

1. What is row context? Give an example in a calculated column.
2. Write a measure that finds total sales

The screenshot shows the Power BI Desktop interface with the 'Measure tools' ribbon active. A calculated column named 'Total Sales' is being created using the formula `SUM(Sales[Amount])`. The data table has columns: SaleID, ProductID, CustomerID, Quantity, UnitPrice, and Amount. The 'Amount' column contains values: 2000, 1500, 480, 3150, and 400. The 'Total Sales' column is calculated as the sum of the 'Amount' column.

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Total Sales
1001	1	101	2	1000	2000	2000
1002	2	102	1	1500	1500	1500
1003	3	103	4	120	480	480
1004	1	102	3	1050	3150	3150
1005	4	101	2	200	400	400

Table: Sales (5 rows) Column: Total Sales (0 distinct values)

3. Use RELATED to fetch the Name from the Customers table into the Sales table.

The screenshot shows the Power BI Desktop interface with the 'Column tools' ribbon active. A calculated column named 'Customer Name' is being created using the formula `RELATED(Customers[CustomerName])`. The data table has columns: SaleID, ProductID, CustomerID, Quantity, UnitPrice, Amount, and Customer Name. The 'Customer Name' column contains values: Alisher, John, Sara, John, and Alisher.

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name
1001	1	101	2	1000	2000	Alisher
1002	2	102	1	1500	1500	John
1003	3	103	4	120	480	Sara
1004	1	102	3	1050	3150	John
1005	4	101	2	200	400	Alisher

Table: Sales (5 rows) Column: Customer Name (3 distinct values)

4. What does `CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics")` return?

File Home Help Table tools Measure tools

Name: Electronics_count Format: Whole number Data category: Uncategorized

Home table: Sales

Structure: 1 Electronics_count = CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics")

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category
1001	1	101	2	1000	2000	Alisher	Electronics
1002	2	102	1	1500	1500	John	Electronics
1003	3	103	4	120	480	Sara	Furniture
1004	1	102	3	1050	3150	John	Electronics
1005	4	101	2	200	400	Alisher	Electronics

Table: Sales (5 rows) Column: Electronics_count (0 distinct values)

It has created a measure that counts the quantity of the product in Electronics type

5. Explain the difference between VAR and RETURN in DAX.

VAR is creating a variable inside DAX. It creates a variable, **RETURNS** is for returning the value as a result

6. Create a calculated column in Sales called TotalPrice using row context (Quantity * UnitPrice).

File Home Help Table tools Column tools

Name: Total_Price Format: Whole number Summarization: Sum Data category: Uncategorized

Structure: 1 Total_Price = Sales[Quantity]*[UnitPrice]

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total_Price
1001	1	101	2	1000	2000	Alisher	Electronics	2000
1002	2	102	1	1500	1500	John	Electronics	1500
1003	3	103	4	120	480	Sara	Furniture	480
1004	1	102	3	1050	3150	John	Electronics	3150
1005	4	101	2	200	400	Alisher	Electronics	400

Table: Sales (5 rows) Column: Total_Price (5 distinct values)

7. Write a measure Electronics Sales using CALCULATE to sum sales only for the "Electronics" category.

The screenshot shows the Microsoft Power BI Desktop interface. The 'Measure tools' tab is active. The formula bar contains the following DAX measure:

```
1 Electronics_Sales = CALCULATE(  
2     SUM(Sales[Amount]),  
3     Sales[Category] = "Electronics"  
4 )
```

The data table below shows the results of the measure:

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total_Price
1001	1	101	2	1000	2000	Alisher	Electronics	2000
1002	2	102	1	1500	1500	John	Electronics	1500
1003	3	103	4	120	480	Sara	Furniture	480
1004	1	102	3	1050	3150	John	Electronics	3150
1005	4	101	2	200	400	Alisher	Electronics	400

Table: Sales (5 rows) Column: Electronics_Sales (0 distinct values)

8. Use ALL(Sales[Category]) in a measure to show total sales ignoring category filters.

File Home Insert Modeling View Optimize Help Table tools Measure tools

Name: all_total_sales Format: Whole number Data category: Uncategorized

Home table: Sales

Structure: 1 all_total_sales = CALCULATE(SUM(Sales[Amount]), ALL(Sales[Category]))

Build visuals with your data
Select or drag fields from the Data pane onto the report canvas.

Visualizations: Build visual, Filters on this page, Filters on all pages

Data: Customers, Products, Sales, all_total_sales, Amount, Category, Customer Name, CustomerID, Electronics_count, Electronics_Sales, ProductID, Quantity, SaleID, Total Sales, Total_Price, UnitPrice

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all_total_sales: 8K

Category: Electronics, Furniture

Filters: Category is (All)

Visualizations: Build visual, Filters on this visual, Filters on this page, Filters on all pages

Data: Customers, Products, Sales, all_total_sales, Amount, Category, Customer Name, CustomerID, Electronics_count, Electronics_Sales, ProductID, Quantity, SaleID, Total Sales, Total_Price, UnitPrice

9. Fix this error: A calculated column in Sales uses RELATED(Customers[Region]) but returns blanks.

1 Region = RELATED(Customers[Region])

The column 'Customers[Region]' either doesn't exist or doesn't have a relationship to any table available in the current context.

