

1. What is row context?

Row context is the current row being evaluated in a calculated column or iterator function. In a **calculated column**, it processes each row one at a time.

The screenshot shows the Power BI Desktop interface with the 'Table tools' ribbon selected. The 'Column tools' tab is active, displaying the 'TotalPrice' calculated column. The formula bar shows the DAX expression: `TotalPrice = Sales[Quantity] * Sales[UnitPrice]`. The 'Sales' table is displayed with the following data:

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Category	TotalPrice
1	P1	C1	2	100	Electronics	200
2	P2	C2	1	50	Clothing	50
3	P1	C1	3	100	Electronics	300

The 'Data' pane on the right shows the 'Sales' table with the 'TotalPrice' column highlighted. The status bar at the bottom indicates 'Table: Sales (3 rows) Column: TotalPrice (3 distinct values)'.

2. Write a measure that finds total sales:

The screenshot shows the Power BI Desktop interface with the 'Measure tools' ribbon selected. The 'Total Sales' measure is displayed in the 'Visuals' pane. The formula bar shows the DAX expression: `Total Sales = SUMX(Sales, Sales[Quantity] * Sales[UnitPrice])`. The 'Sales' table is displayed with the following data:

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Category	TotalSales
1	P1	C1	2	100	Electronics	200
2	P2	C2	1	50	Clothing	50
3	P1	C1	3	100	Electronics	300

The 'Data' pane on the right shows the 'Sales' table with the 'TotalSales' column highlighted. The status bar at the bottom indicates 'Page 1 of 1'.

3. Use RELATED to fetch the Name from Customers table into Sales table: If Sales[CustomerID] is linked to Customers[CustomerID]:

The screenshot shows the Power BI Desktop interface. The main view is a table with the following data:

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Category	TotalPrice	CustomerName
1	P1	C1	2	100	Electronics	200	Alice
2	P2	C2	1	50	Clothing	50	Bob
3	P1	C1	3	100	Electronics	300	Alice

The formula bar shows the formula for the CustomerName column: `RELATED(Customers[Name])`. The Data pane on the right shows the relationship between the Sales and Customers tables.

4. What does this return?

`CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics")`

It sums the **Quantity** column only for rows where **Category = "Electronics"**.

The screenshot shows the Power BI Desktop interface. The main view is a measure named "Question 4" with the following formula:

```

CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics")

```

The measure returns the value 550.00. The Data pane on the right shows the relationship between the Sales and Customers tables.

5. Difference between VAR and RETURN:

- **VAR:** defines a temporary variable.
- **RETURN:** specifies the final result using those variables.

6. Create a calculated column TotalPrice using row context:

The screenshot shows the Power BI Desktop interface with the 'Column tools' ribbon active. The formula bar displays the DAX formula: `TotalPrice 2 = Sales[Quantity] * Sales[UnitPrice]`. The data table below shows the results of this calculation for three rows of sales data.

