POWER QUERY

1. **Power Query** is a data connection and transformation tool in Microsoft products like Power BI, Excel, and Dataverse.

2. It helps you **import, clean, reshape, and combine** data from multiple sources before loading it into your reports or models.

Where is it used:

1. **Power BI** → Data preparation before creating dashboards.
2. **Excel** → Clean raw data, remove duplicates, merge sheets, etc.
3. **Dataverse & other apps** → Automate data shaping.

Key Features:

1. **Connect to many sources** (Excel, CSV, SQL, APIs, Web, etc.).
2. **Transform data** without coding (filter, merge, pivot/unpivot, split, add columns, etc.).
3. **M language** (behind the scenes, Power Query generates "M" code).
4. **Repeatable process** – once steps are applied, you can refresh, and it redoes everything automatically.

Example Use Case:

1. Import sales data from multiple CSV files.
2. Remove duplicates.
3. Split "Full Name" into "First Name" & "Last Name".
4. Merge with product details from another table.
5. Load the cleaned dataset into **Power BI visuals** or **Excel pivot tables**.

Power Query Step by Step:

1. **Open Power Query:**

- In **Power BI Desktop** → Go to **Home → Transform Data → Transform**.
- In **Excel → Data → Get Data → Launch Power Query Editor**.

You'll see a new window called **Power Query Editor**.

2. **Connect to Data Source**

Example: Import a CSV file.

- Click **Home → New Source → CSV**.
- Choose your file → data preview appears.

3. **Apply Transformations (Clean & Shape Data)**

Here are the most common transformations:

◈ **Remove Unwanted Columns**

- Right-click on a column → **Remove**.

◈ **Rename Columns**

- Double-click the column name → rename it (e.g., "Cust_ID" → "Customer ID").

◈ **Filter Data**

- Use filter dropdown (like Excel) → e.g., only keep rows where **Sales > 1000**.

◈ **Split Column**

- Select a column → **Split by Delimiter** (e.g., split "Full Name" → First Name, Last Name).

◈ **Merge Queries (like SQL JOIN)**

- **Home → Merge Queries** → choose common column (e.g., Customer ID) → join two tables.

◈ **Append Queries (like SQL UNION)**

- **Home → Append Queries** → combine two datasets with same columns.

Pivot / Unpivot

- **Transform → Pivot Column** → make row values into columns.
- **Unpivot** → opposite (convert columns into row values).

4. View Applied Steps

On the right side, you'll see **Applied Steps** → Power Query records every change.
(Like a **recipe**: remove column → rename → merge → filter).

5. Load Data

- Once transformations are done → **Home → Close & Load** (Excel) or **Close & Apply** (Power BI).
- Now cleaned data is ready for **Pivot Tables** (Excel) or **Reports & Dashboards** (Power BI).

After applying Power Query, you'll have a cleaned table ready for analysis.