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total_Price	Region
1001	1	101	2	1000	2000	Alisher	Electronics	2000	#ERROR
1002	2	102	1	1500	1500	John	Electronics	1500	#ERROR
1003	3	103	4	120	480	Sara	Furniture	480	#ERROR
1004	1	102	3	1050	3150	John	Electronics	3150	#ERROR
1005	4	101	2	200	400	Alisher	Electronics	400	#ERROR

Data: Customers, Products, Sales, all_total_sales, Amount, Category, Customer Name, CustomerID, Electronics_count, Electronics_Sales, ProductID, Quantity, SaleID, Total Sales, Total_Price, UnitPrice, Region

We don't have Region column in customers table, so it is giving error. But if there is the column, returning blank can occur when there is no an active relationship between customers and sales tables

10. Why does CALCULATE override existing filters?

Calculate overrides filters, it gives us control to use our calculation/filter to the ones that filters are already applied, in order to make changes

11. Write a measure that returns average unitprice of products

1 Avg_Unitprice = AVERAGE(Sales[UnitPrice])

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total_Price	Region
1001	1	101	2	1000	2000	Alisher	Electronics	2000	
1002	2	102	1	1500	1500	John	Electronics	1500	
1003	3	103	4	120	480	Sara	Furniture	480	
1004	1	102	3	1050	3150	John	Electronics	3150	
1005	4	101	2	200	400	Alisher	Electronics	400	

Data

- Search
- Customers
- Products
- Sales
 - all_total_sales
 - Amount
 - Avg_Unitprice
 - Category
 - Customer Name
 - CustomerID
 - Electronics_count
 - Electronics_Sales
 - ProductID
 - Quantity
 - Region
 - SaleID
 - Total Sales
 - Total_Price
 - UnitPrice

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

1 High_quantity_sales_count =
2 VAR High_sales = FILTER(Sales, Sales[Quantity] > 2)
3 RETURN COUNTROWS(High_sales)

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total_Price	Region
1001	1	101	2	1000	2000	Alisher	Electronics	2000	
1002	2	102	1	1500	1500	John	Electronics	1500	
1003	3	103	4	120	480	Sara	Furniture	480	
1004	1	102	3	1050	3150	John	Electronics	3150	
1005	4	101	2	200	400	Alisher	Electronics	400	

Data

- Search
- Customers
- Products
- Sales
 - all_total_sales
 - Amount
 - Avg_Unitprice
 - Category
 - Customer Name
 - CustomerID
 - Electronics_count
 - Electronics_Sales
 - High_quantity_sales_count
 - ProductID
 - Quantity
 - Region
 - SaleID
 - Total Sales
 - Total_Price
 - UnitPrice

13. Write a measure % of Category Sales that shows each sale's contribution to its category total.

1 Category Sales Percentage = `DIVIDE(SUM(Sales[Amount]), CALCULATE(SUM(Sales[Amount]), ALL(Sales), VALUES(Sales[Category])))`

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total Price	Category Sales Percentage
1001	1	101	2	1000	2000	Alisher	Electronics	2000	100.00%
1002	2	102	1	1500	1500	John	Electronics	1500	100.00%
1003	3	103	4	120	480	Sara	Furniture	480	100.00%
1004	1	102	3	1050	3150	John	Electronics	3150	100.00%
1005	4	101	2	200	400	Alisher	Electronics	400	100.00%

Data

- Search
- Customers
- Products
- Sales
 - all_Total_Sales
 - Amount
 - Avg_UnitPrice
 - Category
 - Category Sales Percentage
 - Customer Name
 - CustomerID
 - Electronics_count
 - Electronics_Sales
 - High_quantity_sales_count
 - ProductID
 - Quantity
 - SaleID
 - Total Sales
 - Total_Price
 - UnitPrice

14. Simulate a "remove filters" button using ALL in a measure.

1 Remove Filters = `CALCULATE(SUM(Sales[Amount]), ALL(Sales))`

SaleID	ProductID	CustomerID	Quantity	UnitPrice	Amount	Customer Name	Category	Total Price
1001	1	101	2	1000	2000	Alisher	Electronics	2000
1002	2	102	1	1500	1500	John	Electronics	1500
1003	3	103	4	120	480	Sara	Furniture	480
1004	1	102	3	1050	3150	John	Electronics	3150
1005	4	101	2	200	400	Alisher	Electronics	400

Data

- Search
- Customers
- Products
- Sales
 - all_Total_Sales
 - Amount
 - Avg_UnitPrice
 - Category
 - Category Sales Percentage
 - Customer Name
 - CustomerID
 - Electronics_count
 - Electronics_Sales
 - High_quantity_sales_count
 - ProductID
 - Quantity
 - Remove Filters
 - SaleID
 - Total Sales
 - Total_Price
 - UnitPrice

Table: Sales (5 rows) Columns: Remove Filters (if selected) (value)

15. Troubleshoot: A CALCULATE measure ignores a slicer. What's the likely cause?

One of the likely causes is the use of ALL() inside CALCULATE(), because ALL() ignores the filters and slicers too.