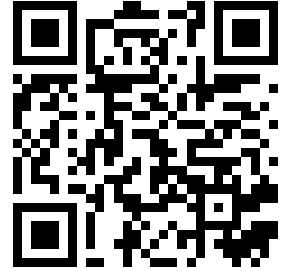


Exercise: Data Modeling and Visualizations for Q1 Sales

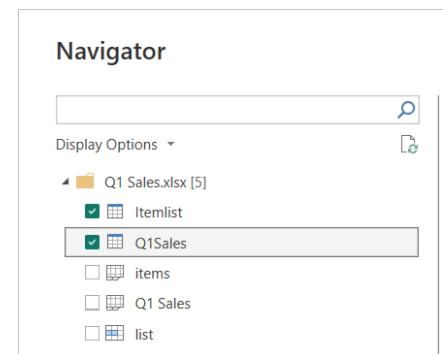
[download the data](#)



You are employed as a data analyst with the Retail Department. You have assembled important sales information which you would like all your department staff to be aware of. The data is currently in an Excel file [Q1 Sales], but you feel that it would be easier for the staff to read and assimilate in the form of a Power BI report. You will need to create a Power BI report which focuses on an analysis of the sales data broken down by branch and product line.

Setup Instructions

1. In Power BI Desktop, choose Get Data from excel workbook.
2. select the two tables from the file. Make sure you select the tables(Q1sales and Itemlist) object not the sheets object.
3. Click load
4. Make sure date is formatted as date



DAX

- 1- Create a calculated column to find the **total** using unit price and Quantity column in Q1sales Query, name it total
- 2- Create a calculated column to find **profit** , subtract COGs from **total**
- 3- **Optional**: create a DAX table using calendarauto, name the table as calendar.

PowerQuery

- 4- Create a column using **PowerQuery** that displays **week of the year** , keep the default name.
- 5- Create a column using **PowerQuery** that displays **the name of the day**.
- 6- delete the column time

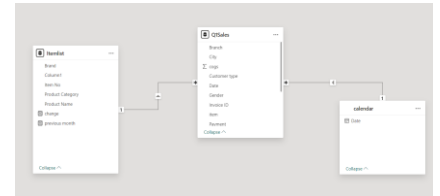
Task #1: Formatting

Use the formatting choices in the Column Tools ribbon to make these formatting changes:

1. Format the numbers in the 'Quantity' column with a comma separator.
2. Format the numbers in the 'Unit price' column with a comma separator.
3. Add the \$ currency symbol to the 'Total' column , with no decimal places.

Task #2: Data Modeling

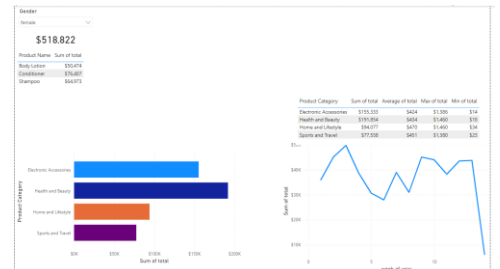
1. Create a 1:M relationship between the Q1sales table and the Itemlist table based on Item no from item list and item from Q1sales.
2. **Optional:** Create a 1:m relationship using date from calendar table and date in Q1Sales



Task #3: [report page : gender]

Create a visualization to show the difference in buying behavior by gender.

1. Add a slicer to filter the data by gender. Place it top left
2. Add a card visual to display the total. Place it under the slicer
3. Create a bar chart that displays the total sales for each product category. Hide the chart title. Place it bottom left
4. Create a line chart to show the trend of total sales over weeks. Place it bottom right next to the bar chart
5. Add a table that lists the top 3 products by total. Hide the total from table. Place it under the total card
6. Add a table with product category and sum of total , average of total , maximum of total and minimum of total, place it top right above the line chart.



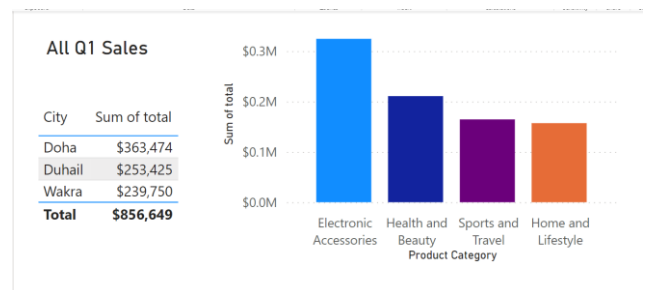
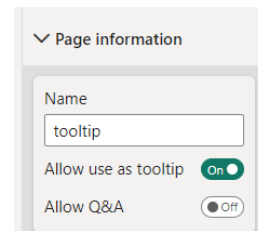
Task #4: create a new report page [variance]

1. create a table that displays total sales for each month , **previous months sales and change**
2. Create a line chart to show the trend of total sales over months. Place it bottom right next to the table
3. create a pie chart to show the total by gender , place it above the table
4. create a slicer by city , and a slicer by branch . place them top left. Make both of them as dropdown
5. use variable DAX that reads the following “you are viewing data from [city name] related to [branch name]” if no city selected it read Qatar , and if no branch selected it should read all branches
6. add column chart that display total by branch



Task #5: create a new page report [tooltip]

1. enable allow use as tooltip option in page options
2. create a table with two columns city and total
3. create a column chart product category and total
4. add a card with month name if one month is selected using DAX measure otherwise daily all q1 sales.
5. adjust the page size
6. assign the tooltip to the line chart in variance page



Task #6: Adding Borders and Formatting

Add borders around each visualization and space them in a balanced way on the page.

Feel free to do some formatting for the visualizations.

Task #7: Save

Save the file as sales report.

DAX reference

```
1 read = |
2 var selectedcity = IF(HASONEVALUE(Q1Sales[City]), VALUES(Q1Sales[City]),"Qatar")
3 var selectedbranch = IF(HASONEVALUE(Q1Sales[Branch]),VALUES(Q1Sales[Branch])," all branches")
4 RETURN
5 "you are viewing data from " & selectedcity & " related to " & selectedbranch
```

```
1 selected month = IF(HASONEVALUE('calendar'[Date].[Month]),VALUES
('calendar'[Date].[Month]),"All Q1 Sales")
```

```
1 previous month = CALCULATE(SUM(Q1Sales[total]),
DATEADD('calendar'[Date].[Date],-1,MONTH))
```