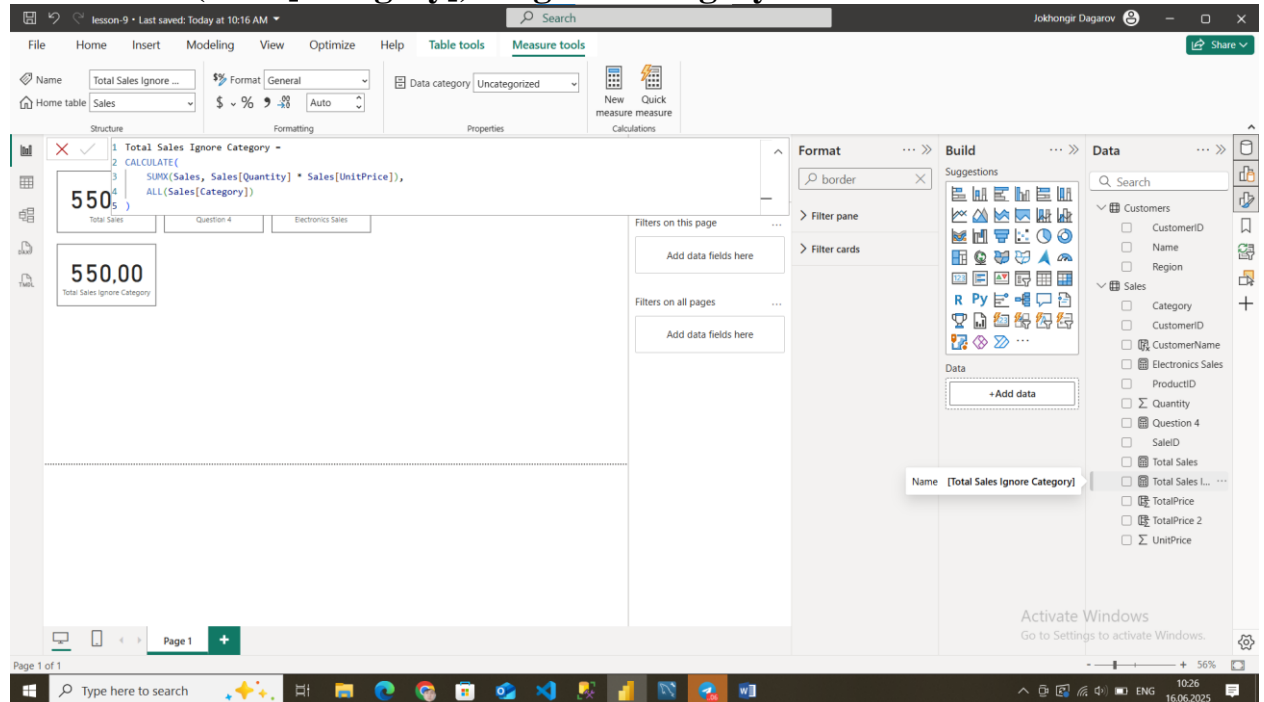
SaleID	ProductID	CustomerID	Quantity	UnitPrice	Category	TotalPrice	CustomerName	TotalPrice 2
1	P1	C1	2	100	Electronics	200	Alice	200
2	P2	C2	1	50	Clothing	50	Bob	50
3	P1	C1	3	100	Electronics	300	Alice	300

The 'Data' pane on the right shows the 'Sales' table with columns: Category, CustomerID, CustomerName, ProductID, Quantity, SaleID, Total Sales, TotalPrice, TotalPrice 2, and UnitPrice. The 'TotalPrice 2' column is highlighted.

7. Measure: Electronics Sales using CALCULATE:

The screenshot shows the Power BI Desktop interface with the 'Measure tools' ribbon active. The formula bar displays the DAX formula: `Electronics Sales = CALCULATE(SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]), Sales[Category] = "Electronics")`. The visual shows three measures: 'Total Sales' (550.00), 'Question 4' (5), and 'Electronics Sales' (500.00). The 'Data' pane on the right shows the 'Sales' table with columns: Category, CustomerID, CustomerName, ProductID, Quantity, SaleID, Total Sales, TotalPrice, TotalPrice 2, and UnitPrice. The 'Electronics Sales' measure is highlighted.

