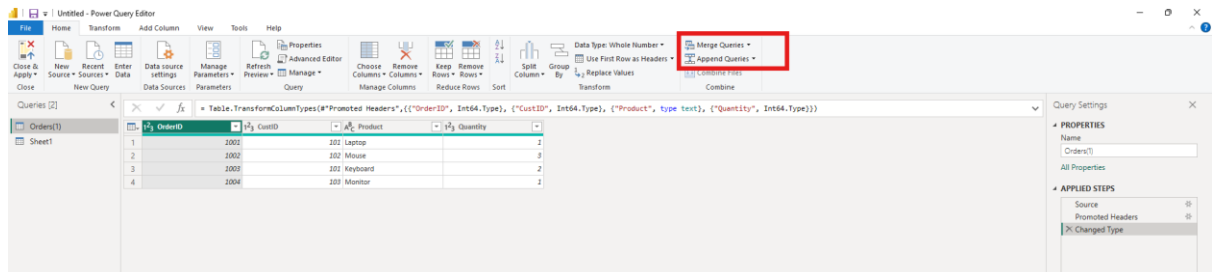


## Data Transformation with Power Query (Part 2)

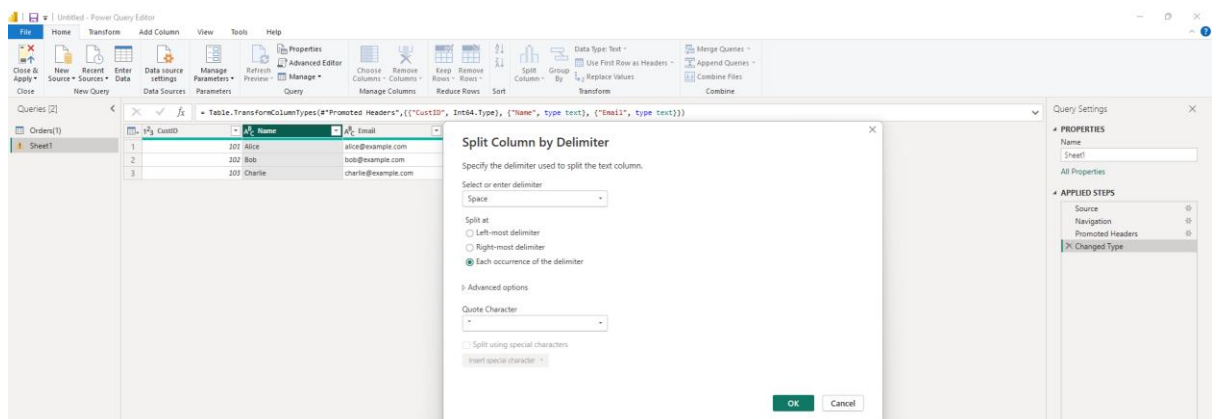
### 1. What is the difference between "Merge" and "Append" in Power Query?

- **Merge** → Combines tables **side by side** based on a key column (like SQL *JOIN*).
- **Append** → Stacks tables **on top of each other** (like SQL *UNION*).



