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

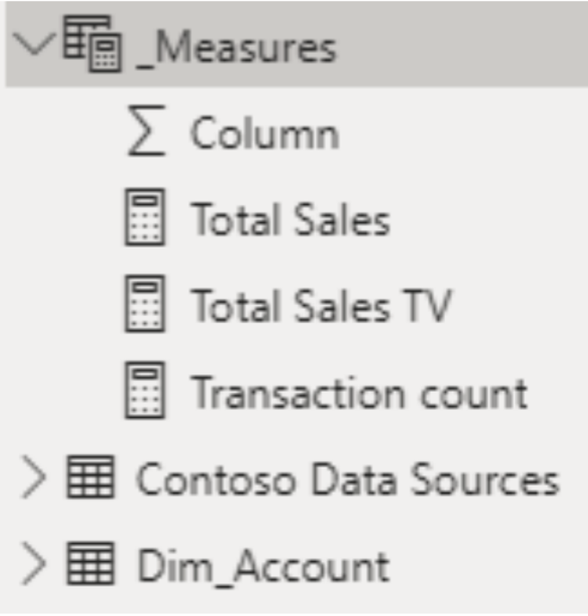
- Writing measures in an explicit way
- E.g.: `Total Sales = SUM(Orders[Sales])`
- Offer flexibility

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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