1. **What is the difference between "Merge" and "Append" in Power Query?**

   Merge combines two tables based on matching values in a specified column. It is used to enrich a primary table with related data from a secondary table.

   For example, we have a Sales table (containing ProductID and Quantity) and a separate Products table (containing ProductID and ProductName). We would **Merge** the Products table into the Sales table using the **ProductID** as the key. The result is that the Sales table now contains the ProductName column.

   Append combines two or more tables by stacking the rows of the second (and subsequent) tables beneath the rows of the first table.

   For example, we have three monthly sales files: Sales_Jan, Sales_Feb, and Sales_Mar. All three tables have the exact same columns (Date, ProductID, Quantity). You would Append Sales_Feb and Sales_Mar to the bottom of the Sales_Jan table to create one large, unified Sales_Master table.

2. **How do you split a "Full Name" column into "First Name" and "Last Name"?**

   We can split a "Full Name" column into "First Name" and "Last Name" using the Power Query Editor's Split Column feature. The most common method is splitting by the delimiter (the space between the names).

3. **What is "Pivot Columns" used for?**

   The Pivot Column transformation in Power Query is used to rotate data from a long format (many rows) to a wide format (fewer rows, more columns).

   Essentially, it takes unique values from one column and converts them into new column headers, aggregating the data from another column beneath them.

   We typically use Pivot Columns when our data is arranged in a format suitable for input (like logging transactions), but not ideal for analysis or visualization.

4. **How do you undo a step in Power Query?**

   We undo a step in Power Query by removing it from the Applied Steps pane within the Power Query Editor.

   Steps to Undo a Transformation

Open Power Query Editor: In Power BI Desktop, go to the Home tab and click Transform data.

Locate the Pane: Look at the Query Settings pane on the right side of the editor. This pane contains the Applied Steps list.

Find the Step: In the Applied Steps list, locate the specific transformation step you want to undo (e.g., Filtered Rows, Added Column, Changed Type).

Remove the Step: Click the "X" icon next to the name of the step you wish to undo.

5. **What is the purpose of "Reference" vs. "Duplicate" in queries?**

The difference between Reference and Duplicate lies in how the new query maintains a connection to the original query's steps and underlying data.

Referencing creates a new query that uses the original query as its first step (the source). The new query is dependent on the original query. It cannot exist without the original. This is primarily used for downstream transformations. We use the original query to perform common, slow transformations (like filtering the initial dataset or merging two large tables). Then, we create references to that clean, base query to perform different final transformations (e.g., aggregating by year in one reference, and by region in another).

Duplicating creates a new, independent query that copies all the M code steps from the original query up to that point. The new query is completely independent of the original query after creation. Deleting the original query will not affect the duplicate. This is primarily used for making variations or creating backup points. For example, you might duplicate a large query before attempting a risky or experimental transformation (like pivoting) to ensure you have a working copy to fall back on.