

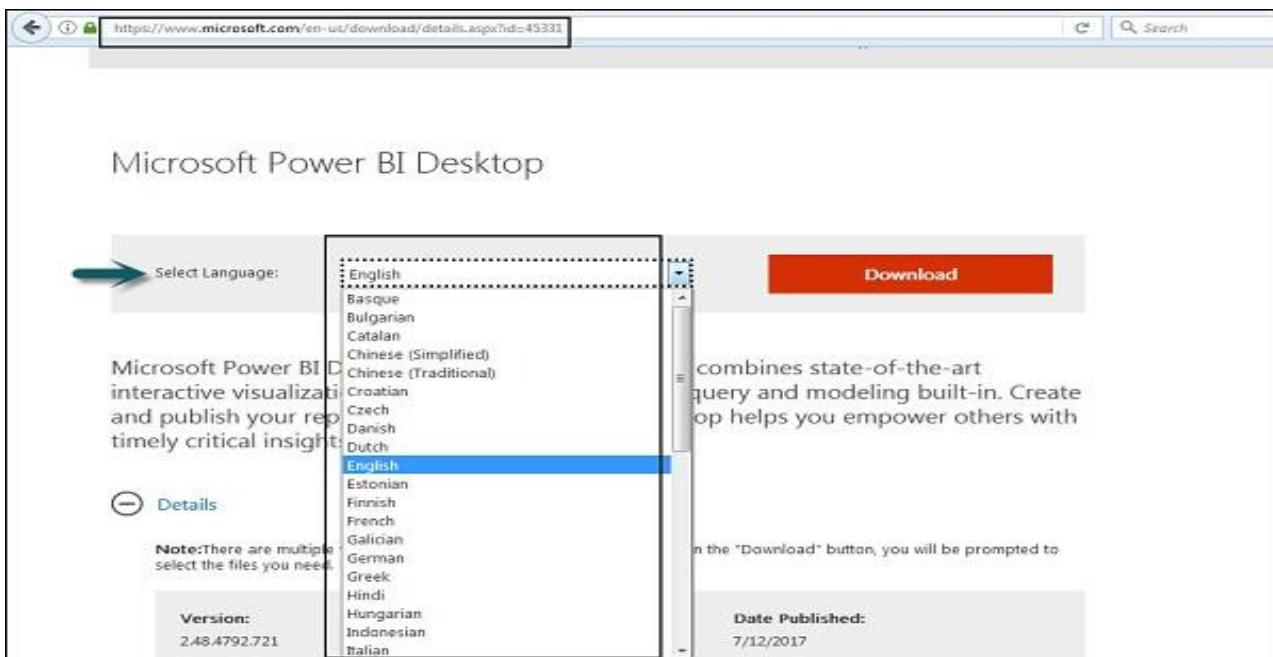
Experiment Number: 01

Aim:

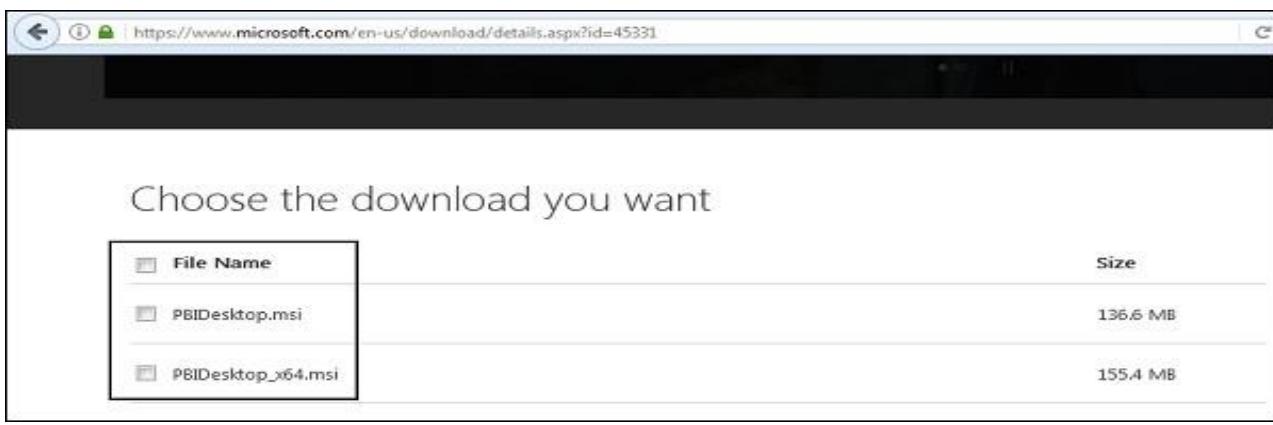
Installation and overview in power BI Desktop.

Procedure:

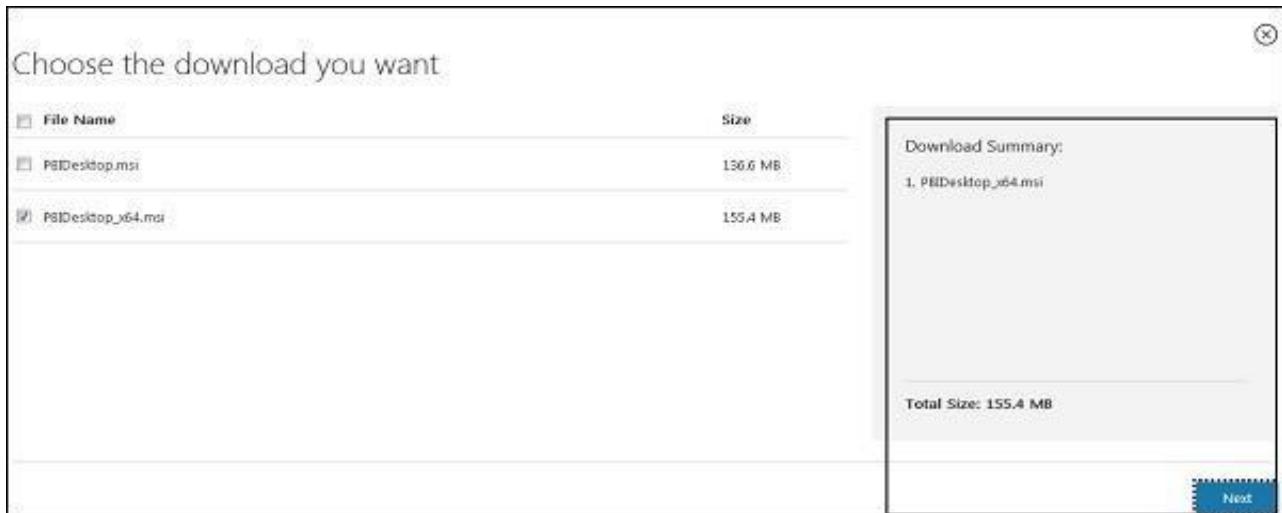
- Users can select a language in which they want to install Power BI and following files are available for download.



- This is the link to directly download Power BI files –
- <https://www.microsoft.com/en-us/download/details.aspx?id=45331>



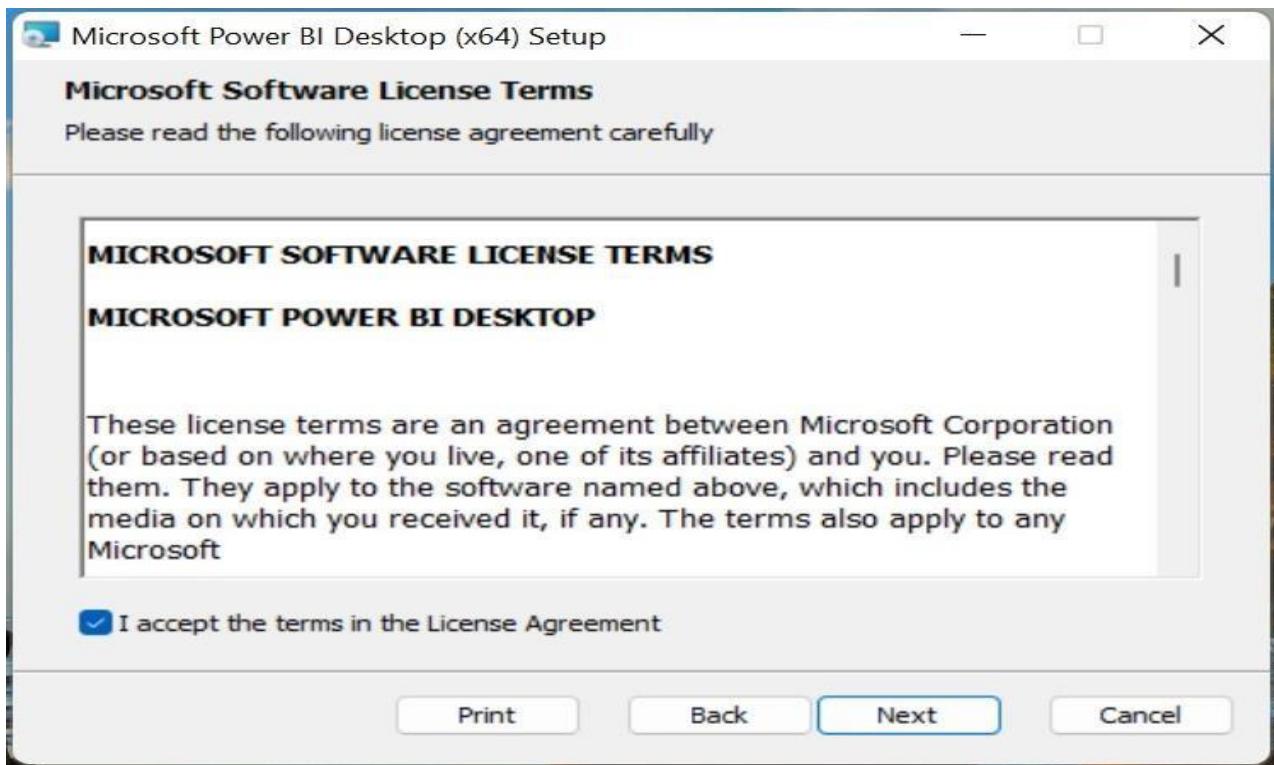
- PBIDesktop_x64.msi shows a 64-bit OS file. Select the file you want to install as per OS type and click Next. Save the installation file on the local drive.