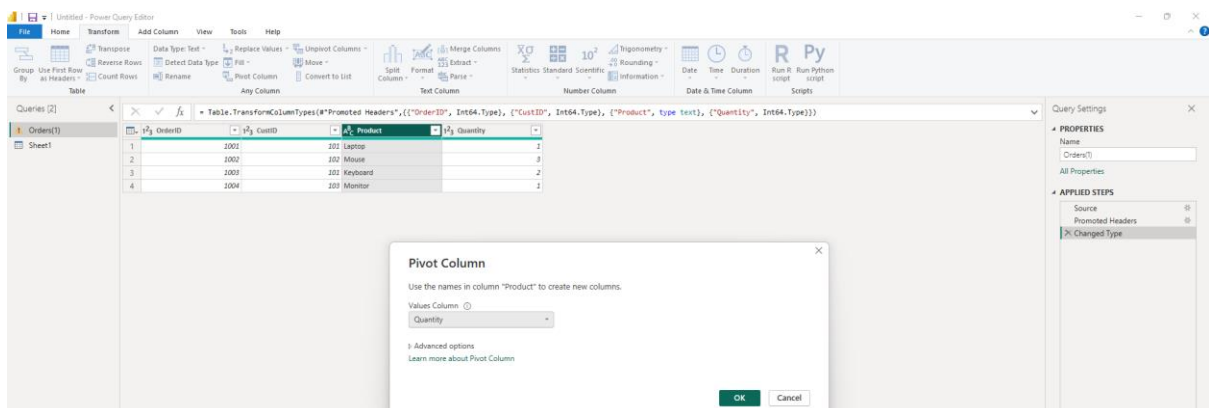
### 2. How do you split a "Full Name" column into "First Name" and "Last Name"?

- Select **Full Name** column → **Split Column** → **By Delimiter (space)**.
- Result: two columns: First Name, Last Name.



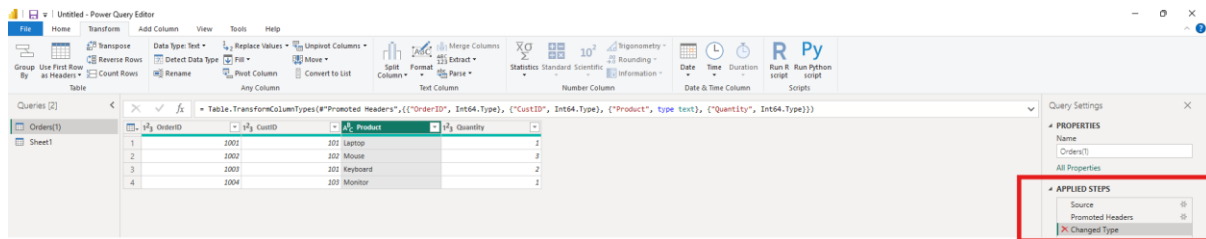
### 3. What is "Pivot Columns" used for?

It converts **rows into columns**. Example: Turn a "Product" column into separate column headers showing quantities.



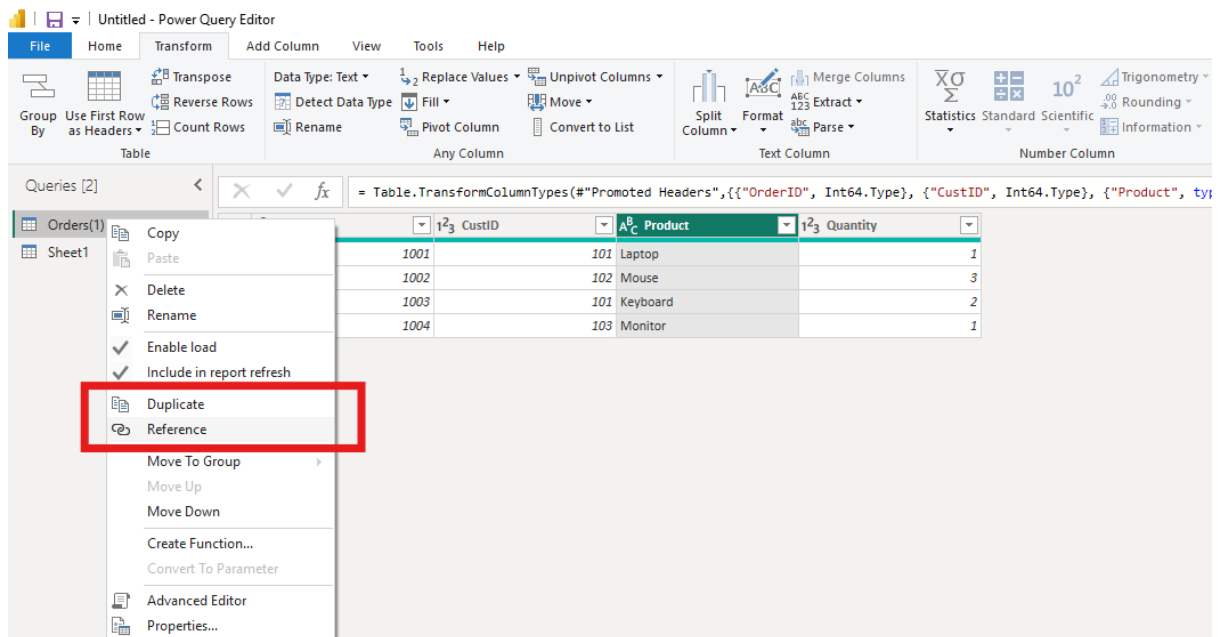
#### 4. How do you undo a step in Power Query?

