

Methods to create DAX measures

DAX FUNCTIONS IN POWER BI



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Implicit vs explicit measures

Implicit

- Automatically created by Power BI
- Comes directly from the Database
- E.g.: If we drag `Sales` to values of a table, Power BI will automatically sum it
- Using a dropdown menu we can define the aggregation: sum, average, count, ...

Explicit

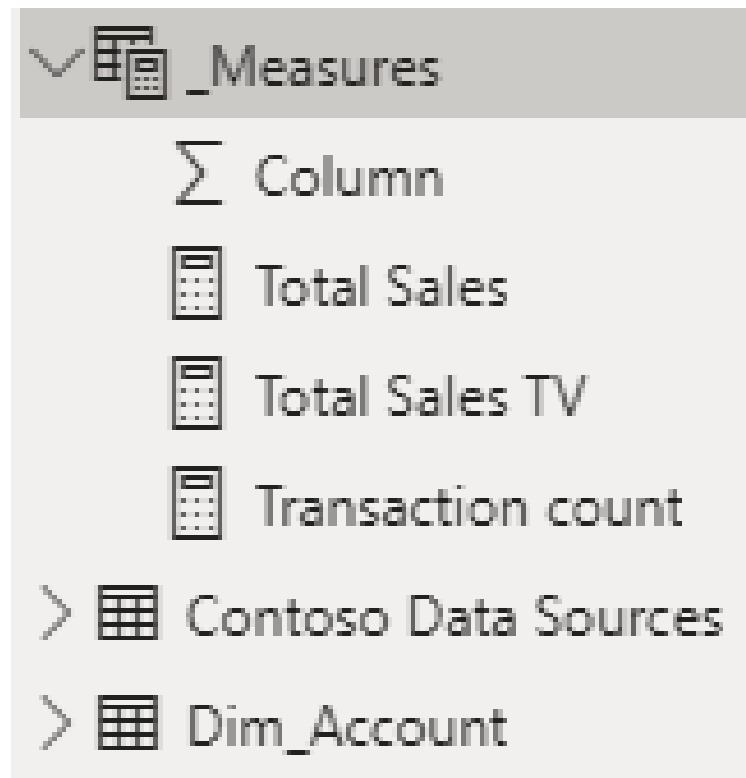
- Writing measures in an explicit way
- E.g.: `Total Sales = SUM(Orders[Sales])`
- Offer flexibility

Why explicit measures are preferred

- Reduces confusion of what a measure is or does
 - `Total Sales = SUM(Orders[Sales])`
 - `Total Sales` is more clear than `Sales` (SUM, AVG, MIN, ... ?)
- Reusable within other measures
 - `Total Sales East = CALCULATE([Total Sales], Orders[Region] = 'East')`
- Can be given a custom name to explain its functionality
- Makes maintenance of complex models more sustainable

Best practices

- **Keep DAX measures grouped together:**
 - Measures are free to move to any table
 - This is in contrast with calculated columns, which belong to a specific table



- **Format and comment with DAX:**
 - Use indentations to increase understanding
 - Shift Enter to start a new line
 - Tab to indent
 - Add comments after a //

Use variables to improve your formulas

- Stores the result of an expression as a named variable
- Can be used as an argument to other measure expressions
- Four main advantages:
 - Improve performance
 - Improve readability
 - Simplify debugging
 - Reduce complexity

Syntax:

- `VAR <name> = <expression>`
 - Name = The name of the variable
 - A DAX expression which returns a scalar or table value
 - Followed by a `RETURN` statement

Use variables to improve your formulas - example

- Calculate the sales from last year and store it as a variable

```
VAR  
SALESPRIORYEAR = CALCULATE([SALES],SAMEPERIODLASTYEAR('DATE'))  
RETURN
```

- Use the variable in a formula

```
Sales growth = [Sales] - SALESPRIORYEAR
```

Use variables to improve your formulas - example

- All together it would look like this:

```
Sales growth =  
  
VAR  
    SALESPRIORYEAR = CALCULATE([SALES],SAMEPERIODLASTYEAR('DATE'))  
RETURN  
  
Sales growth = [Sales] - SALESPRIORYEAR
```

Let's practice!

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DAX and Measures

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