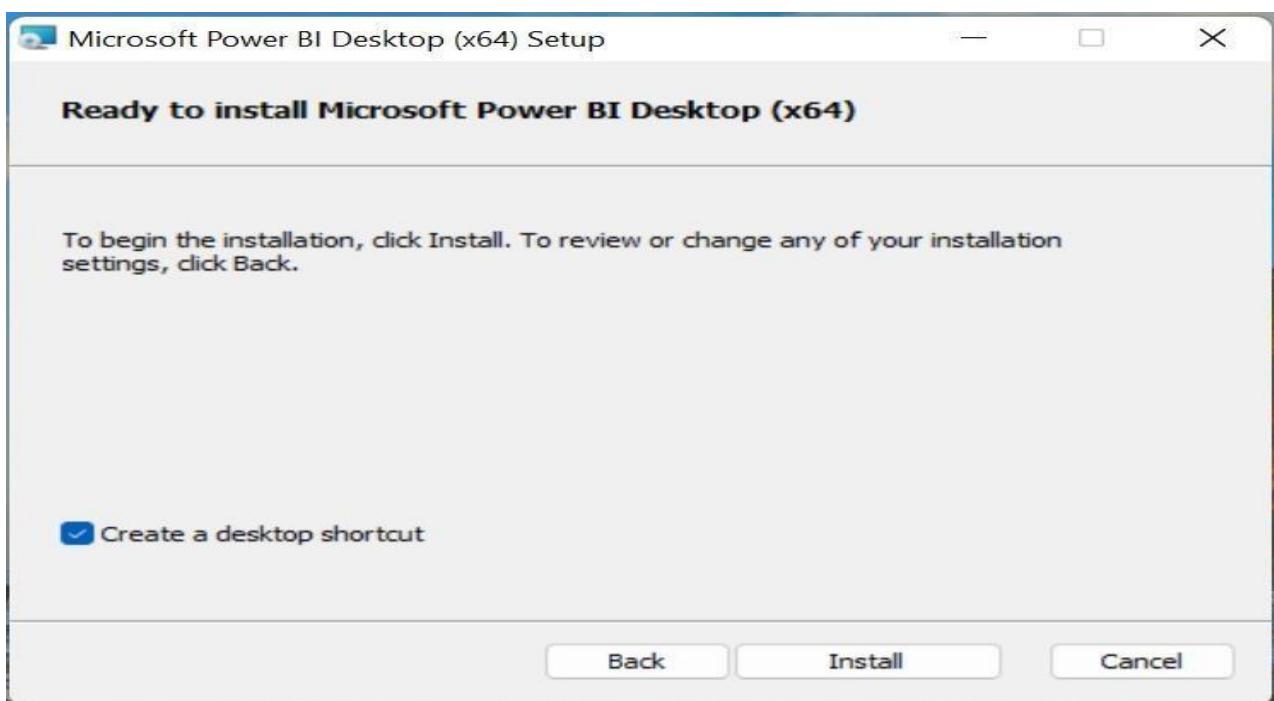
- When you run the installation file, following screen is displayed.



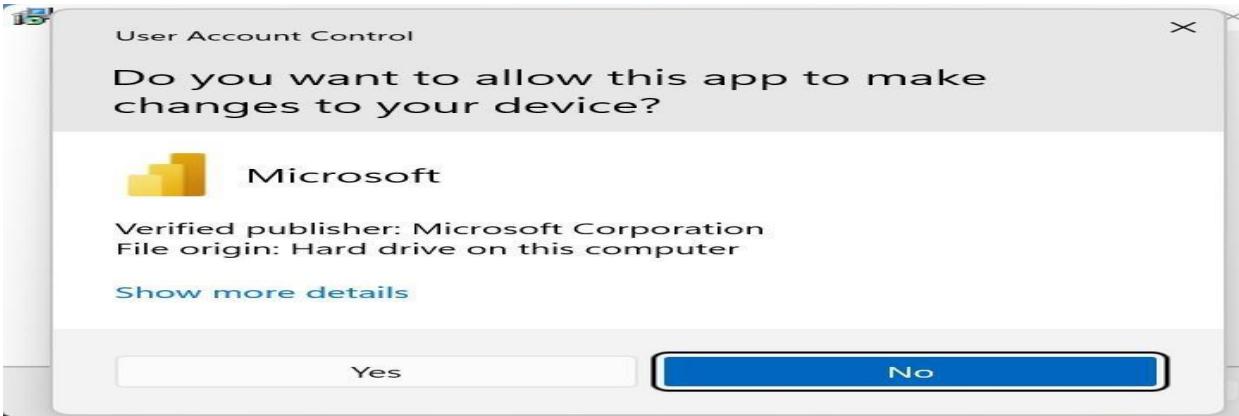
- Click on Next to continue the process of installing the software.



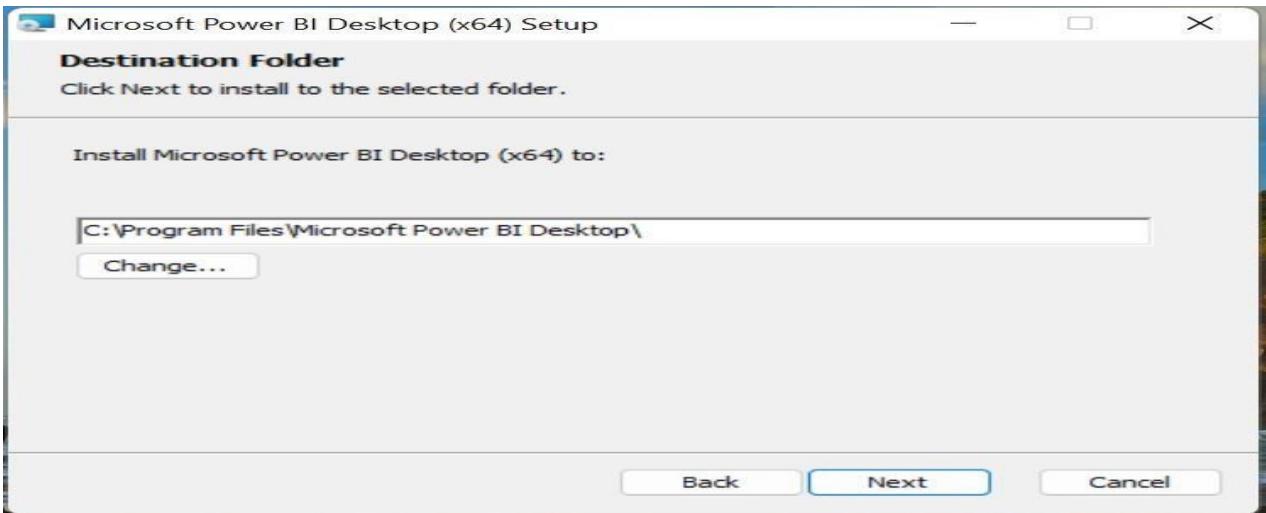
- Accept the License agreement and click on Next.



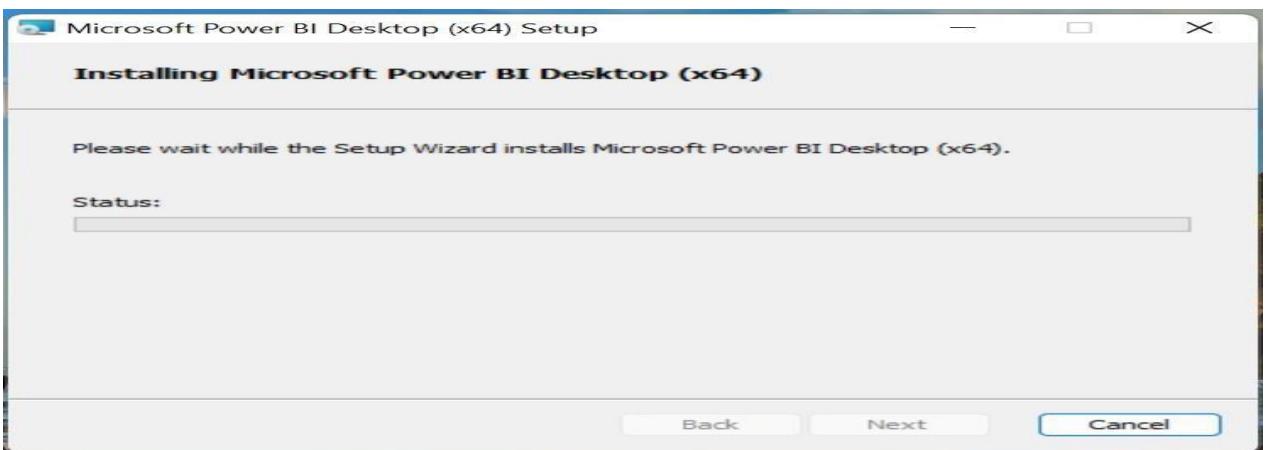
- Check the box for creating the desktop shortcut for easy access and then click install.

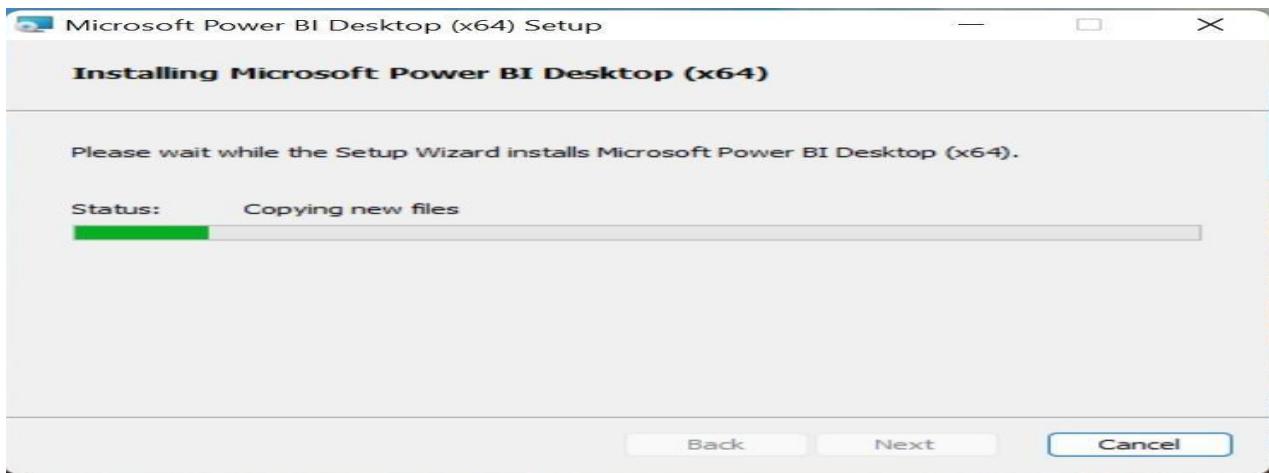


- Click on Yes to allow app to change in your device and choose the path where to install.