In the **Applied Steps** pane, click the **X** next to the unwanted step.



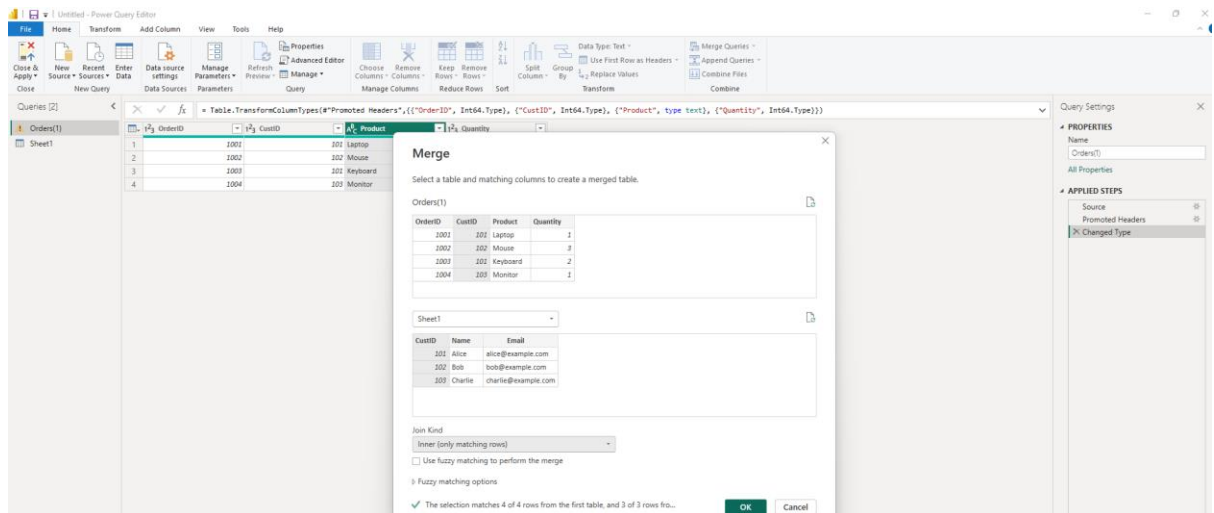
#### 5. What is the purpose of "Reference" vs. "Duplicate" in queries?

- **Duplicate:** Makes a full copy of the query (independent).
- **Reference:** Creates a new query **linked to the original** (changes in source affect reference).



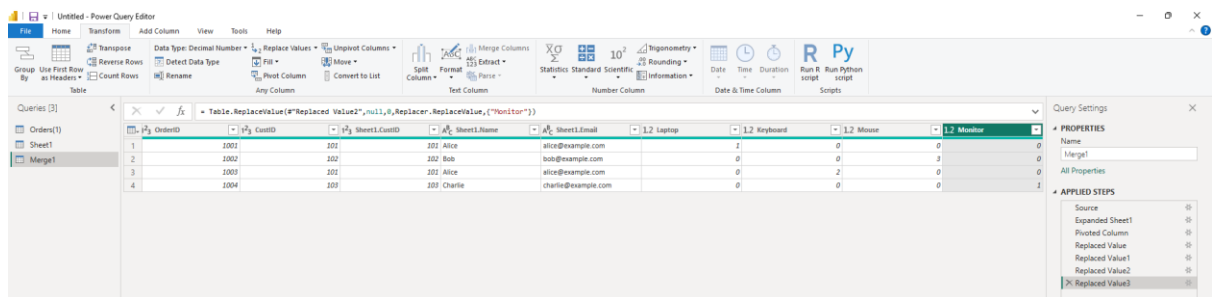
#### 6. Merge Orders.csv and Customers.xlsx on CustID (inner join).