8. Use ALL(Sales[Category]) to ignore category filters:



9. Fix this error:

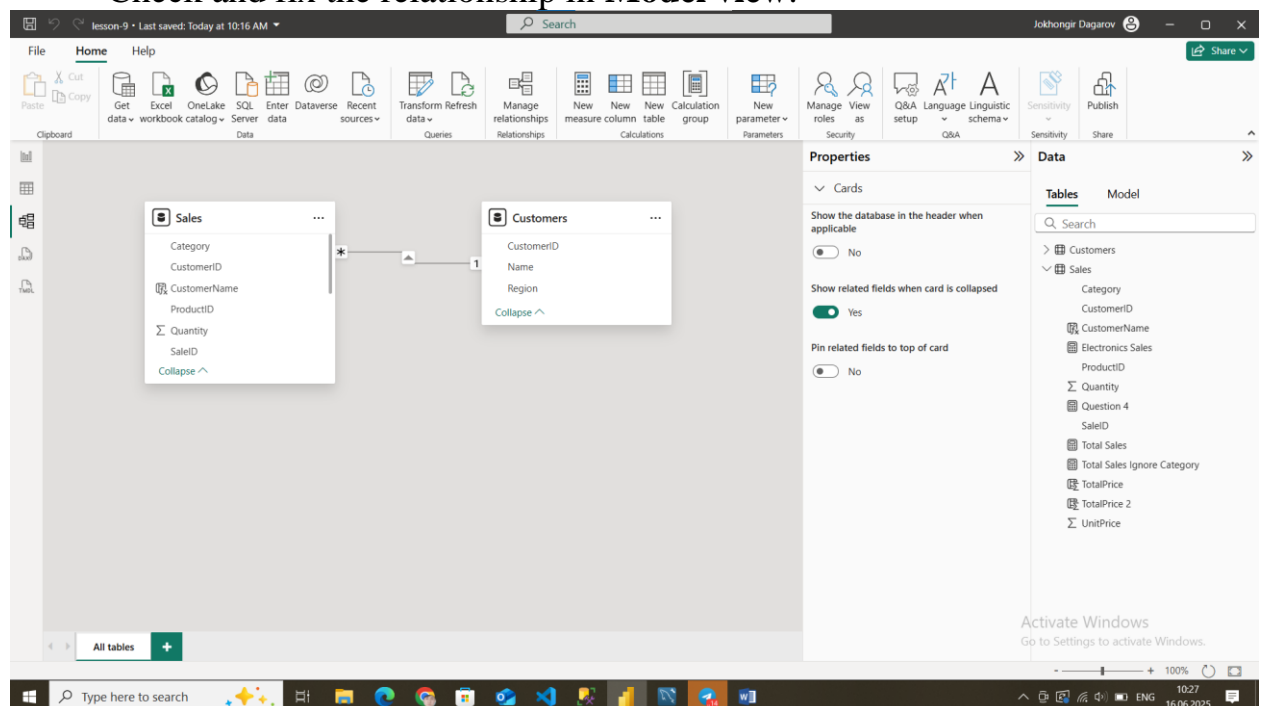
Error: A calculated column using RELATED (Customers [Region]) returns blanks.

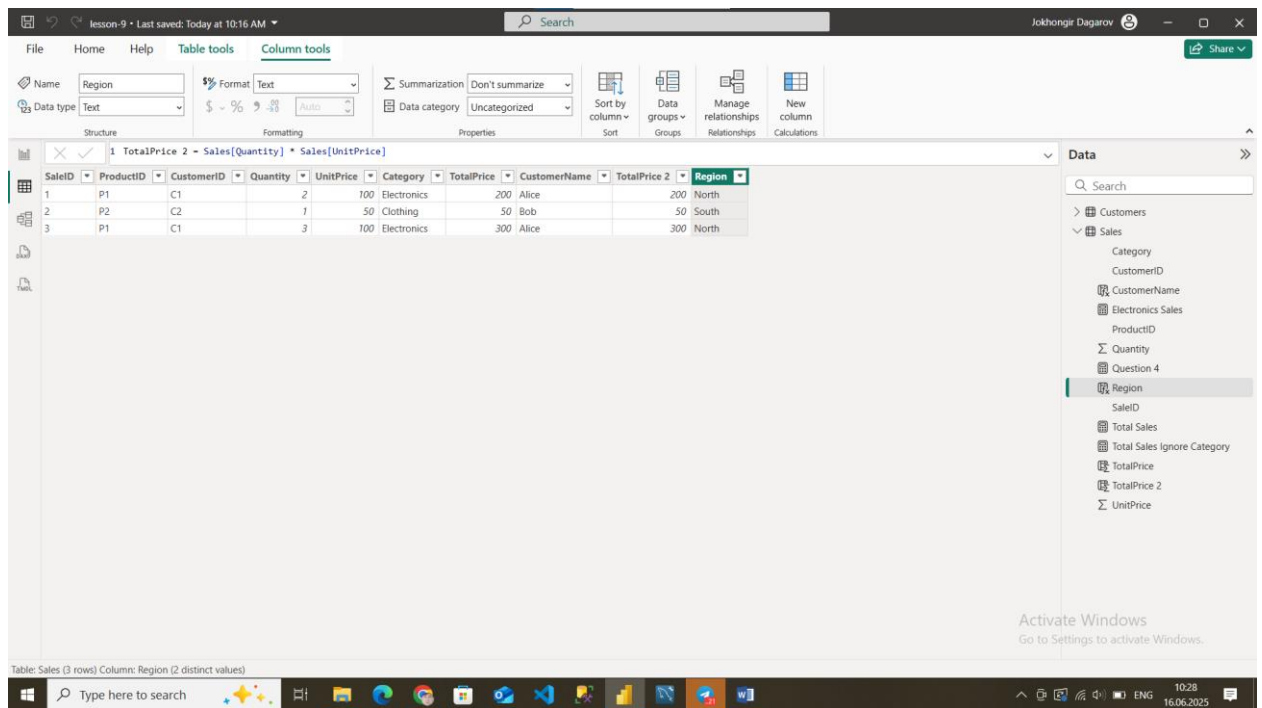
Cause: Either:

- There's no relationship between **Sales[CustomerID]** and **Customers[CustomerID]**
- Or the related record is missing in **Customers**.

