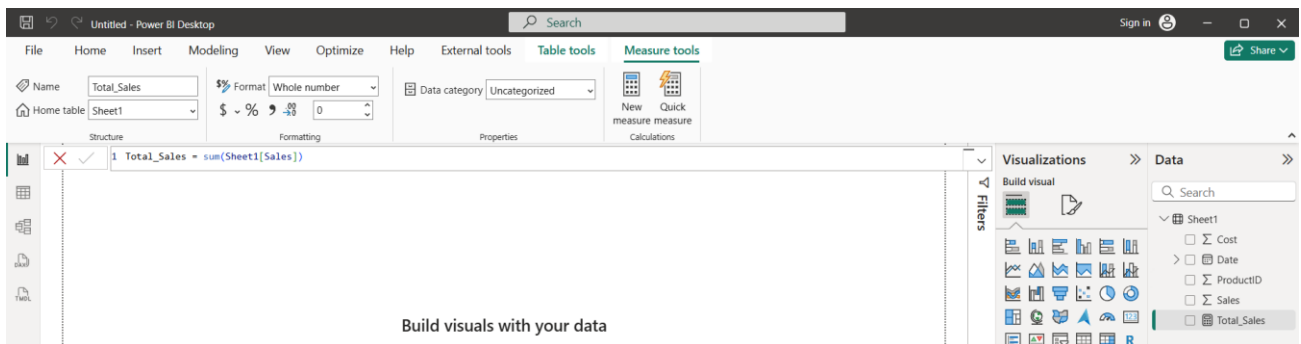


1. What does DAX stand for?

DAX stands for Data Analysis Expressions. DAX is the primary language for creating calculations and performing analysis within Power BI's semantic models. DAX is designed for data analysis and allows users to perform dynamic aggregations and calculations on relational data.

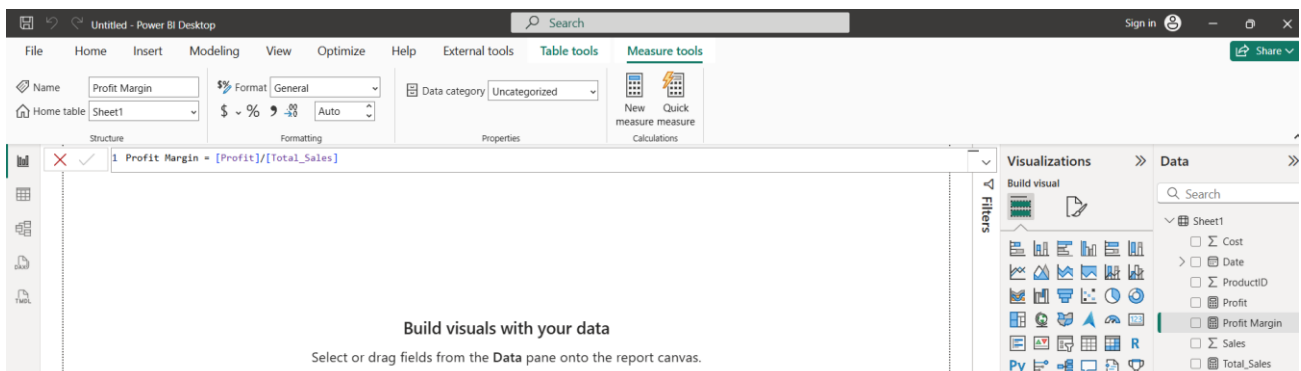
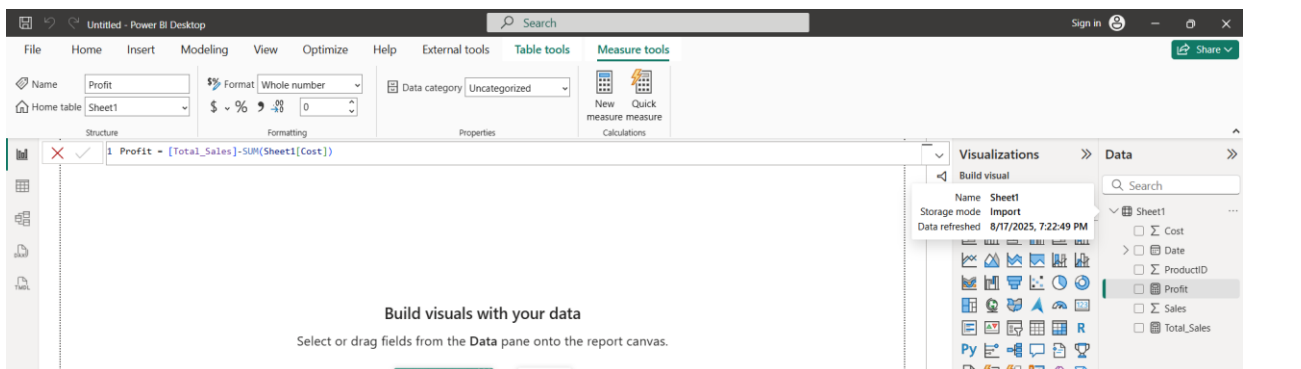
2. Write a DAX formula to sum the Sales column.