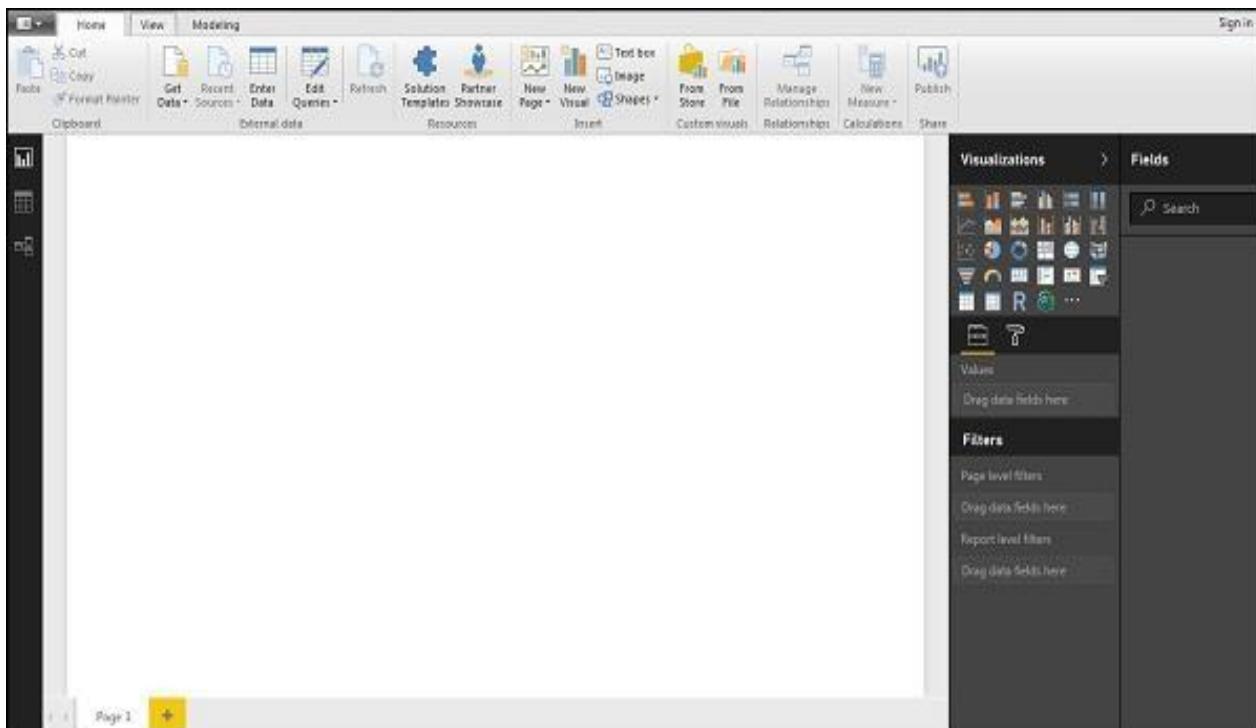


- Follow the status bar until the installation.





- When Power BI is installed, it launches a welcome screen. This screen is used to launch different options related to get data, enrich the existing data models, create reports as well as publish and share reports.



Experiment Number: 02

Aim:

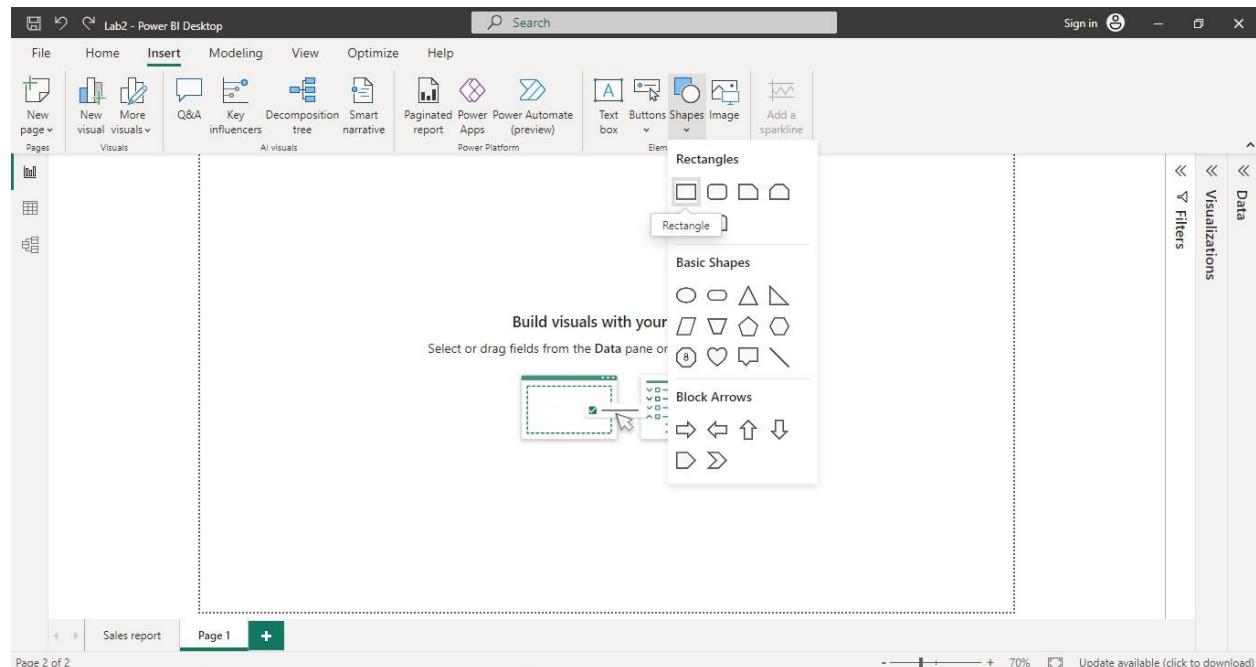
Import the data from different sources such as (Excel, SqlServer, Oracle etc.) and load in the target system.

Procedure:

1. Importing the Dataset:

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import your sample dataset into Power BI.

2. Insert Rectangle Shape:



- Click on "Format tab" on right side and perform changes on visual.
- Shape > Style > #E66C37
- Shape > Text >Text = "Sales report" , Font Size = 46, Horizontal Alignment = "Center".

Output:

Sales report

3. Add Card with Current Date:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the context menu. This will open the formula bar at the top.
- In the formula bar, enter the following DAX formula to create a measure that calculates the current date:
CurrentDate = Now()
- Press Enter to apply the formula.
- Visualization >Format Visual > General > Effects > Background Color : #E6E6E6
- Visualization > Format Visual >Visual > Category Label > Font Size = 12

Output:



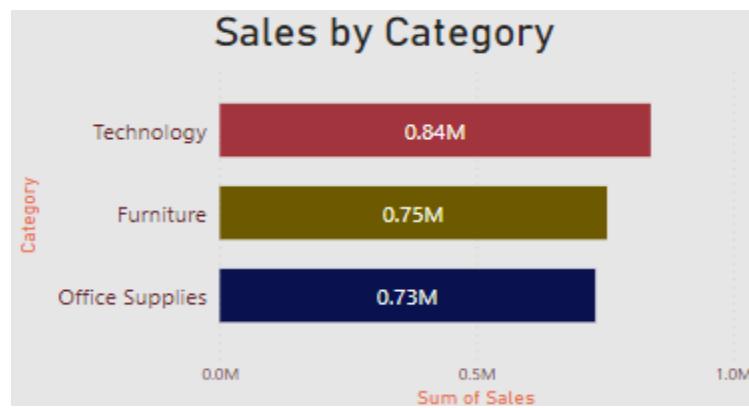
7/12/2023 11:23:00 AM

Time

4. Create Stacked Bar Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”Category”
- Visualizations >Build Visuals >Fields > X-Axis =”Sales”
- Visualizations >Format Visuals> Y-axis> Values >Color = #6B2328
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #E66C37
- Visualizations >Format Visuals> Y-axis> Values >Color = #6B2328
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #E66C37
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Bar> Technology > Color = #A1343C
- Visualizations >Format Visuals> Bar> Furniture > Color = #6D5A00
- Visualizations >Format Visuals> Bar> Office Supplies> Color = #09124F
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 18
- Visualizations >Format Visuals> Title> Text =”Sale by Category”
- Visualizations >Format Visuals> Title> Font Size =25
- Visualizations >Format Visuals> Effects> Background Color = #E6E6E6

Output:



5. Create a Card to display Sum of Sales:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Drag "Sales" to "Fields".
- Visualization >Format Visual > General > Effects > Background Color : #E6E6E6
- Visualization > Format Visual >Visual > Category Label > Font Size = 24

Output:

Sum of Sales
2,326,534

6. Create a Card to display Total Orders:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Drag "OrderID" to "Fields" and change it to count orders.
- Visualization >Format Visual > General > Effects > Background Color : #E6E6E6
- Visualization > Format Visual >Visual > Category Label > Font Size = 24

Output:

Total Orders
5,111

7. Create a Card to display Total Orders:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Drag “Profit” to “Fields”.
- Visualization >Format Visual > General > Effects > Background Color : #E6E6E6
- Visualization > Format Visual >Visual > Category Label > Font Size = 24

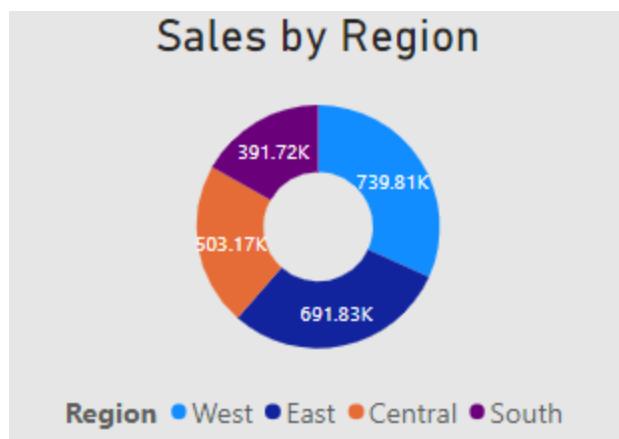
Output:



8. Create Donut Chart:

- Drag “Regions” to Legend , “Sum of Sales” to Values.
- Visualizations > Build Visual > Legend > option =”Bottom Center”
- Visualizations > Build Visual > Legend > Text>Font =12
- Visualizations > Build Visual > Detail Labels >Position =”Center”
- Visualization >Format Visual > General > Effects > Background Color : #E6E6E6
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14

Output:

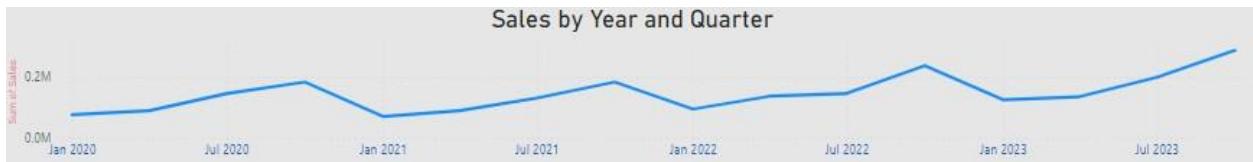


9. Create a Line Chart:

- Visualizations > Build Visual > X-axis =”Order Date” by Year, Quarter
- Visualizations > Build Visual > Y-axis =”Sum of Sales”
- Visualizations > Format Visual > Visual > X-axis > Color =#0D6ABF

- Visualizations > Format Visual > Visual > Y-axis > Color = #0D6ABF
- Visualizations > Format Visual > General > Title > Text > Font > 20
- Visualization >Format Visual > General > Effects > Background Color : #E6E6E6

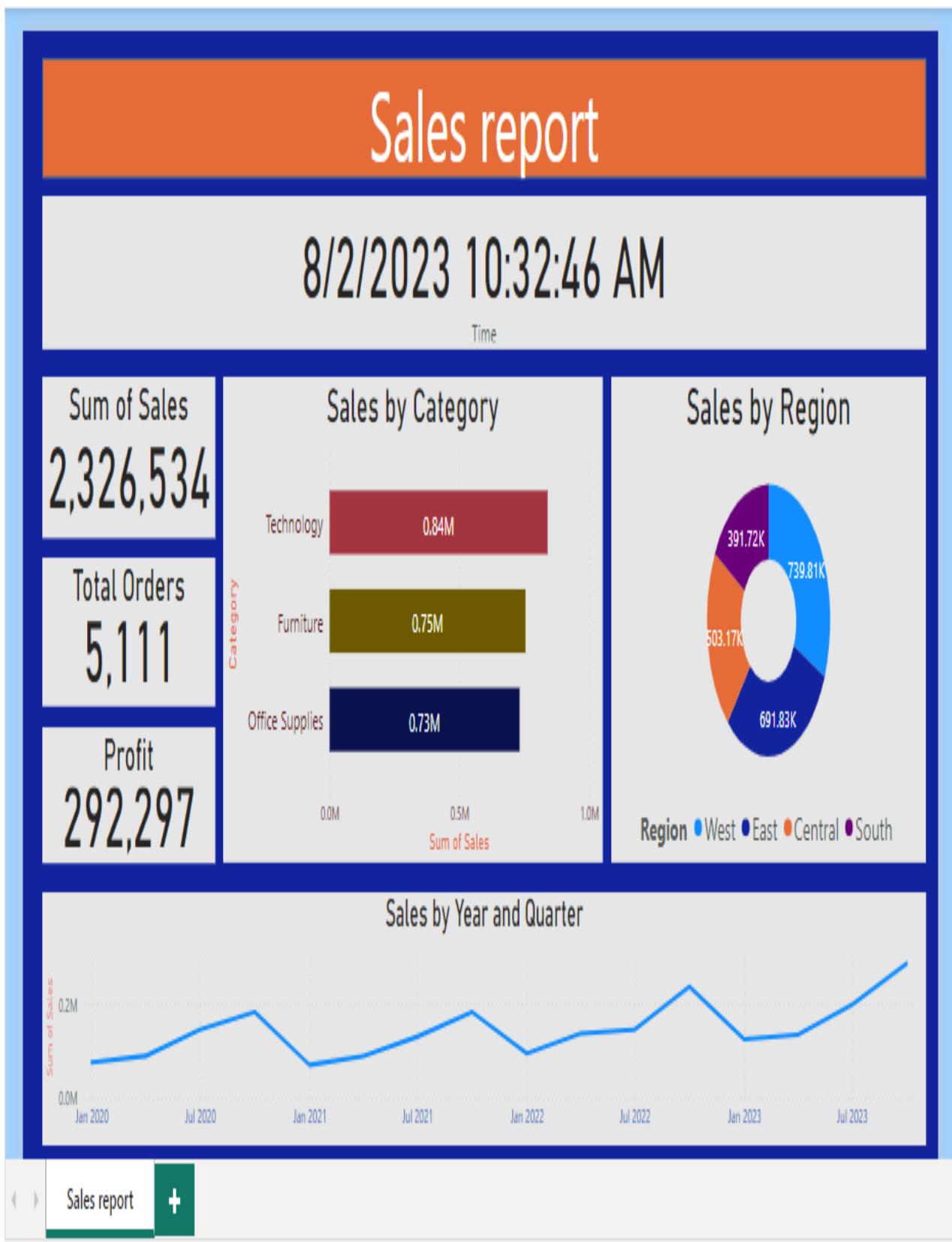
Output:



10. Final Visual Format:

- Visualizations > Page Information > Name ="Sales report"
- Visualizations > Canvas Background > color = #12239E
- Visualizations > WallPaper > Color = #A0D1FF

Output:



Experiment Number: 03

Aim:

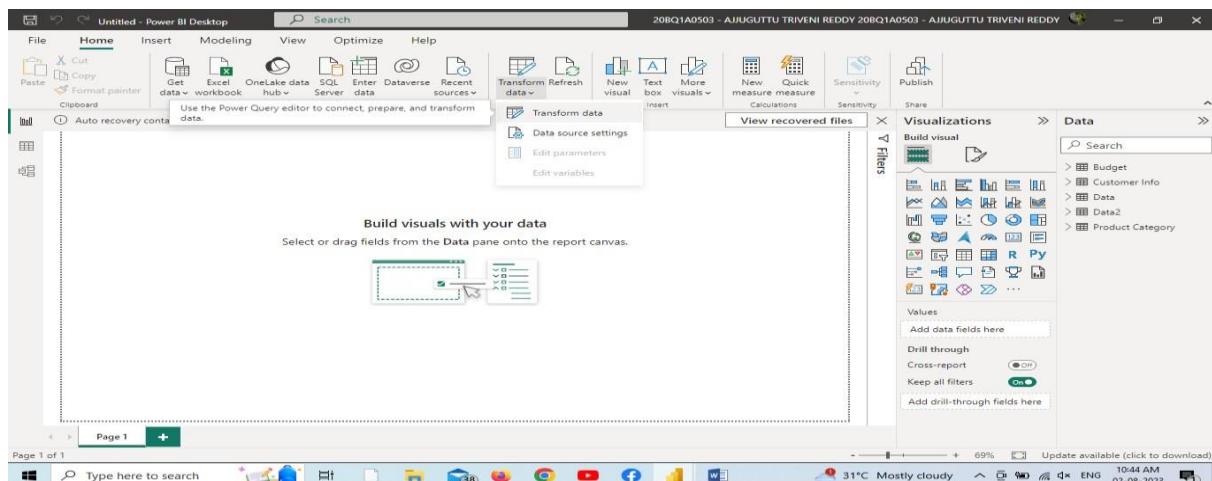
Perform the Extraction Transformation and Loading (ETL) on Data and build Relationship between Tables.

Procedure:

1. Importing the Dataset:

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import your sample dataset into Power BI.

2. Transform the Data:



- Home > queries > Transform Data

Output:

A screenshot of the Power Query Editor. The ribbon at the top includes File, Home, Transform, Add Column, View, Tools, and Help. The Home tab is selected. The main area shows a table titled "Budget" with five columns: Location, 01-01-2018, 01-02-2018, 01-03-2018, and 01-04-2018. The editor's formula bar shows the command: "#Table.TransformColumnTypes(Budget_ Sheet,{{"Column1", type text}, {"Column2", type any}, {"Column3", type any}, {"Column4", type any}, {"Column5", type any}})". On the right side, there are sections for Query Settings, Properties (with "Name" set to "Budget"), and Applied Steps (listing "Source", "Navigation", and "Changed Type").

3. Use First Row as Headers:

- Select the First row of the table.
- Home > Transform > Use First Row as Headers.

The screenshot shows the Power Query Editor interface. A table with five columns and four rows of data is displayed. The first row is highlighted in blue, indicating it is selected. The 'Applied Steps' pane on the right shows the step 'Changed Type'.

Output:

The screenshot shows the Power Query Editor interface after applying the 'Promoted Headers' step. The table now has a single column header 'Location' and four data columns. The 'Applied Steps' pane now includes the step 'Promoted Headers'.

4. Replace Values:

- Select one of the column from table in which we replace values.
- Home > Transform > Replace Values
- Replace the values by giving Existed value and the new text that need to get replaced in the **Value to Find** and **Replace with** textboxes.

The screenshot shows the Power Query Editor interface with the 'Replace Values' dialog box open. The dialog box allows replacing one value with another in the selected columns. The 'Applied Steps' pane on the right shows the step 'Changed Type'.

Output:

The screenshot shows the Power Query Editor interface. A table named 'Location' is displayed with the following data:

	1	2	3	4	5
1	Chennai	100000	100000	100000	100000
2	Bangalore	120000	120000	120000	150000
3	Pune	125000	125000	125000	150000

The formula bar at the top contains the expression: = Table.ReplaceValue(#"Changed Type1", "Hyderabad", "Pune", Replacer.ReplaceText, {"Location"}).

