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

‘Applied steps’ pane serves as a visual record and editor for all the data transformation operations performed on dataset. In Power Query Editor interface, it is located on the right side.

These are the main purposes of this pane:

- Recording transformations. Every action taken in Power Query is gets automatically recorded. Changing filters, deleting rows, merging table, applying custom formulas and other similar tasks can be example for these kinds of transformations. Each step represents a single transformation operation.
- Transparency. Transformations applied are saved in chronological order and this makes data preparation process completely reproducible and auditable.
- Step management. Each step can be renamed, altered and saved even after taking some more steps. This may cause errors if one step is dependent on the result of the preceding ones. By clicking on the specific step, it is possible to see what data looked like on that transformation process.
- M code. For generating each step, Power Query automatically writes code in M language. User can directly access and edit this code by accessing the Advanced Editor or by just clicking the gear icon next to a step.
- Supporting iterations. If further transformations are needed, the user can go back to any previous step and make changes. Power Query will automatically refresh all subsequent steps to reflect modified changes.

2. How do you remove duplicate rows in Power Query?
   In Power Query editor, there are different methods:
   1) Home → Remove Rows → Remove Duplicates
      This will keep only the unique occurrences of each row combination
   2) Selecting certain column or columns → Home → Remove Rows → Remove Duplicates
      This will remove duplicates in this specific column or columns only
   3) *Table.Distinct(PreviousStepName)* to select all columns
      Table.Distinct(PreviousStepName, {“Column1, Column2, …”}) to select certain columns
      This is the way of writing a code in M language

3. What does the "Filter" icon do in Power Query?
   ‘Filter’ icon in Power Query provides a quick and intuitive way to filter data within specific columns.
   Value-based filtering: checking or unchecking certain boxes to filter

4. How would you rename a column from "CustID" to "CustomerID"?
   There are several ways of renaming a column:
   1) Double-click on old column header → type new column header name → Enter
   2) Right-click on old column name header → Rename → new name → Enter
   3) Select old column → In Transform tab, Rename → New name → Enter

5. What happens if you click "Close & Apply" in Power Query?
   Here are the steps when the user presses ‘Close and Apply’:
   1) Power Query Editor closes
   2) Executes all transformation steps
   3) Loads transformed data into the destination
   4) Saves the query for future refreshes

   Overall, it finalizes and loads data transformations to the destination.

6. Remove all rows where Quantity is less than 2.
   Clicking filter dropdown in the Quantity column header → unchecking value ‘1’ → Ok

7. Split the OrderDate column into separate "Year," "Month," and "Day" columns.
   Select ‘OrderDate’ column → transform tab → split column → by delimiter → custom delimiter and enter “ - ” → split into columns → ok

8. Replace all "Mouse" entries in the Product column with "Computer Mouse."
   Select ‘Product’ column → transform tab → replace values → value find: Mouse → replace with: Computer Mouse → Ok

9. Sort the table by OrderDate (newest first).
   Click filter dropdown in ‘OrderDate’ column header → Sort descending

10. How would you handle null values in the Price column?
    There are multiple options for handling null values:
    1) Removing all null value: in the filter dropdown in ‘Price’ column → Unchecking ‘null’ or ‘blank’ → Ok

2) Replacing with certain value: selecting ‘Price’ column → transform tab → replace values → values to find: (*blank*) → replace with: enter value to replace with
3) Filling down/up: select ‘Price’ column → transform tab → fill → down/up → ok

11. To add a new column calculating total spend using M-code:
Transform tab → custom column → column name: TotalSpent → custom column formula: [Quantity] * [Price] → Ok

12. Group the table by CustID to show total spending per customer.
Transform tab → group by → select CustID → New column name: TotalSpending → operation: Sum → column: Price → Ok

13. Fix inconsistent date formats (e.g., 01/10/2023 vs. 2023-01-10) in OrderDate.
Select OrderDate → Transform tab → Data Type → Date

Sometimes this method might not work, therefore there is another way as well:
Transform tab → replace values → replace ‘/’ with ‘-’ → Date Type to Date

14. Create a conditional column: Label orders as "High Value" if Price > 100.
Add column tab → conditional column → new column name: ValueCategory → set condition: (column name: Price, operator: ‘>’, value: 100, output: ‘High Value’) → Else: (blank) → Ok

15. Optimize the query to reduce refresh time (e.g., remove unused columns early).
There are certain steps to be taken to optimize query performance and reduce refresh time:
1) Removing unused columns early: right-click on unwanted columns and removing them before any other transformations
2) Filtering data early: applying filter immediately after connecting to the source, before other steps
3) Fold operations: keeping the transformations that can ‘Fold back’ to the data source
4) Avoiding custom columns with complex logic early in the process