**DAX**

Data Analysis Expressions

SQL is a declarative language where DAX is a purely functional language.

DAX stands for Data Analysis Expressions, it is language developed by Microsoft to interact with data in a variety of their platforms like Power BI, PowerPivot and SSAS tabular models. It is designed to be simple and easy to learn while exposing the power and flexibility of tabular models. In a way, you could compare it with Excel formulas on steroids. Using DAX will truly unleash the capabilities of Power BI.

To see a dax formate is correct, we can visit : www.daxformatter.com

**Computer cloumns:**

1.They are computer on data refresh time. Computed columns are used for add a better view to our table.

2. They are stored in the model. They would use your spaces like ram space , disk space. So , for large data we need to consider this point.

Product[price] means-

i)values for the price column from

ii)Product table

iii) for the current row

iv)different for each row

Example :

\*Sales[unit price]\*sales[quantity]

\*Year(today())- year(customer[birthdate])

Here year function will subtract the year from the date.

\*IF(ISBLANK(customer[dob]), BLANK, Year(today())- year(customer[birthdate]))

**Measures:**

They do not work row by rows, instead they use as a table and aggregated functions.

They do not have current rows concept.

Measures are very useful to work with when there is no row by row calculation. And it is very useful as it uses the CPU memory. So , for a huge number of columns, measures are useful.

Measures are as written : [measureName]

**Measure Vs Calculated Columns**

|  |  |
| --- | --- |
| Calculate column | Measure |
| Use it when Need to slice or filter on a value.  Stored in the model . Use disk space, ram space | Use it when calculate percentage , calculate ration, complex aggregated fuctions.  Doesn’t stored in the model. Use CPU space |

**Aggregated Functions:**

These functions helps to aggregate

* SUM()
* AVERAGE()
* MIN()
* MAX()

Only works on numerical values and don’t work on multiple columns. Only on one column.

Like: sum(sales[amount])

Sum(sales[amount] \* sales[quantity]) [wrong]

**X aggregator or Iterator :**

this aggregator scans a table and aggregate row by row and compute an expression for every row.

* SUMX()
* AVERAGEX()
* MINX()
* MAXX()

SUMX( Sales,

Sales[amount] \* sales[quantity]

)

**Variable :**

Basically , its like given a name to a expression. It will evaluated once ,then it will use the values.

If , we don’t call it, it will never evaluate.

VAR TotalQunatity = sum(sales[quantity])

Another exam :

(this expression will be written in the Margin % measure)

VAR Margin = sum(sales[margin line])

VAR SalesAmount = sumx(Sales, sales[line amount]\*sales[quantity])

RETURN Margin/SalesAmount

Useful links: <https://intelalytics.com/free-training-resources>

https://powerbidocs.com/power-bi-dax-functions/