The 'APPLIED STEPS' pane on the right lists the following steps:

- Source
- Navigation
- Changed Type
- Promoted Headers
- Changed Type1
- Replaced Value

5. Manage Columns:

- Home > Manage Columns > Choose Columns > Select the checkboxes of required columns
- Home > Manage Columns > Go to column > Select the req Column checkbox to go that column

The screenshot shows the Power Query Editor interface. A table is displayed with the following columns:

	Sale date	Receipt no.	Order type name	Item name	Category name	Selling price
1	06-03-2020	BL11	On Shop	Jeans - Levi's	Casual Wear	
2	06-03-2020	BL11	On Shop	Jeans - Levi's	Casual Wear	
3	06-03-2020	BL12	On Shop	Jeans - Levi's	Casual Wear	
4	06-03-2020	BL12	On Shop	Jeans - Levi's	Casual Wear	
5	06-03-2020	BL12	On Shop	Jeans - Levi's	Casual Wear	
6	06-03-2020	BL12	On Shop	Jeans - Levi's	Casual Wear	
7	06-03-2020	BL12	On Shop	Jeans - Levi's	Casual Wear	
8	06-03-2020	BL13	On Shop	Jeans - Levi's	Casual Wear	
9	06-03-2020	BL13	On Shop	Jeans - Levi's	Casual Wear	
10	06-03-2020	BL13	On Shop	Jeans - Denim	Casual Wear	
11	06-03-2020	BL13	Online Order	Jeans - Denim	Casual Wear	
12	06-03-2020	BL13	Online Order	Jeans - Denim	Casual Wear	
13	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
14	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
15	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
16	06-03-2020	BL14	Online Order	Jeans - Levi's	Casual Wear	
17	06-03-2020	BL15	Online Order	Jeans - Denim	Casual Wear	
18	06-03-2020	BL15	Online Order	Jeans - Levi's	Casual Wear	
19	06-03-2020	BL15	Online Order	Jeans - Levi's	Casual Wear	
20	06-03-2020	BL16	On Shop	Jeans - Denim	Casual Wear	
21	06-03-2020	BL16	On Shop	Jeans - Denim	Casual Wear	
22	06-03-2020	BL16	On Shop	Jeans - Zara	Casual Wear	
23	06-03-2020	LNS	On Shop	Jeans - Levi's	Casual Wear	

The 'APPLIED STEPS' pane on the right shows the 'Promoted Headers' step.

Output:

The screenshot shows the Power Query Editor interface. A table is displayed with the following columns:

	Sale date	Receipt no.	Selling price	Item quantity
1	06-03-2020	BL11	11000	1
2	06-03-2020	BL11	11000	2
3	06-03-2020	BL12	11000	1
4	06-03-2020	BL12	11000	1
5	06-03-2020	BL12	11000	1
6	06-03-2020	BL12	11000	1
7	06-03-2020	BL12	11000	2
8	06-03-2020	BL12	11000	1
9	06-03-2020	BL13	11000	1
10	06-03-2020	BL13	9000	1
11	06-03-2020	BL13	9000	1
12	06-03-2020	BL13	9000	1
13	06-03-2020	BL14	9000	2
14	06-03-2020	BL14	9000	1
15	06-03-2020	BL14	9000	1
16	06-03-2020	BL14	11000	2
17	06-03-2020	BL15	9000	1
18	06-03-2020	BL15	11000	2
19	06-03-2020	BL15	11000	1
20	06-03-2020	BL16	9000	1
21	06-03-2020	BL16	9000	2
22	06-03-2020	BL16	9000	1
23	06-03-2020	LNS	11000	1
24	06-03-2020	LNS	11000	1

The 'APPLIED STEPS' pane on the right shows the 'Removed Other Columns' step.

6. Reduce Rows:

- Home > Keep Rows > keep top rows > Specify num of rows(Fig1)
- Similarly, keep bottom rows, keep range of rows are done
- Home > Remove Rows > Remove bottom rows > specify num of rows to be removed from bottom(Fig2)
- Similarly, Remove top rows, remove alternate rows can be done.

Output:

The figure consists of two screenshots of the Microsoft Power Query Editor interface. Both screenshots show a table with columns: Sale date, Receipt no, Selling price, and Item quantity. The first screenshot shows the 'Query Settings' pane with the step 'Kept First Rows' selected under 'Applied Steps'. The second screenshot shows the 'Query Settings' pane with the step 'Removed Bottom Rows' selected under 'Applied Steps'.

7. Split Column:

The figure shows a screenshot of the Power Query Editor. A context menu is open over the 'Selling price' column, with the 'Split Column' option highlighted. The 'Applied Steps' pane on the right shows the step 'Changed Type1' selected. The main table view shows various transaction details like Sale date, Receipt no, Order type, item name, and selling price.

Output:

- Split Column By Delimiter

The screenshot shows the Power Query Editor interface. A table is displayed with columns: Sale date, Receipt no., Ordertype name, Item name.1, Item name.2, and Category no. The 'Applied Steps' pane on the right shows the step 'Changed Type2'.

	Sale date	Receipt no.	Ordertype name	Item name.1	Item name.2	Category no.
1	06-03-2020	BL11	On Shop	Jeans	Levis	Casual Wear
2	06-03-2020	BL11	On Shop	Jeans	Levis	Casual Wear
3	06-03-2020	BL12	On Shop	Jeans	Levis	Casual Wear
4	06-03-2020	BL12	On Shop	Jeans	Levis	Casual Wear
5	06-03-2020	BL12	On Shop	Jeans	Levis	Casual Wear
6	06-03-2020	BL12	On Shop	Jeans	Levis	Casual Wear
7	06-03-2020	BL12	On Shop	Jeans	Levis	Casual Wear
8	06-03-2020	BL13	On Shop	Jeans	Levis	Casual Wear
9	06-03-2020	BL13	On Shop	Jeans	Levis	Casual Wear
10	06-03-2020	BL13	On Shop	Jeans	Denim	Casual Wear
11	06-03-2020	BL13	Online Order	Jeans	Denim	Casual Wear
12	06-03-2020	BL13	Online Order	Jeans	Denim	Casual Wear
13	06-03-2020	BL14	Online Order	Jeans	Denim	Casual Wear
14	06-03-2020	BL14	Online Order	Jeans	Denim	Casual Wear
15	06-03-2020	BL14	Online Order	Jeans	Denim	Casual Wear
16	06-03-2020	BL14	Online Order	Jeans	Levis	Casual Wear
17	06-03-2020	BL15	Online Order	Jeans	Denim	Casual Wear
18	06-03-2020	BL15	Online Order	Jeans	Levis	Casual Wear
19	06-03-2020	BL15	Online Order	Jeans	Levis	Casual Wear
20	06-03-2020	BL16	On Shop	Jeans	Denim	Casual Wear
21	06-03-2020	BL16	On Shop	Jeans	Denim	Casual Wear
22	06-03-2020	BL16	On Shop	Jeans	Zara	Casual Wear
23	06-03-2020	LNS	On Shop	Jeans	Levis	Casual Wear
24						

- Split Column By Number of Characters

The screenshot shows the Power Query Editor interface. A table is displayed with columns: Sale date, Receipt no., Ordertype name.1, Ordertype name.2, Item name, and Category no. The 'Applied Steps' pane on the right shows the step 'Changed Type1'.

	Sale date	Receipt no.	Ordertype name.1	Ordertype name.2	Item name	Category no.
1	06-03-2020	BL11	On Sho	p	Jeans - Levis	Casual Wear
2	06-03-2020	BL11	On Sho	p	Jeans - Levis	Casual Wear
3	06-03-2020	BL12	On Sho	p	Jeans - Levis	Casual Wear
4	06-03-2020	BL12	On Sho	p	Jeans - Levis	Casual Wear
5	06-03-2020	BL12	On Sho	p	Jeans - Levis	Casual Wear
6	06-03-2020	BL12	On Sho	p	Jeans - Levis	Casual Wear
7	06-03-2020	BL12	On Sho	p	Jeans - Levis	Casual Wear
8	06-03-2020	BL13	On Sho	p	Jeans - Levis	Casual Wear
9	06-03-2020	BL13	On Sho	p	Jeans - Levis	Casual Wear
10	06-03-2020	BL13	On Sho	p	Jeans - Denim	Casual Wear
11	06-03-2020	BL13	Online Order	Jeans - Denim	Casual Wear	
12	06-03-2020	BL13	Online Order	Jeans - Denim	Casual Wear	
13	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
14	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
15	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
16	06-03-2020	BL14	Online Order	Jeans - Denim	Casual Wear	
17	06-03-2020	BL15	Online Order	Jeans - Denim	Casual Wear	
18	06-03-2020	BL15	Online Order	Jeans - Levis	Casual Wear	
19	06-03-2020	BL15	Online Order	Jeans - Levis	Casual Wear	
20	06-03-2020	BL16	On Sho	p	Jeans - Denim	Casual Wear
21	06-03-2020	BL16	On Sho	p	Jeans - Denim	Casual Wear
22	06-03-2020	BL16	On Sho	p	Jeans - Zara	Casual Wear
23	06-03-2020	LNS	On Sho	p	Jeans - Levis	Casual Wear
24						

- Split Column By Positions

The screenshot shows the Power Query Editor interface. A table is displayed with columns: Sale date, Receipt no.1, Receipt no.2, Ordertype name, Item name, and Category no. The 'Applied Steps' pane on the right shows the step 'Changed Type1'.

	Sale date	Receipt no.1	Receipt no.2	Ordertype name	Item name	Category no.
1	06-03-2020	BL		11 On Shop	Jeans - Levis	Casual Wear
2	06-03-2020	BL		11 On Shop	Jeans - Levis	Casual Wear
3	06-03-2020	BL		12 On Shop	Jeans - Levis	Casual Wear
4	06-03-2020	BL		12 On Shop	Jeans - Levis	Casual Wear
5	06-03-2020	BL		12 On Shop	Jeans - Levis	Casual Wear
6	06-03-2020	BL		12 On Shop	Jeans - Levis	Casual Wear
7	06-03-2020	BL		12 On Shop	Jeans - Levis	Casual Wear
8	06-03-2020	BL		13 On Shop	Jeans - Levis	Casual Wear
9	06-03-2020	BL		13 On Shop	Jeans - Levis	Casual Wear
10	06-03-2020	BL		13 On Shop	Jeans - Levis	Casual Wear
11	06-03-2020	BL		13 On Shop	Jeans - Denim	Casual Wear
12	06-03-2020	BL		13 Online Order	Jeans - Denim	Casual Wear
13	06-03-2020	BL		14 Online Order	Jeans - Denim	Casual Wear
14	06-03-2020	BL		14 Online Order	Jeans - Denim	Casual Wear
15	06-03-2020	BL		14 Online Order	Jeans - Denim	Casual Wear
16	06-03-2020	BL		14 Online Order	Jeans - Levis	Casual Wear
17	06-03-2020	BL		15 Online Order	Jeans - Denim	Casual Wear
18	06-03-2020	BL		15 Online Order	Jeans - Levis	Casual Wear
19	06-03-2020	BL		15 Online Order	Jeans - Levis	Casual Wear
20	06-03-2020	BL		16 On Shop	Jeans - Denim	Casual Wear
21	06-03-2020	BL		16 On Shop	Jeans - Denim	Casual Wear
22	06-03-2020	BL		16 On Shop	Jeans - Zara	Casual Wear
23	06-03-2020	LN		5 On Shop	Jeans - Levis	Casual Wear
24						

- Similarly, Split Column By Uppercase to Lowercase, Split Column By Lowercase to Uppercase, Split Column By Digit to non-digit, Split column by non-digit to digit can be done.