Solution:

- Check and fix the relationship in **Model view**.



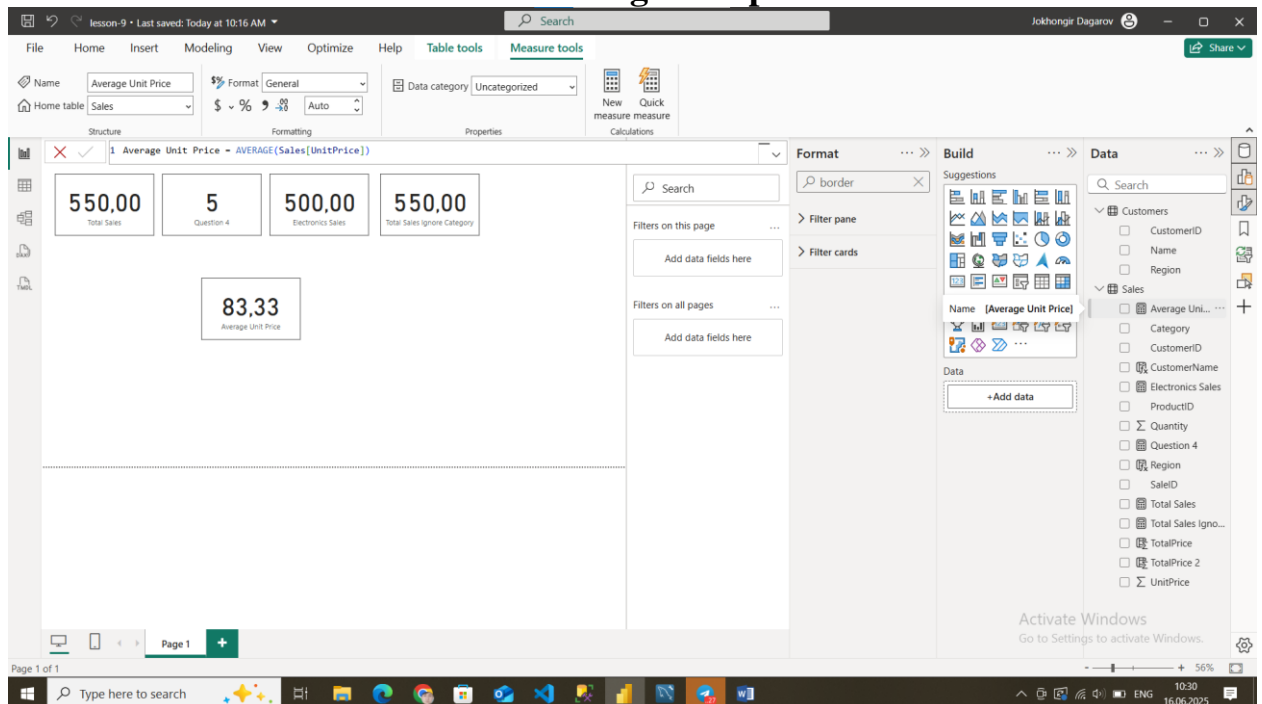


10. Why does CALCULATE override existing filters?

CALCULATE modifies the filter context by:

- Adding new filters.
- Or replacing existing ones — because it creates a new filter context for the expression inside it.

11. Write a measure that returns average unit price:



12. Use VAR to store a temporary table of high-quantity sales (Quantity > 2), then count rows:

The screenshot shows the Power BI Desktop interface with the 'Measure tools' tab selected. The 'Name' field is set to 'High Quantity Sales...' and the 'Format' is 'Whole number'. The 'Data category' is 'Uncategorized'. The measure formula is as follows:

```
1 High Quantity Sales Count =  
2 VAR HighSales =  
3   FILTER(Sales, Sales[Quantity] > 2)  
4 RETURN  
5   COUNTROWS(HighSales)
```

The visual shows a card for 'Total Sales' with a value of 550 and a card for 'High Quantity Sales Count' with a value of 1. The 'Data' pane on the right shows the 'Sales' table with columns like CustomerID, Name, Region, ProductID, Quantity, and UnitPrice. The 'Filters on this page' pane is empty.

