




LESSON 4

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

| Feature | Merge | Append |
|--|--|--|
|  Use Case | Combine columns from related tables (like SQL JOIN) | Stack rows from identical tables |
|  Example | Merge <code>Orders</code> with <code>Customers</code> by <code>CustID</code> | Append <code>Orders_Jan</code> and <code>Orders_Feb</code> |
|  Result | One table with additional columns | One table with more rows |

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

Steps:

1. Select the `Full Name` column.
 2. Go to **Home** → **Split Column** → **By Delimiter**.
 3. Choose **Space** and select "At the first occurrence."
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3. What is "Pivot Columns" used for?

Pivot Columns transforms **rows into columns**.

Example:

You have:

Name Product Quantity

John Apple 5

John Banana 3

After pivoting `Product`, you get:

Name Apple Banana

John 5 3




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

Option 1: Click the "X" next to the step in the **Applied Steps** pane.

Option 2: Press **Ctrl + Z** (only works immediately after the step).

Option 3: Right-click the step → **Delete**.

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

| Feature | Reference | Duplicate |
|--|--|---|
|  Connection | Links to original query | Copies all data & steps |
|  Updates | Changes in original affect reference | Independent after duplication |
|  Use When | You want to branch from a clean state or summary | You want to create a copy and modify freely |

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

Steps:

1. Load both queries into Power Query.
2. Select **Orders** → Home → **Merge Queries**.
3. Choose **Customers** table, match on `CustID`.
4. Join kind: **Inner Join**.
5. Expand to select the desired columns.

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

Steps:

1. Select `Product` column.
2. Go to **Transform** → **Pivot Column**.
3. Choose `Quantity` as values.
4. Set aggregation to **Sum**.

8. Append two tables with identical columns (e.g., Orders_Jan + Orders_Feb)

Steps:

1. Load both tables.
2. Go to **Home** → **Append Queries**.
3. Choose **Orders_Jan** and **Orders_Feb**.
4. Result = Combined rows from both.

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

Steps:

1. Select the `Email` column.
2. Go to **Transform** → **Fill** → **Down**.

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

Steps:

1. Select `Email` → **Split Column** → **By Delimiter**.
2. Use "@" as delimiter → Choose "Right-most".
3. You'll get a new column with domain part.

Or use M code:

```
m
КопироватьРедактировать
= Table.AddColumn(Source, "Domain", each Text.AfterDelimiter([Email], "@"))
```

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

Steps:

1. Create a parameter called `JoinType` with value "Inner".

M Code:

```
= Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "NewTable",
JoinType)
```

Use:

```
= Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "NewTable",
JoinKind.Inner)
```

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

Steps:

1. Select the columns `Jan_Sales`, `Feb_Sales`, etc.
 2. Go to **Transform** → **Unpivot Columns**.
 3. Rename the resulting columns to `Month`, `Sales`.
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13. Handle errors in a custom column (e.g., division by zero) using `try...otherwise`

M Code Example:

```
= Table.AddColumn(Source, "SafeDivide", each try [Revenue] / [Units]
otherwise 0)
```

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

Steps:

1. Go to **Home** → **Advanced Editor** → create a blank query.

Function M Code:

```
(phoneText as text) as text =>
let
    cleaned = Text.Select(phoneText, {"0".."9"})
in
    cleaned
```

2. Save and invoke on a column with `Invoke Custom Function`.
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15. Optimize a query with 10+ steps—identify bottlenecks and simplify

Tips:

- **Remove unused columns early** (`Remove Other Columns`).
- **Combine multiple transformations** into fewer steps.
- Use **Table.Buffer()** only if necessary (for performance).
- Disable loading for intermediate queries (`Right-click` → `Enable Load off`).
- Remove steps like repeated "Changed Type" or unnecessary renames.