8. Sort:

- Home > Sort > Sort Descending (Sort Highest to Lowest)

If we want to sort from lowest to highest then select Sort Ascending.

Output:

The screenshot shows the Power Query Editor interface. On the left, the 'Queries' pane lists several queries including 'Budget', 'Customer Info', 'Data', 'Data2', 'Product Category', 'Sheet1', 'Student Courses', 'Course', and 'Student'. The main area displays a table with columns: Sale date, Receipt no., Ordertype name, Item name, Category name, and Selling price. The 'Ordertype name' column is highlighted. A formula bar at the top shows the formula: = Table.Sort(#"Kept First Rows",{{"Ordertype name", Order.Descending}}). The 'APPLIED STEPS' pane on the right shows the steps taken: Source, Navigation, Promoted Headers, Promoted Headers1, Changed Type, Promoted Headers2, Changed Type1, Kept First Rows, and Sorted Rows.

9. Group By:

- Home > Group By > Specify the column to Group By > Give the new column name and Operation to get the desired output.

Output:

	Ordertype name	Count
1	On Shop	973
2	Online Order	63
3	null	1

10. Create table:

- Home > Enter data > Create table by giving values to the columns

SOURCE EDITOR

Create Table

	SID	SName
1	1	Shiv
2	2	Ram
3	3	Mahi
4	4	Sakshi
5	5	Kritika

Name: Student

OK Cancel

APPLIED STEPS

- Source
- Changed Type

Output:

POWER QUERY EDITOR

Queries [5]

- Budget
- Customer Info
- Data
- Data2
- Product Category
- Sheet1
- Student Courses
- Course
- Student

SID	SName
1	Shiv
2	Ram
3	Mahi
4	Sakshi
5	Kritika

APPLIED STEPS

- Source
- Changed Type

11. Merge Queries:

- Home > Merge Queries > Select a table and matching columns to create a merging table

POWER QUERY EDITOR

Queries [2]

- Student Courses
- Merged Queries

SID	CourseID
1	10
2	20
3	20
4	50
5	40

APPLIED STEPS

- Source
- Changed Type
- Renamed Columns

Output:

POWER QUERY EDITOR

Queries [3]

- Student Courses
- Merged Queries
- Expanded Student

SID	CourseID	Student.SID	Student.SName
1	1	1	Shiv
2	1	2	Shiv
3	2	1	Ram
4	3	2	Mahi
5	3	3	Mahi

APPLIED STEPS

- Source
- Changed Type
- Renamed Columns
- Merged Queries
- Expanded Student

12. Replacing Null values By Fill down or Fill up:

- Select a Column > Right Click > Select Fill option > Select Down

The screenshot shows the Power Query Editor interface. A table is open with two columns: 'Category name' and 'Item name'. The 'Item name' column contains many null values. The formula bar at the top shows the formula: = Table.TransformColumnTypes(#"Product Category_Sheet",{{"Column1", type text}, {"Column2", type text}}). The 'APPLIED STEPS' pane on the right shows a step named 'Changed Type'.

Category name	Item name
1 Casual Wear	Jeans - Levi's
3	null Jeans - Denim
4	null Jeans - Zara
5	null Jeans - Lega
6 Semi Formal	Shirt - PE
7	null Legin
8	null T-shirt
9 Formal	shirt
10	null Shirt Louis
11	null Indian Terrain
12	null Shirt - Arrow
13 Accessories	Wallet
14 Accessories	null Chain

Output:

The screenshot shows the same table after the 'Fill Down' operation has been applied. All null values in the 'Item name' column have been replaced by the value from the row above them.

Category name	Item name
1 Casual Wear	Jeans - Levi's
3 Casual Wear	Jeans - Denim
4 Casual Wear	Jeans - Zara
5 Casual Wear	Jeans - Lega
6 Semi Formal	Shirt - PE
7 Semi Formal	Legin
8 Semi Formal	T-shirt
9 Formal	shirt
10 Formal	Shirt Louis
11 Formal	Indian Terrain
12 Formal	Shirt - Arrow
13 Accessories	Wallet
14 Accessories	Chain

13. Append Queries:

- Home > Append Queries > Select table to append
- Concatenate rows from two tables into a single table.

The screenshot shows the Power Query Editor with two tables being concatenated. The first table has columns 'SID' and 'SName'. The second table also has columns 'SID' and 'SName'. The formula bar shows the formula: = Table.TransformColumnTypes(Source,{{"SIC", type number}, {"SNAME", type text}}). The 'APPLIED STEPS' pane shows a step named 'Append Queries'.

1 SID	A ^B SName
1	Shiv
2	Ram
3	Mahi
4	Sakshi
5	Kritika

Output:

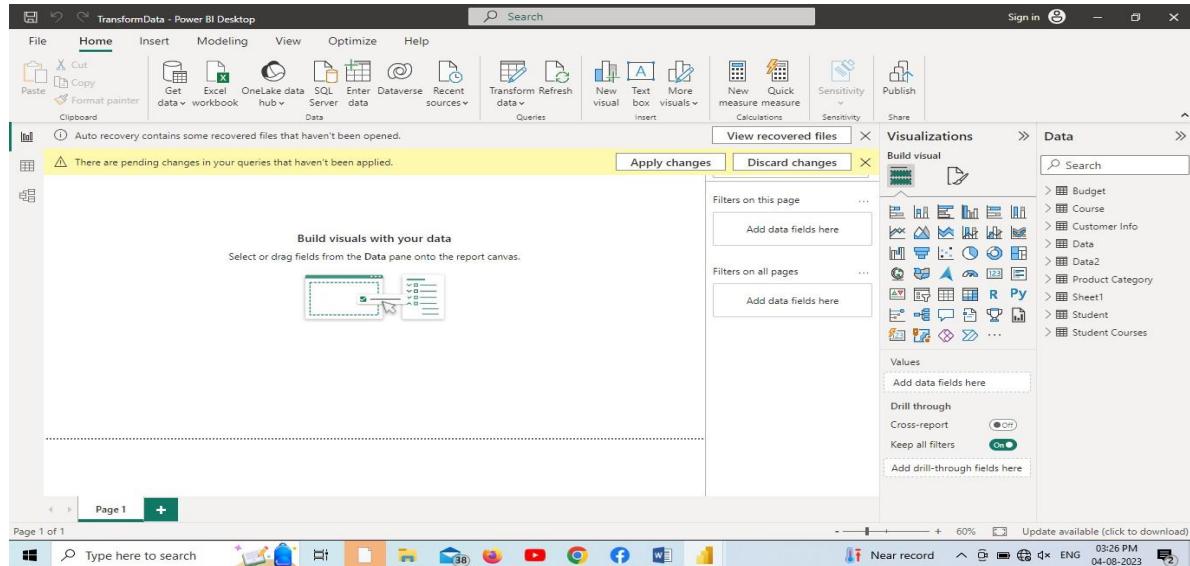
The screenshot shows the Power Query Editor interface. A table is displayed with columns 'SID' and 'SName'. The data consists of 8 rows with values: 1 Shiv, 2 Ram, 3 Mahi, 4 Sakshi, 5 Kritika, 6 Anushka, 7 Sweety, and 8 Shetty. To the right of the table, the 'Query Settings' pane is open, showing the 'Name' field set to 'Student'. The 'APPLIED STEPS' pane shows the steps: 'Source', 'Changed Type', and 'Appended Query'.

14. Data source Settings:

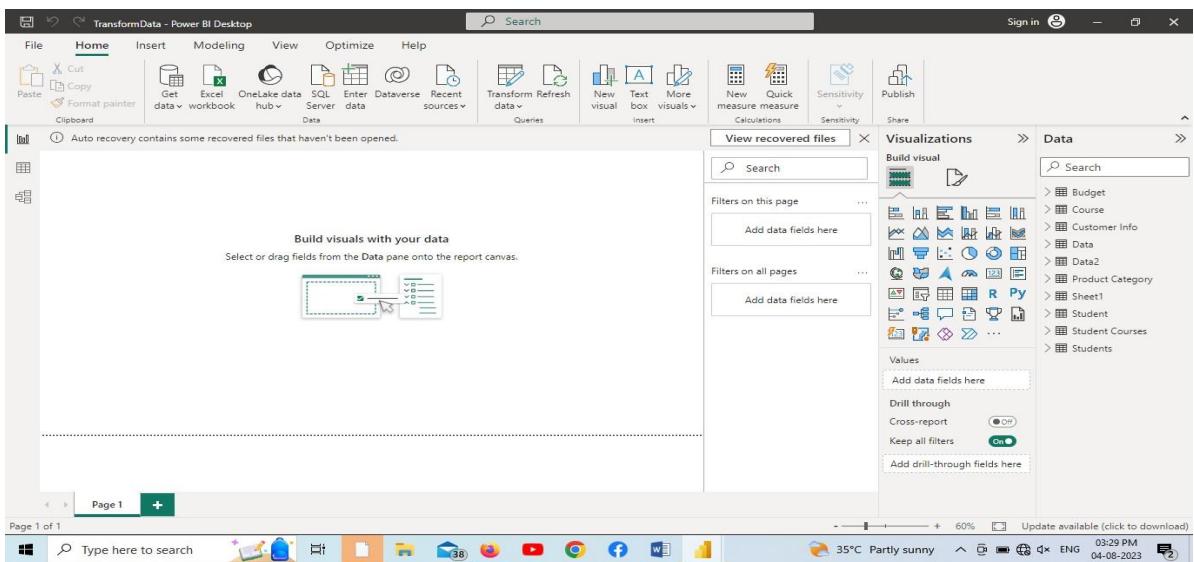
- Home > Data Source Settings > Change the path or loc of data (if needed).

The screenshot shows the Power BI Desktop interface with the 'Data source settings' dialog open. The 'Data sources in current file' section lists a single item: 'c:\users\lenovo\documents\transform salesdata_header.xlsx'. The 'APPLIED STEPS' pane on the right shows the steps: 'Source', 'Changed Type', and 'Appended Query'.