- **Home → Merge Queries →** select *Orders.CustID* and *Customers.CustID*.
- Choose **Inner Join**.
- Expands Customer details alongside orders.



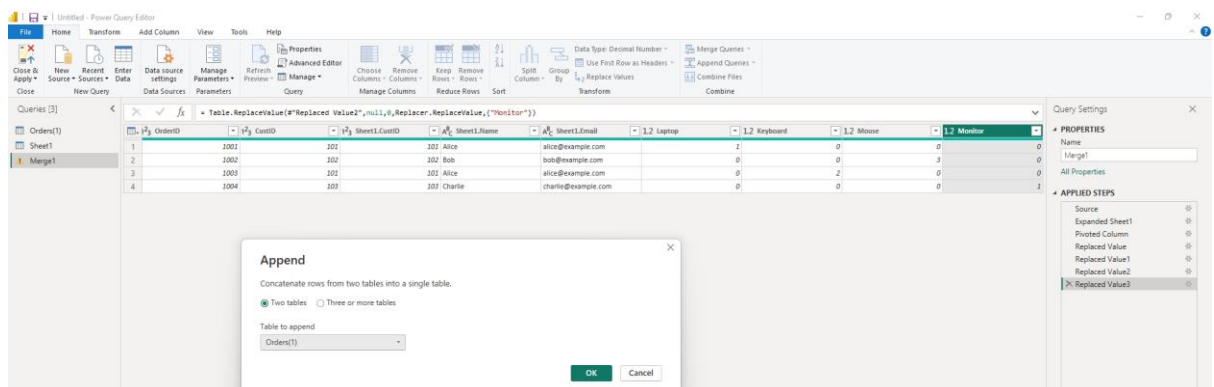
## 7. Pivot the Product column to show total Quantity per product.

- Select **Product** column → Pivot Column.
- Use **Quantity** as Values → Aggregation = Sum.



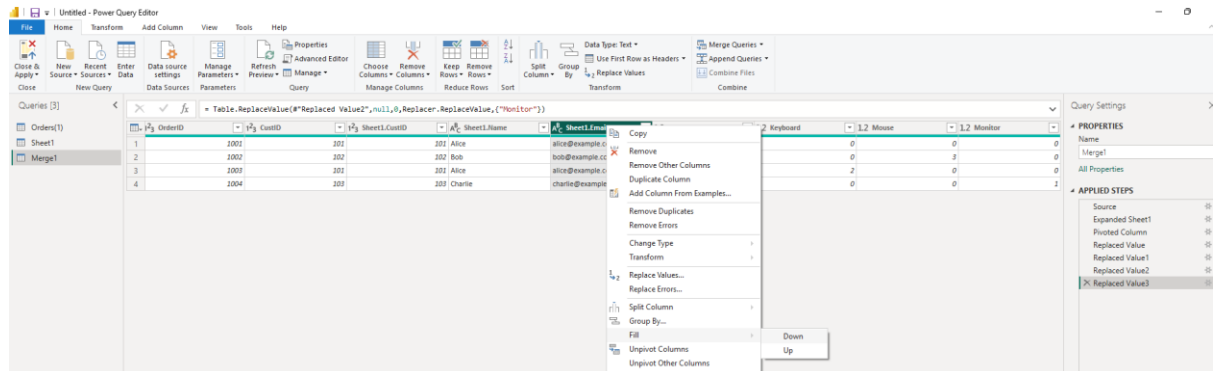
## 8. Append two tables with identical columns (e.g., Orders\_Jan.csv + Orders\_Feb.csv).

