

Power BI - Lesson 4: Data Transformation with Power Query

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

- Merge combines two tables side by side using a common key (like SQL JOIN).
- Append stacks two tables vertically with the same columns (like SQL UNION).

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

- Select the column Transform 'Split Column' 'By Delimiter' choose space.

3. What is 'Pivot Columns' used for?

- Pivot transforms unique values from one column into multiple columns.
- Used to summarize data, e.g., show total Quantity per Product.

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

- In the 'Applied Steps' pane, right-click the step Delete.

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

- Duplicate: fully separate copy.
- Reference: linked version depending on original.

6. Merge Orders.csv and Customers.xlsx on CustID (inner join):

- Home Merge Queries select both tables match CustID columns Join type: Inner.

7. Pivot the Product column to show total Quantity per product:

- Select column 'Product' Transform Pivot Column Aggregate: Sum of 'Quantity'.

8. Append two tables with identical columns:

- Home Append Queries choose both tables (e.g., Orders_Jan and Orders_Feb).

9. Use 'Fill Down' to replace nulls in the Email column with the previous value:

- Select column Transform Fill Down.

10. Extract the domain (e.g., 'example.com') from the Email column:

- Select 'Email' column Transform Extract Text After Delimiter delimiter: '@'.

11. Write M-code to merge queries dynamically based on a parameter (e.g., JoinType = 'Inner'):

let

Orders = #"Orders (1)",

Customers = Sheet1,

JoinKindMap = [

"Inner" = JoinKind.Inner,

"Left Outer" = JoinKind.LeftOuter,

"Right Outer" = JoinKind.RightOuter,

"Full Outer" = JoinKind.FullOuter

],

SelectedJoinKind = Record.Field(JoinKindMap, JoinType),

Merged = Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "CustomerData",
SelectedJoinKind),

Expanded = Table.ExpandTableColumn(Merged, "CustomerData", {"Name", "Email"})

in

Expanded

12. Unpivot a table with columns like 'Jan_Sales,' 'Feb_Sales' into a 'Month' and 'Sales' format:

- Select Jan_Sales, Feb_Sales, etc. Transform Unpivot Columns.

13. Handle errors in a custom column (e.g., division by zero) using try...otherwise:

- Formula: try [Amount] / [Units] otherwise 0

14. Create a function in Power Query to clean phone numbers (e.g., remove dashes):

- (phone as text) => Text.Remove(phone, {'-', ' '})

15. Optimize a query with 10+ steps identify bottlenecks and simplify:

- Remove unnecessary steps (e.g., repeated 'Changed Type').

- Combine logic in fewer steps using advanced transformations.