- Open the power Bi desktop and Apply changes



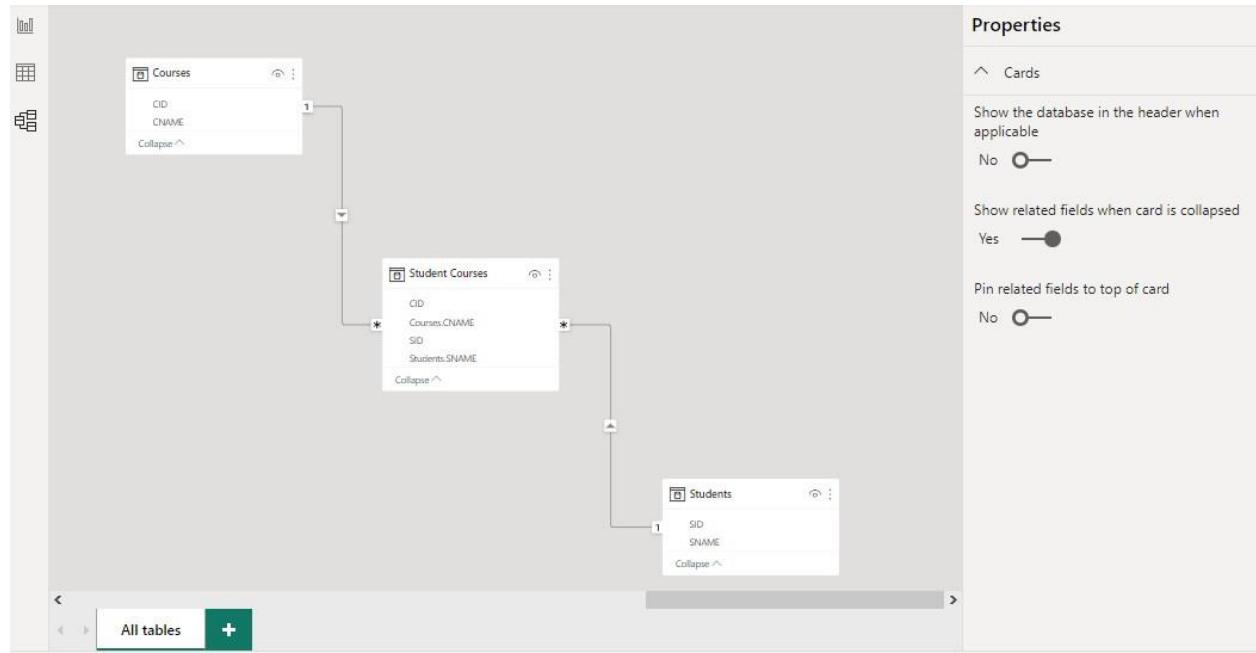
Output:



15. Relationships between tables:

- Select Model View at left vertical tab.
- Create table relations with correlations with them.

Output:



Experiment Number: 04

Aim:

Create different Advanced visualization in a report.

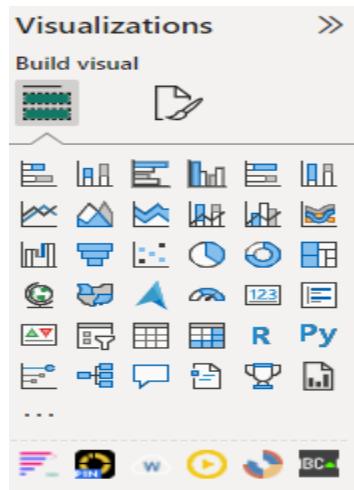
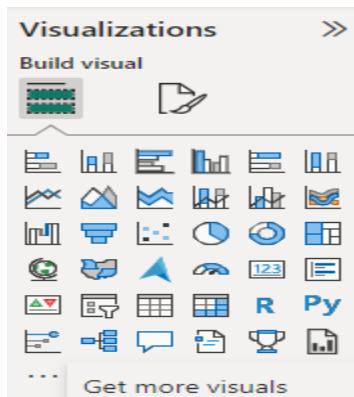
Procedure:

1. Importing the Dataset:

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import your sample dataset into Power BI.

2. Importing Advance Visuals:

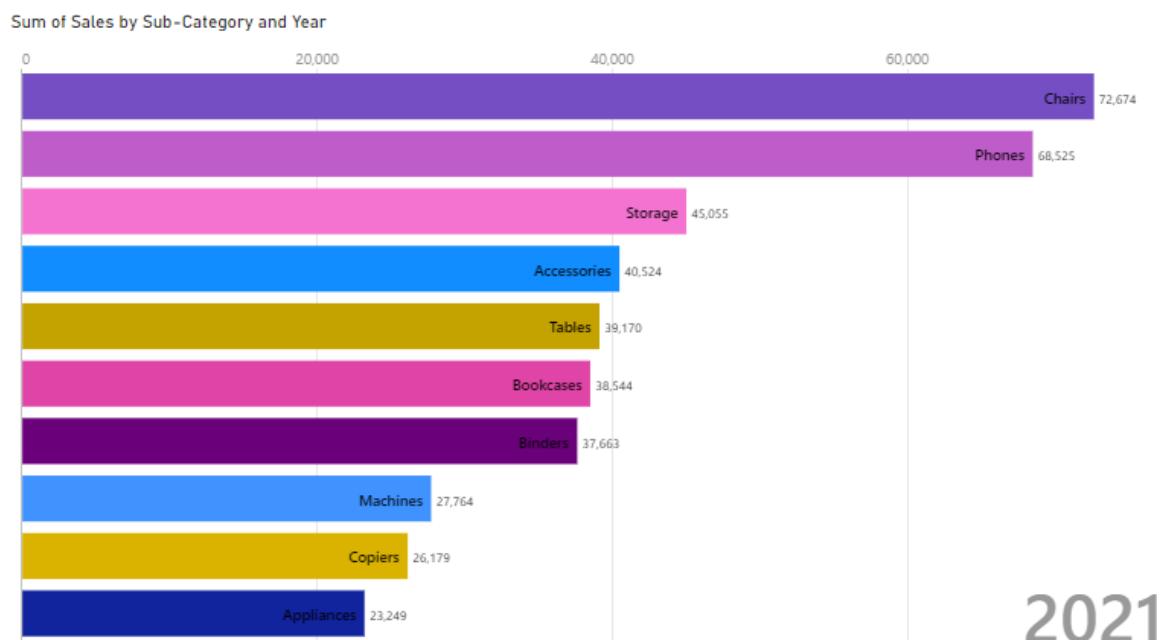
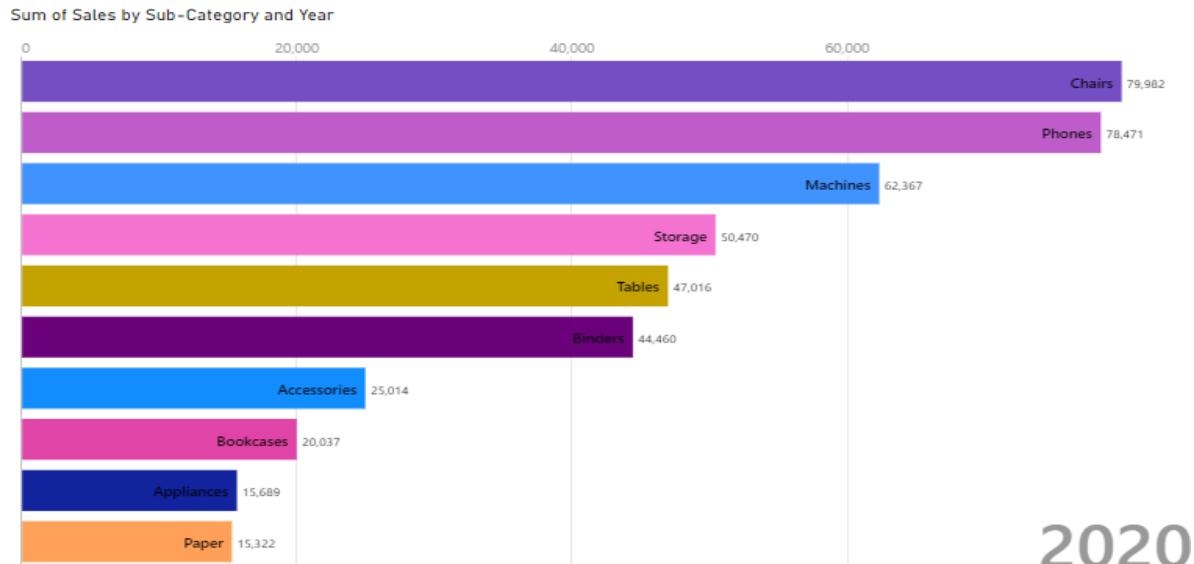
- To install them, first log in to the application
- Visualization > get more visuals > search for visuals > Click on ADD
- Add all mentioned visuals to the application i.e., Animated Bar Chart, Drill Down Donut Pro, Play Axis, WordCloud, SunBurstable, Scroller



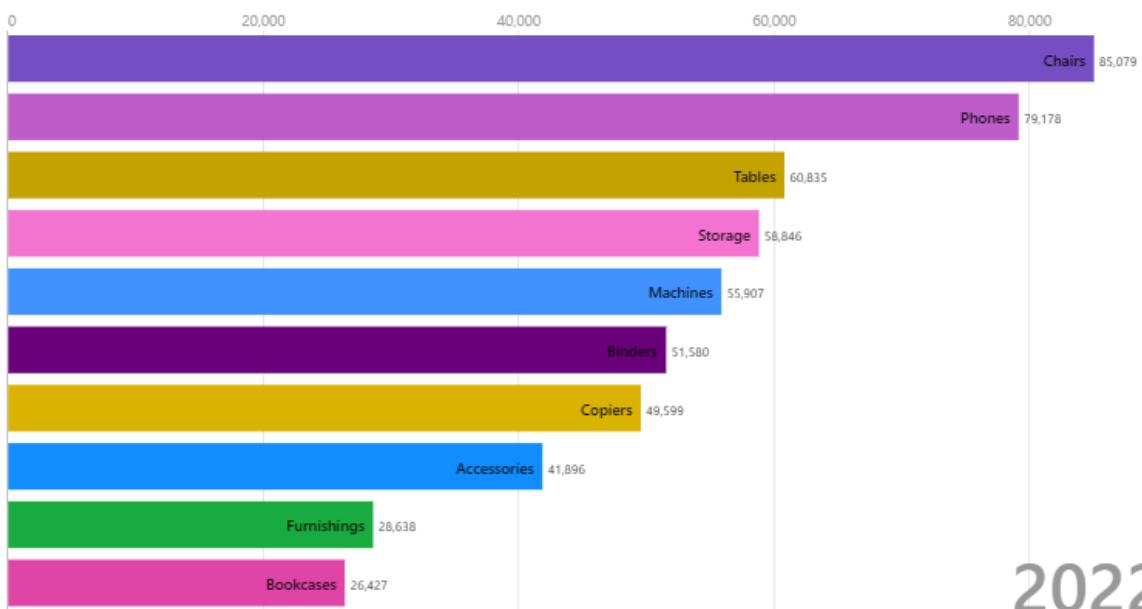
3. Creating Animated Bar Chart:

