1. Difference between Merge and Append

- **Merge** = SQL-style **JOIN**. Combines **columns** from two tables based on a matching key (e.g., CustID).
- **Append** = SQL-style **UNION**. Stacks tables **row by row** (must have same/similar structure).

👉 Think:

- Merge = add *columns*.
- Append = add *rows*.

◇ 2. Split "Full Name" into "First Name" and "Last Name"

1. Select the **Full Name** column.
2. Go to **Home → Split Column → By Delimiter**.
3. Choose **Space** → Split at the **first** space.
4. Rename new columns: *First Name*, *Last Name*.

👉 M-code:

```
= Table.SplitColumn(PreviousStep, "Full Name",
Splitter.SplitTextByDelimiter(" ", QuoteStyle.Csv), {"First Name", "Last
Name"})
```

◇ 3. What is Pivot Columns?

- Converts **row values into columns**.
- Example:

Product	Month	Sales
Apple	Jan	100
Orange	Jan	200

- Pivot on **Month** → you get:
Product	Jan	Feb	…
Apple	100	150
Orange	200	250

◇ 4. Undo a step in Power Query

- Use the **Applied Steps pane** (right side).
- Click **X** next to a step to remove it.
- Or **right-click → Delete**.

◇ 5. Reference vs Duplicate

- **Duplicate** = makes a **full copy** of the query (independent).
- **Reference** = creates a **linked query** that points back to the original (lighter, better for optimization).

◇ 6. Merge `Orders.csv` and `Customers.xlsx` on CustID (Inner Join)

Steps:

1. Load both tables.
2. Select **Orders → Home → Merge Queries**.
3. Choose `CustID` in both.
4. Join kind: **Inner**.

👉 M-code:

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

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

1. Select **Product** column.
2. Go to **Transform → Pivot Column**.
3. Use **Quantity** as values → choose **Sum**.

👉 M-code:

```
= Table.Pivot(PreviousStep, List.Distinct(PreviousStep[Product]), "Product", "Quantity", List.Sum)
```

◇ 8. Append two tables (Orders_Jan + Orders_Feb)

1. Go to **Home → Append Queries**.
2. Select `Orders_Jan` and `Orders_Feb`.

👉 M-code:

```
= Table.Combine({Orders_Jan, Orders_Feb})
```

◇ 9. Use Fill Down for Email column

- Select **Email** column → **Transform → Fill → Down**.

👉 M-code:

```
= Table.FillDown(PreviousStep, {"Email"})
```

◇ 10. Extract domain from Email

- Select **Email column → Transform → Extract → Text After Delimiter → "@"**.

👉 M-code:

```
= Table.TransformColumns(PreviousStep, {{"Email", each Text.AfterDelimiter(_, "@"), type text}})
```

◇ 11. Merge queries dynamically with parameter JoinType

If you define a parameter `JoinType` (e.g., `"Inner"`):

```
= Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "CustomerData", JoinKind.FromText(JoinType))
```

(Note: `JoinKind.FromText` isn't built-in; you'd use conditional logic to map text → JoinKind.Inner/Left/Right/Full.)

◇ 12. Unpivot columns (Jan_Sales, Feb_Sales, …)

1. Select the **Month columns**.
2. Go to **Transform → Unpivot Columns**.

👉 M-code:

```
= Table.Unpivot(PreviousStep, {"Jan_Sales","Feb_Sales"}, "Month", "Sales")
```

◇ 13. Handle errors with `try...otherwise`

Example: Division by zero.

```
= Table.AddColumn(PreviousStep, "SafeDivision", each try [Sales]/[Quantity]
otherwise null)
```

◇ 14. Function to clean phone numbers

1. In Power Query → **Home → Advanced Editor → New Blank Query → Function**.

```
(phone as text) as text =>
let
    Cleaned = Text.Select(phone, {"0".."9"})   // keeps only digits
in
    Cleaned
```

◇ 15. Optimize a query with 10+ steps

- **Combine steps**: merge filters and transformations instead of multiple single steps.
- **Remove unnecessary columns early** → reduces memory.
- Use **Reference** instead of **Duplicate** for dependent queries.
- **Disable load** for intermediate queries not needed in the report.
- Push filters down (apply early to reduce rows).