- Home → Append Queries → select the two tables.
- Result = combined dataset with January + February orders stacked.



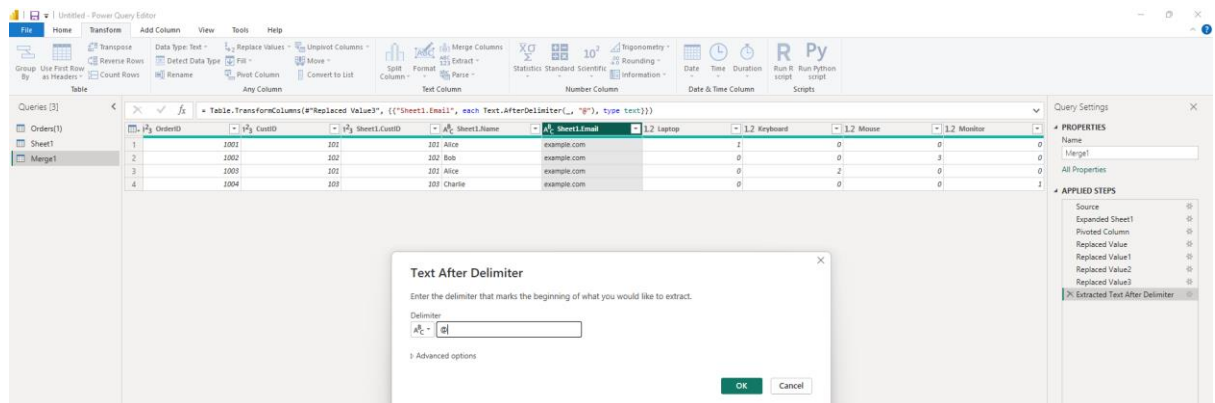
## 9. Use "Fill Down" to replace nulls in the Email column with the previous value.

- Select Email column → Transform → Fill → Down.



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

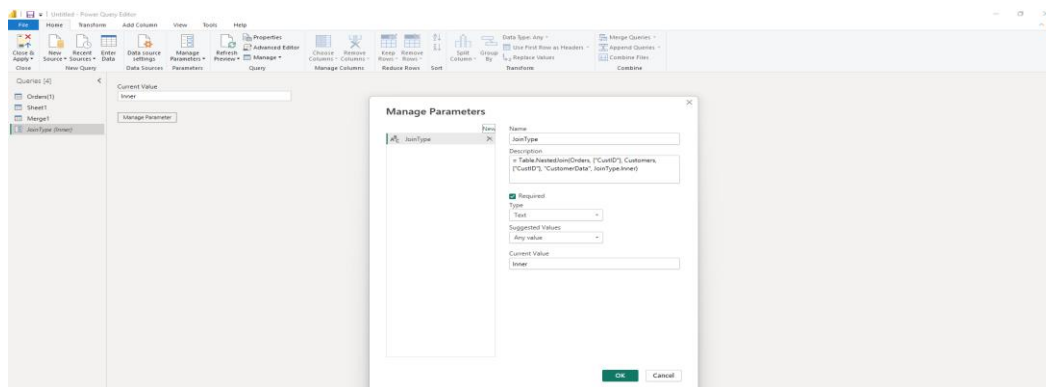
- Select Email column → Transform → Extract → Text After Delimiter (@).



