Context in DAX formulas

INTRODUCTION TO DAX IN POWER BI

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Introduction to Context

- Enables dynamic analysis where results of a formula change to reflect the selected data
- There are 3 types of context: row, filter and query

Introduction to Row Context

- "The current row"

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Calculated Column

- Includes values from all columns within the current row

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Item	Price	Tax	Price_with_tax
A	$ 20	25%	**$25**
B	$ 45	0%	**$45**
C	$ 100	15%	**$115**

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Measures

- Can apply when using iterator functions which compute calculations row by row
- Iterator functions can be identified by an `X` after the function name i.e `SUMX()`
- Syntax: `SUMX(<table>, <expression>)`

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Item	Price	Tax	Price_w_tax
A	$ 20	25%	**$25**
B	$ 45	0%	**$45**
Total	-	-	**$ 70**

- Example: `SUMX(Sales, Sales[Price] + (Sales[Price] * Sales[Tax]))`

Introduction to Filter Context

Filter context is a set of filters that have been applied before the calculation is carried out.

Filter context can be applied in several ways:

- Attributes in a row/column
- Via a slicer
- Through the filter pane
- In a calculated measure

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Example:

Color	Quantity
Blue	1,250
Green	200
Black	4,000

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Example:

	Socks	Shoes	T-shirt
Blue	200	800	250
Green	90	10	100
Black	2,000	800	1,200

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Example:

	Socks
Blue	200

Calculate Function

- Syntax: `CALCULATE(<expression>[, <filter1> [, <filter2> [, …]]])`
  - Expression: a measure or calculation to be evaluated. Must return a single value.
  - Filters:
    - Filters need to evaluate as a table
    - Filters should not clash with one another
      - `Sales[City]="London"` , `Sales[Country] <> "United Kingdom"`
    - `CALCULATE()` filters will always override filters from the visualization
- Example: `CALCULATE(SUM(Sales), Sales[Region]="EMEA")`

Let's practice!

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Creating DAX measures

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