DAX and Measures Lab

Resources: https://github.com/fenago/cts245X/tree/main/dax

Part 1: Using variables

- Open the Power BI File `2_1_variables.pbix`.
- Navigate to the `Calculations YoY` table in the *Report* view and investigate both `Sales` and the `Sales YoY % old` formula.

  - Create a new measure within the `Calculations YoY` table and name it `Sales YoY % New`.
  - Rewrite the Formula of `Sales YoY % old` using a variable and name it `SalesPriorYear`.
  - Your function should look like the one below, fill in the blanks.

```
Sales YoY % New =
VAR SalesPriorYear = CALCULATE([Sales],____(____))
RETURN
DIVIDE ((____ - ____), ____)
```

Format `Sales YoY % New` as a percentage.

- Create a *Line and stacked column chart* to overlay the `Sales YoY % New` on top of `Sales`. Feel free to create a new page if you don't have space to create another graph.
- Use `Sales` as the columns and `Sales YoY % New` as the line, and `Delivery Date Key` to visualize the sales over time.
- Drill down to "Month" so you can investigate the sales per month for the different years.

What was the YoY growth of May 2016, the last month in the dataset? (Answer format: X.XX%)

Part 2: Basic statistical measures

Create a new table to store the measures. Name the table `Calculations`.

- Create a measure `Number of Invoices` to count the **distinct** amount of invoices in the `Calculations` table.
- You can count invoices by using the `WWI Invoice ID`.
- Display the measure with a thousands separator.

- Create a second measure `Average Retail Price` to calculate the average retail price.
- Make sure to use the average of `Retail Price` from the `Fact Sales` table.

- Create a new page in the Report Pane and name it `Retail Price Analysis`.
- Create a table visualization with `Sales Territory` and the two new measures you created: `Number of Invoices` and `Average Retail Price`.

Which Region has the lowest average retail price?

- ○ Plains
- ○ External
- ○ Southwest

Part 3: Quick measures

Calculate the Year-over-year change in `Average Retail Price`:

- Right click the `Calculations YoY` table and select *New Quick Measure*.
- Select "Year-over-year change" from the calculations dropdown menu.
- Use `Average Retail Price` and `Delivery date key` to construct your calculated field.

As a reminder, you can enlarge the window by clicking on the full-screen button in the bottom right corner. Additionally, you can zoom out to change the resolution. **This will ensure the pop-up windows, such as the quick measure window, aren't cut off.**

- Inspect the formula.
- This function uses a `DATEADD()` function instead of `SAMEPERIODLASTYEAR()` function we used to calculate YoY% growth.
- Sometimes there are multiple means to the same end!

Create a *Clustered column* chart to visualize the newly created field over time.

In which year did World Wide Importers have the greatest YoY increase in average retail price?

- ○ 2014
- ○ 2015
- ○ 2016