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

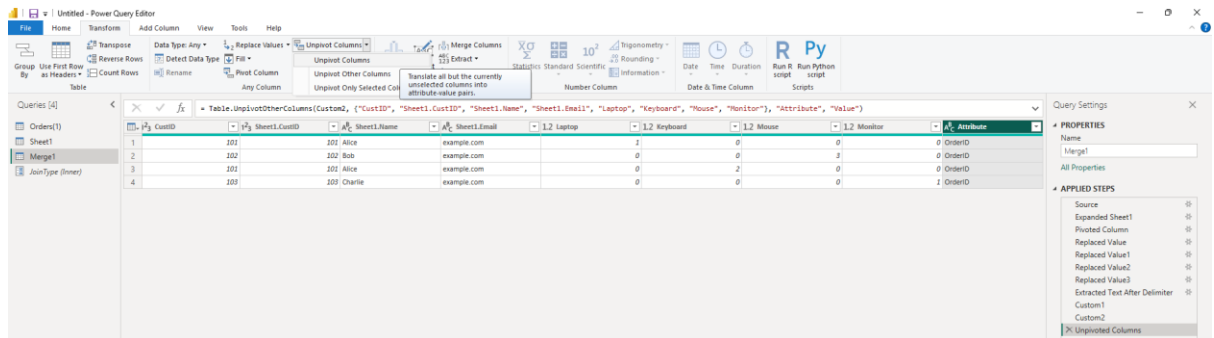
= Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "CustomerData", JoinType.Inner)

If JoinType is stored as a parameter, replace JoinType.Inner with that parameter.



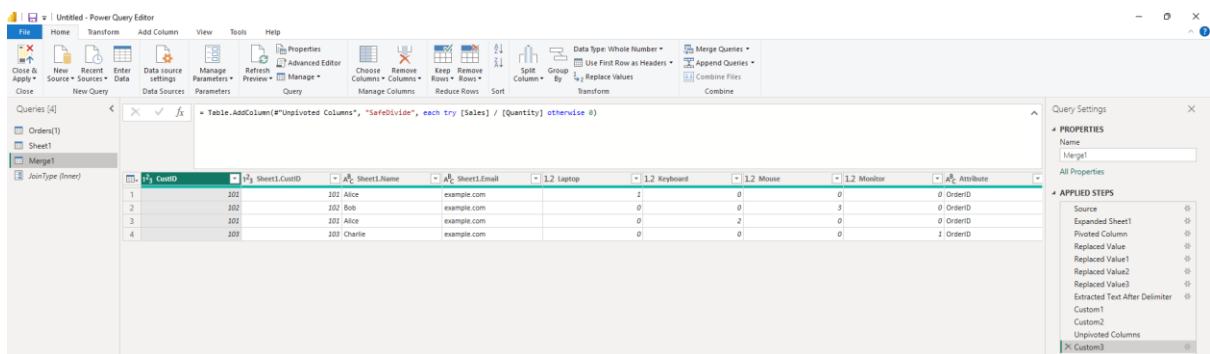
## 12. Unpivot a table with columns like "Jan\_Sales," "Feb\_Sales" into a "Month" and "Sales" format.

- Select sales columns → **Transform** → **Unpivot Columns**.
- Result = Month column + Sales column.



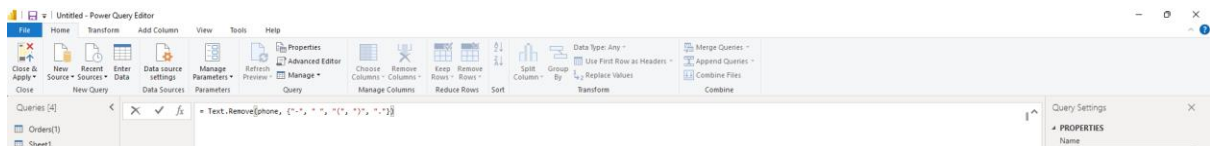
## 13. Handle errors in a custom column (e.g., division by zero) using try...otherwise.

= Table.AddColumn("#PreviousStep", "SafeDivide", each try [Sales] / [Quantity] otherwise 0)



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

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



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

- Remove unused columns early with *Choose Columns*.
- Filter rows early to reduce dataset size.
- Avoid repeating steps (combine transformations).
- Disable **data previews** if slowing down.

- Use **Reference queries** instead of duplicating.