Homework

1. **What is the purpose of the "Applied Steps" pane in Power Query?**

It shows the list of all transformation steps applied to your data. We can view, edit, delete or reorder steps there

1. **How do you remove duplicate rows in Power Query?**

First, we should select table or specific columns > **Home tab** > **Remove Rows > Remove Duplicates**

1. **What does the "Filter" icon do in Power Query?**

It lets to filter data in a column, such as selecting specific values, setting number ranges or filtering dates

1. **How would you rename a column from "CustID" to "CustomerID"?**

Right-click the CustID column header > **Rename** and then we should type our new column name CustomerID

1. **What happens if you click "Close & Apply" in Power Query?**

It closes Power Query Editor and applies all changes (transformations) to our dataset in Power BI

1. **Remove all rows where Quantity is less than 2**

On the **Quantity** column > **Number Filters > Greater Than or Equal To > 2 or we should write m-language = Table.SelectRows(Source, each [Quantity] >= 2)**

1. **Split the OrderDate column into separate "Year," "Month," and "Day" columns**

OrderDate column > Transform data > OrderDate column > Transform > Split by Custom (/)

1. **Replace all "Mouse" entries in the Product column with "Computer Mouse"**

In the Power Query Editor Select Product Column > Replace values > Value to find (Mouse) > Replace with (Computer Mouse)

1. **Sort the table by OrderDate (newest first)**

Select OrderDate column > **Sort >** Sort Descending (Z to A)

1. **How would you handle null values in the Price column?**

Replace nulls: **Transform > Replace Values > null > 0 OR**

filter them out: **Filter > Remove nulls**

1. **Write custom M-code to add a column calculating TotalSpent = Quantity \* Price**

**= Table.AddColumn(Source, "TotalSpent", each [Quantity] \* [Price])** OR **Click New Column and (Total Spent = Orders[Quantity] \* Orders[Price]**

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1. **Group the table by CustID to show total spending per customer**

Transform > Group By

* Group by: CustID
* New column name: TotalSpent
* Operation: Sum of [TotalSpent]

1. Fix inconsistent date formats (e.g 01/10/2023 vs 2023-01-10 in OrderDate)

* Set the column data type to **Date**

1. **Create a conditional column: Label orders as "High Value" if Price > 100**

We should go to **Add Column > Conditional Column**

* Column name: OrderLabel
* If Price > 100 > High Value, else Regular

1. **Optimize the query to reduce refresh time (e.g., remove unused columns early)**

* Always **remove unnecessary columns first** (early in the "Applied Steps" list)
* Avoid too many nested transformations
* Use filters before merge operations if possible