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

# Introduction to Row Context

- "The current row"

**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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- Syntax: `SUMX(<table>, <expression>)`

| 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

# Introduction to Filter Context

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

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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