3. What is the difference between a calculated column and a measure?

Calculated columns add new data to the table;
Measures calculate results based on the current filter context.

4. Use the DIVIDE function to calculate Profit Margin (Profit/Sales).



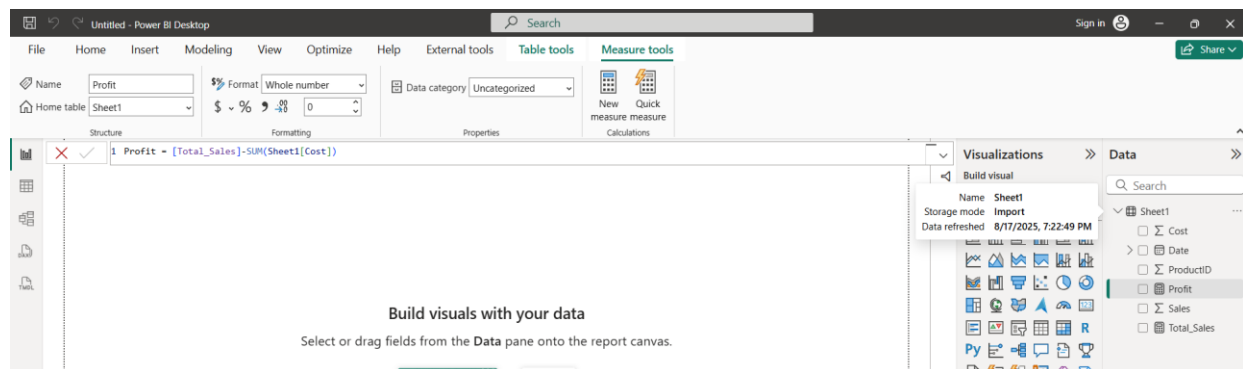
5. What does COUNTROWS() do in DAX?

COUNTROWS() counts the number of rows in a table (or in a filtered table expression).

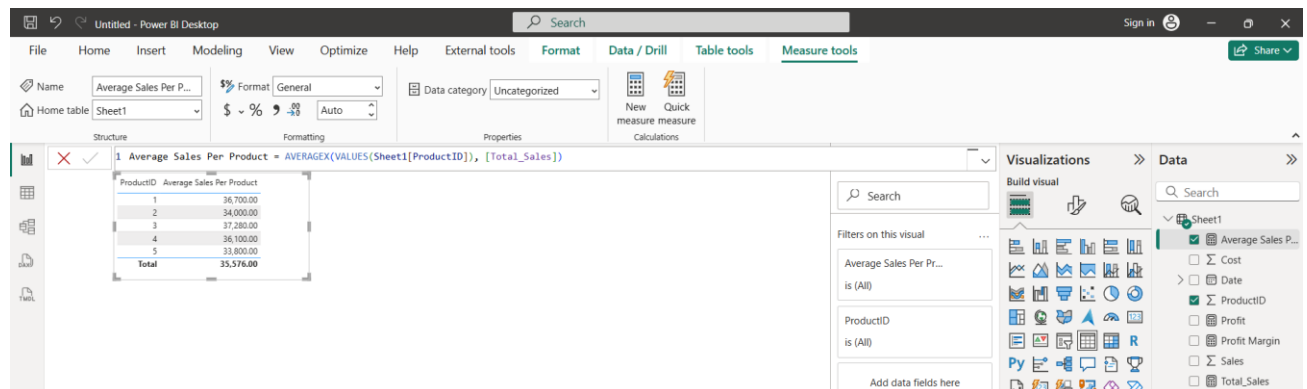
TotalRows = COUNTROWS(Sales) - Count all rows in a table