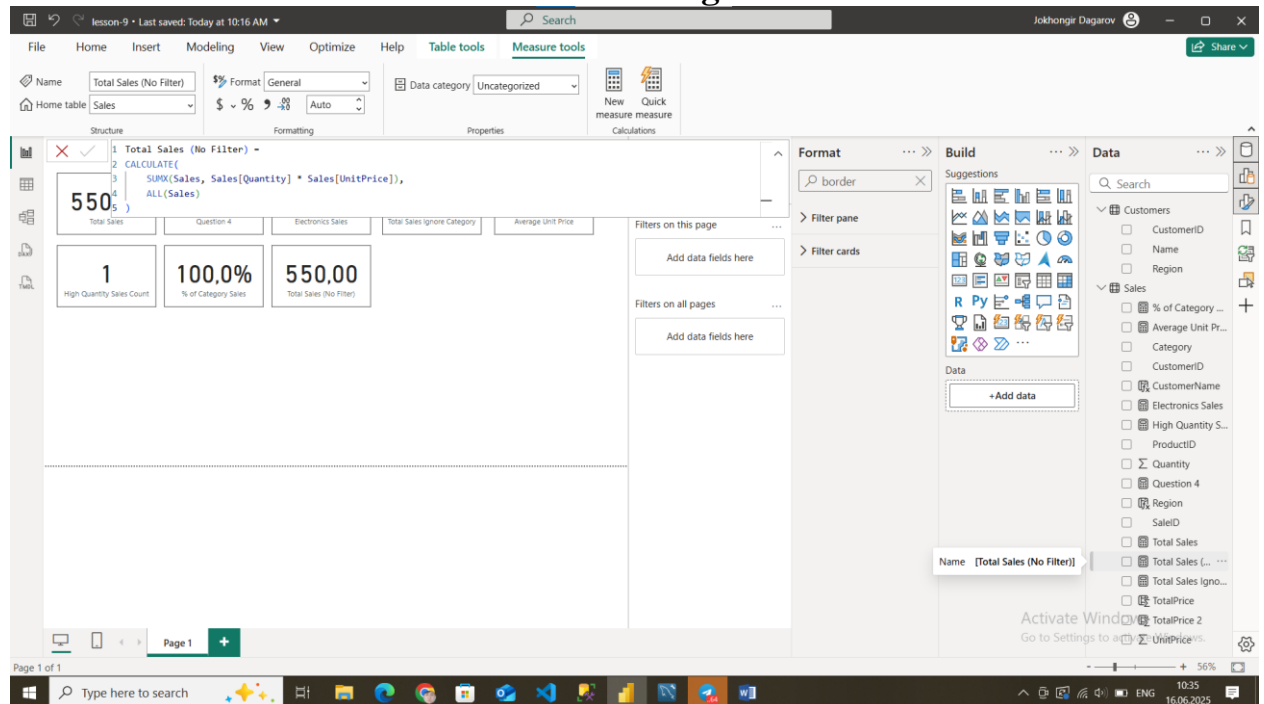
13. Measure: % of Category Sales (each sale's contribution to category total)

The screenshot shows the Power BI Desktop interface with the 'Measure tools' tab selected. The 'Name' field is set to '% of Category Sales' and the 'Format' is 'Percentage'. The 'Data category' is 'Uncategorized'. The measure formula is as follows:

```
1 % of Category Sales =  
2 DIVIDE(  
3   SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]),  
4   CALCULATE(  
5     SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]),  
6     ALLEXCEPT(Sales, Sales[Category])  
7   )  
8 )
```

The visual shows a card for 'Total Sales' with a value of 550 and a card for '% of Category Sales' with a value of 100.0%. The 'Data' pane on the right shows the 'Sales' table with columns like CustomerID, Name, Region, ProductID, Quantity, and UnitPrice. The 'Filters on this page' pane is empty.

14. Simulate a "remove filters" button using ALL:



15. Troubleshoot: CALCULATE measure ignores slicer

Likely cause:

- The measure might be using `ALL()` or `REMOVEFILTERS()` on the slicer's field, nullifying its effect.

Fix:

Check for `ALL()` on the field and remove or adjust as needed.