



LISBON
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DAX

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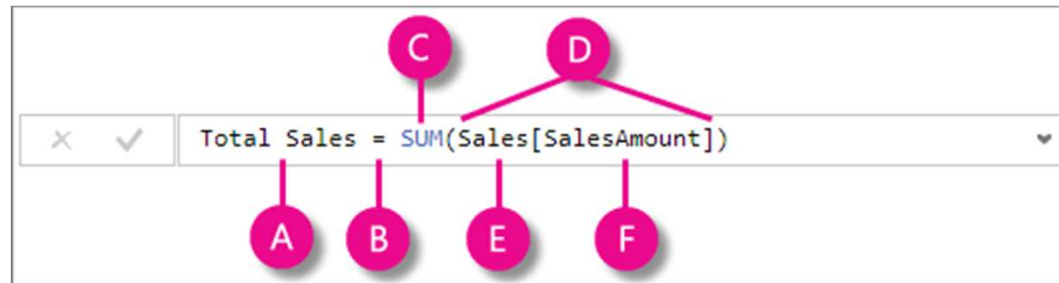


DAX

- **Data Analysis Expressions**
- DAX is a collection of functions that can be used to perform a task and return one or more values.
- DAX solves several basic calculation and data analysis problems.
- DAX is only a formula or a query language.
- DAX was developed in 2009 by Microsoft to be used with Microsoft's PowerPivot, which at that time was available as an Excel (2010) add-in.
- It is now the language of choice for Power BI

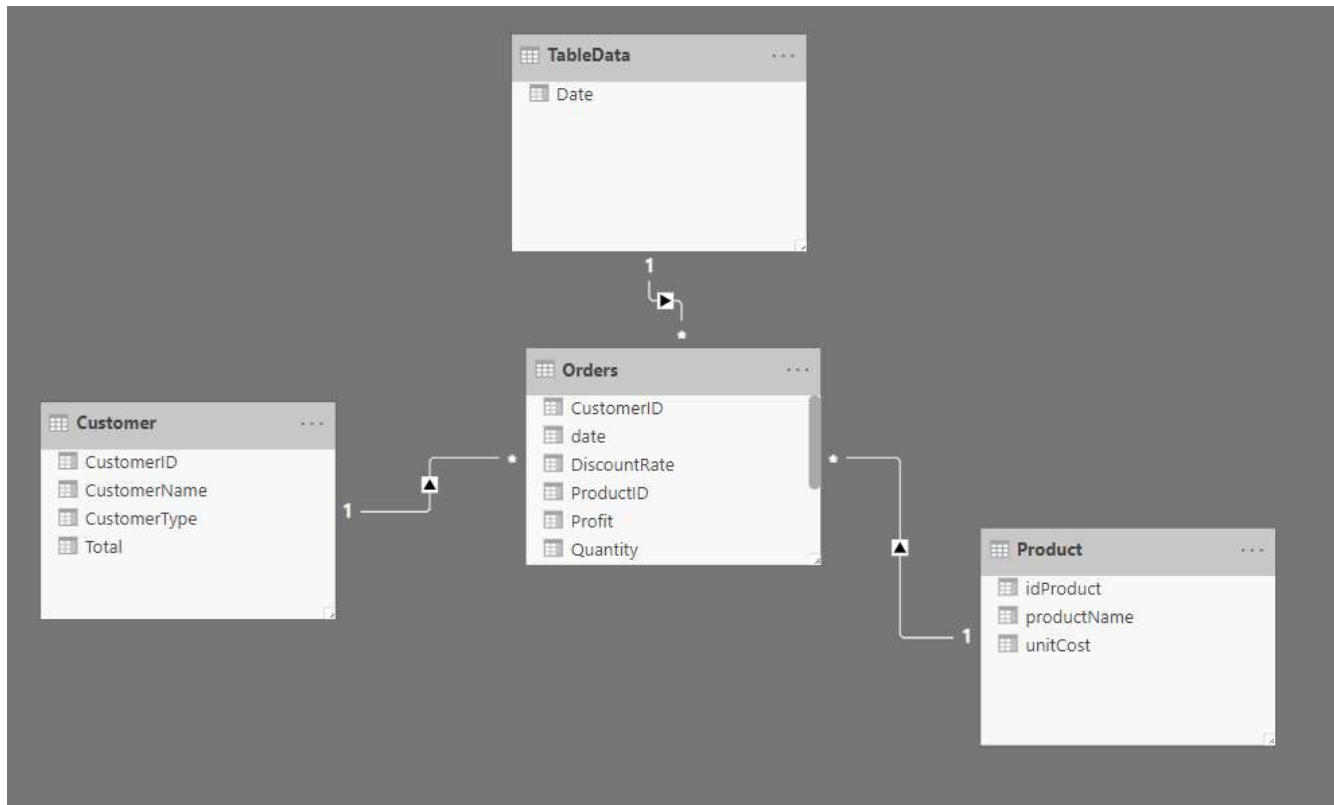


Syntax



- A – Measure name Total Sales
- B – operator
- C – Function
- D – Parenthesis containing one or more arguments
- E – Reference to table
- F – Reference to Column

Example MagicThing



New Column

- New Column Unit Cost:
- `UnitCosts = LOOKUPVALUE('Product'[unitCost];
Product'[idProduct];
Sales[idProduct])`



New Column

- New Column for SalesValue:

$\text{SalesValue} = \text{Order}[\text{SalesPrice}] * \text{Order}[\text{quantity}]$



Create New Table

- Create a new table for Date

```
Date = CALENDAR (DATE(2018;1;1); DATE(2020;12;31))
```

- or:

```
Date =  
  ADDCOLUMNS (  
    CALENDAR (DATE(2000;1;1); DATE(2025;12;31));  
    "Year"; YEAR ( [Date] )  
  )
```



Create New Table

- Create new table called BackMagicStore Including all orders corresponding to Black Magic (p3).

BlackMagicStore=FILTER(Orders,Orders[ProductID] = "p3")



Create Column for Customer type

- create a column with total

```
Total =SUMX(FILTER(Orders;  
Orders[CustomerID]=Customer[CustomerID]);  
[Quantity]*[SalesPrice])
```

- Create a column with total:

```
CustomerType = VAR TotalSales=Customer[Total]  
RETURN  
IF(TotalSales>100000;"Gold";"Silver")
```



Sources

- <https://docs.microsoft.com/pt-pt/power-bi/desktop-quickstart-learn-dax-basics>

