds a new column based on conditions (like if-else logic) without writing M code.

 **Index Column**:  
Adds a sequential numeric column (0, 1, 2, …) to your table, useful for ordering or referencing rows.

 **Duplicate Column**:  
Creates a copy of an existing column, allowing you to perform different transformations on the copy.

**\* View Pane Functions** **Formula Bar**:  
Displays the M code for the selected step in the query. Useful for editing or reviewing transformations.

 **Monospaced**:  
Changes the font in the data preview to a monospaced (equal-width) font, making it easier to read and compare values, especially numbers or codes.

 **Show Whitespace**:  
Highlights spaces, tabs, and other white space characters in the data. Helps identify hidden formatting issues.

 **Column Quality**:  
Shows a visual summary (valid, error, empty) of the quality of data in each column, helping to identify data cleanliness.

 **Column Distribution**:  
Displays a histogram of the values in each column, giving a quick insight into data distribution and frequency.

 **Column Profile**:  
Provides detailed statistics for a selected column, such as count, distinct values, min, max, average, and more. Helps in understanding data patterns.