HighQtyRows =COUNTROWS(FILTER (Sales, Sales[Quantity] > 5) - Returns the number of rows where Quantity > 5.

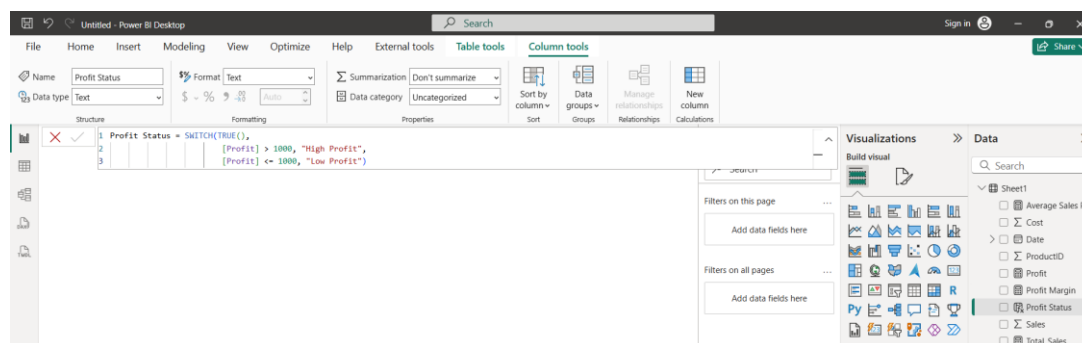
6. Create a measure: Total Profit that subtracts total cost from total sales



7. Write a measure to calculate Average Sales per Product.



8. Use IF() to tag products as "High Profit" if Profit > 1000.



9. What is a circular dependency error in a calculated column?

What is a circular dependency error in a calculated column?

A circular dependency error happens when a calculated column depends on itself, either directly or indirectly.

In other words:

Column A is calculated using Column B,

but Column B (directly or through another calculation) also depends on Column A.

Because both columns rely on each other, Power BI doesn't know which one to calculate first, so it throws a "circular dependency" error.

10. Explain row context vs. filter context.

Row Context

- Happens row by row
- Exists in calculated columns and iterators like SUMX, FILTER, AVERAGEX
- In that context, DAX "knows" the values of all columns in the current row

Filter Context

- Comes from filters, slicers, visual axes, and CALCULATE()
- Limits which rows are included in a calculation
- Used mostly in measures

11. Write a measure to calculate YTD Sales using TOTALYTD().

The screenshot shows the Power BI Desktop interface. The formula bar at the top displays the DAX formula for a calculated column: `Total Sales Mtd = TOTALYTD(SUM(Sheet1[Sales]),Sheet1[Date].[Date])`. Below the formula bar, a table visualization is shown with the following data:

Month	Total Sales	Total Sales Mtd
January	21900	21900
February	20000	20000
March	13000	13000
April	10000	10000
May	12000	12000
Total	76900	76900

Below the table, another table visualization is shown, titled "ProductID Average Sales Per Product":

ProductID	Average Sales Per Product
1	36,700.00
2	34,000.00
3	37,200.00
4	36,100.00
5	33,800.00
Total	33,376.00

The right-hand pane shows the "Visualizations" and "Data" panes. The "Visualizations" pane shows a table visualization. The "Data" pane shows the data model, including the "Date" table with a hierarchy of Year, Quarter, Month, and Day, and the "ProductID" table with a hierarchy of Profit, Profit Margin, Profit Status, and Sales. The "Total Sales Mtd" measure is highlighted in the "Data" pane.

15. Write a measure that returns the highest sales amount

