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| , RD Dep.  **POWER BI** |
| DAX Basics |

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# Creating simple DAX Expressions

## Calculated column

1. Open the report created in Lab work 01-03.
2. Switch to Data View. In DimDate table create Calculated Column “Year Month Label” using FORMAT function like this:

A screenshot of a computer

Description automatically generated with medium confidence

1. Now let’s switch to Report view, add one more page to the report and add a line graph that displays Sales by Date.  
   If we use OrderDate from FactInternetSales – the date hierarchy will be added to X-axis and the chart will look like this:  
   Chart, line chart

   Description automatically generated

This approach is only recommended if the chart is aimed to be used with the hierarchy and the user is supposed to switch between different hierarchy levels.

1. If you just need to show data by month, it is better to prepare a special column with month-year label (as we did in step #2) and use it for X-axis.
2. Let’s also reduce the number of values by adding a filter by Year. Drag the 'Calendar Year' field from the 'DimDate' table into the Filters in this Visual panel and set the filter to show years from and including 2013.

Graphical user interface, chart

Description automatically generated

1. As you can see the Months are going in the alphabetic order instead of historical order. Find a way to sort the X-axis in the correct order.

## Measure

1. Let’s create a very simple measure. In the report view click on the Measure icon. In the formula bar type the following expression:  
     
   Today Date = TODAY()
2. After you click Enter the measure will appear in one of the tables (either the first one of the one that was selected before you clicked the button):  
   Graphical user interface, application

   Description automatically generated
3. Now let’s display the date in the report. Add a Card visualization and add the Today Date measure to the fields list:

A picture containing text, font, white, design

Description automatically generated

1. We can work a bit on the appearance of the card, but the date format is not the best one. Select the measure in the fields list and change the date format to a shorter one:  
   Graphical user interface, text, application

   Description automatically generated
2. Now we can put the today’s date as a footer in the report - just resize the card and move to the bottom right corner of your report:  
   Chart, line chart

   Description automatically generated
3. Now create DAX measure [Order Quantity] to calculate the amount of OrderQuantity from 'FactInternetSales'.
4. To understand the results better, create a simple table visualization with a date column and keep adding all the measures created. You should get this:

Table

Description automatically generated

1. Add one more measure: recalculate Order Quantity cumulative over the years using functions CALCULATE and DATESYTD.
2. After you add this measure to the table, you’ll see that is summarizes Order Quantity from the beginning of the year till the row date. When the new year starts, the calculation starts all over again.

# Create lab report

On the new page added during the lab work create a report with the following view:

1. Add ONE line chart the displays both Order Quantity YTD line and Order Quantity YTD for Previous Year. Create measures for these calculations using DAX.
2. Add the same chart for Sales Amount.
3. On top of the report display current username and current date in the format:  
   *Welcome, [Current User]  
   Current Date is: [Current Date]*
4. Add a table that shows Year-Month label that was created during lab work, Product Name, Color, Order Quantity and % of total Order quantity by Year Month Label and Color (see the screenshot below).

Table

Description automatically generated

1. Create a DAX measure and use it in a chart that always shows Sales Amount for maximum OrderDate available. In Word file, explain why you chose this method of displaying information.
2. Create a DAX measure that shows the country with the highest sales in all years and display the result with a visual. In Word file, explain why you chose this method of displaying information.
3. Use DAX to calculate the ranks of ProductCategory by Sales Amount. In Word file, explain why you chose this particular way to get the result.

Create lab report and .commit to gitlab the below artifacts:

1. Word document with screenshots and progress description
2. PBIX file with the resulting report.