- Visualizations > Build Visual > Animated Bar Chart
- Visualizations > Build Visual > Name = "Sub Category"
- Visualizations > Build Visual > Value = "Sum of Sales"
- Visualizations > Build Visual > Period = "Order Date – Year"

Outputs per Year:

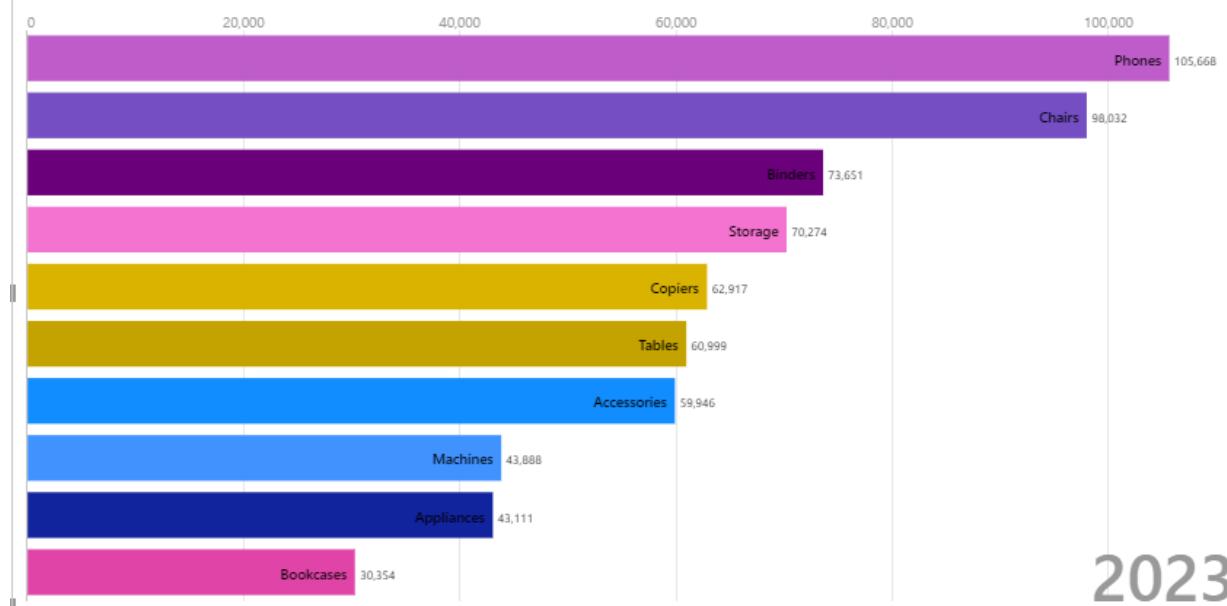


Sum of Sales by Sub-Category and Year



2022

Sum of Sales by Sub-Category and Year



2023

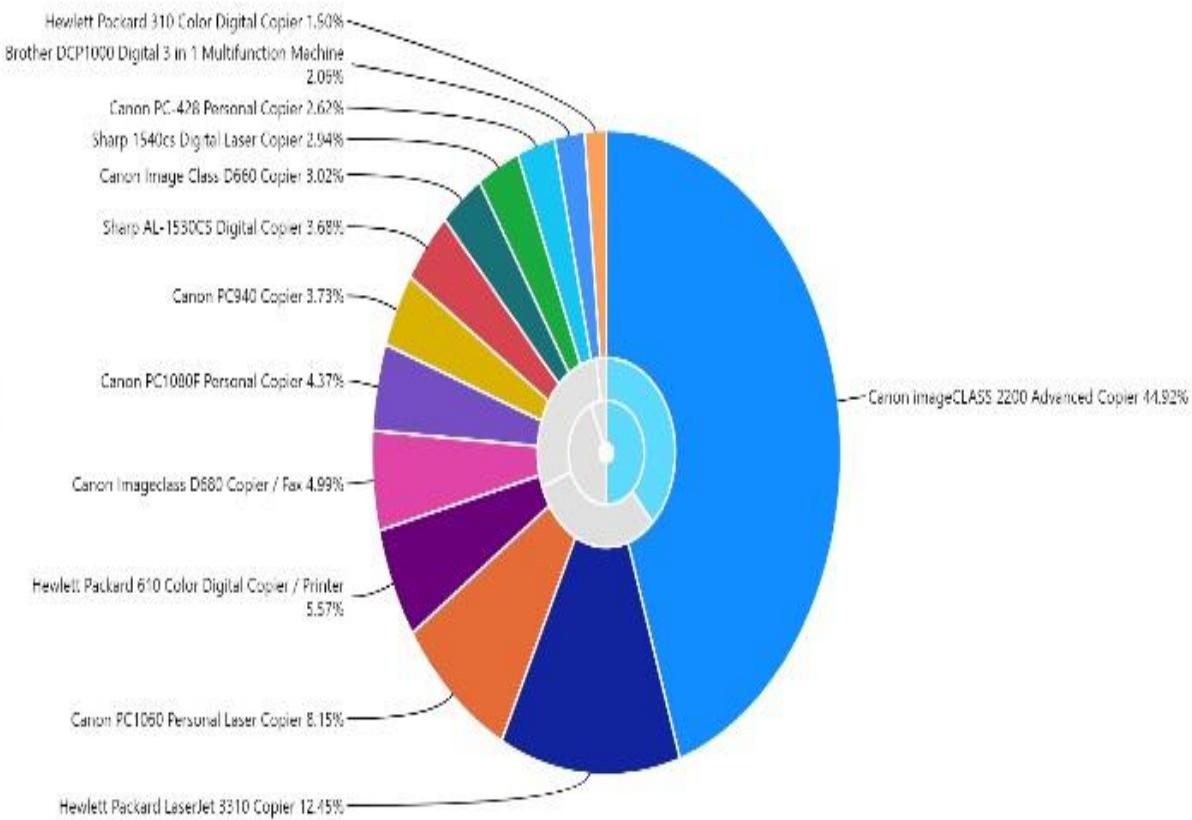
3. Creating Animated Bar Chart:

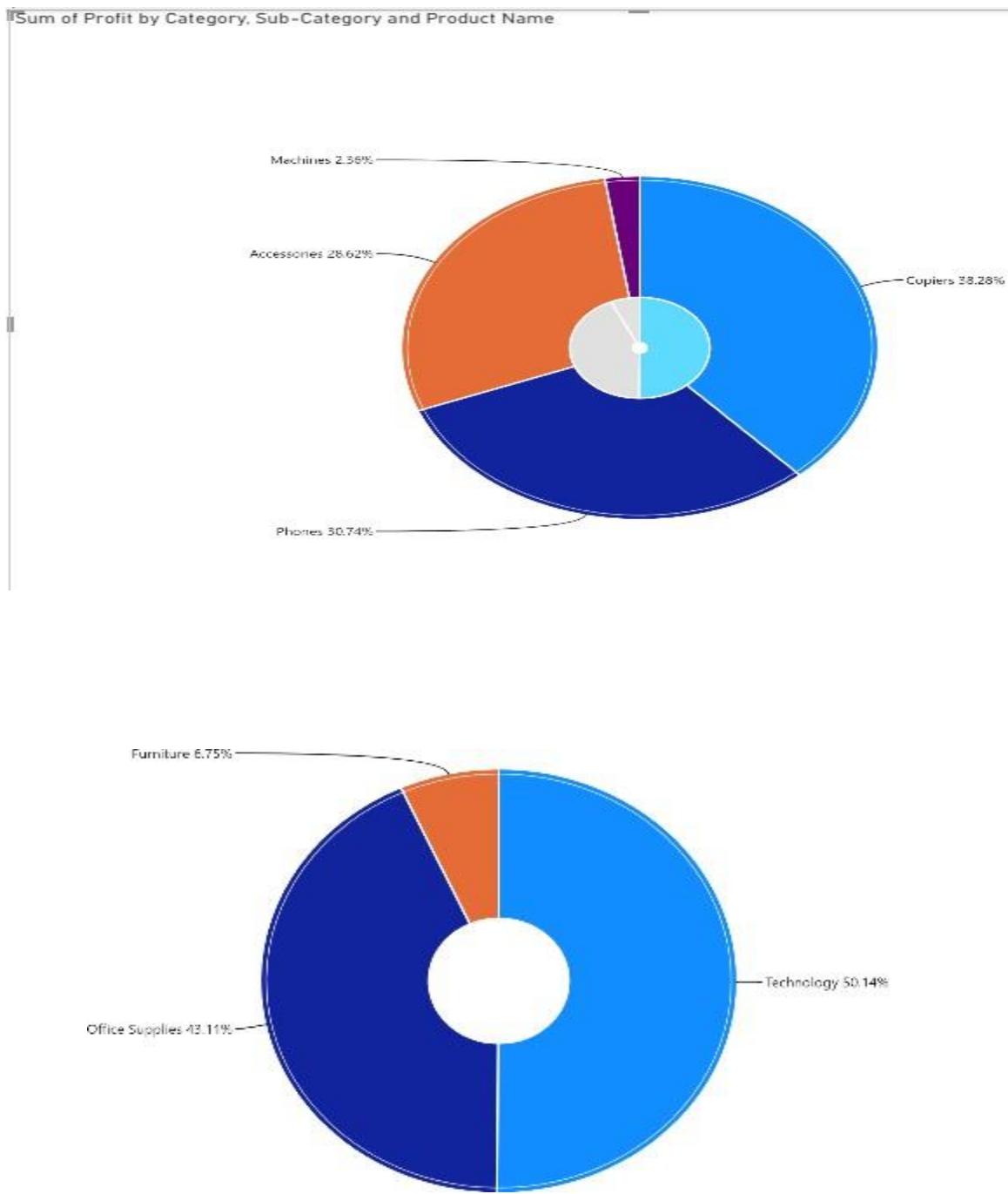
- Visualizations > Build Visual > Drill Down Donut Pro
- Visualizations > Build Visual > Category = “Category Hierarchy”
- Visualizations > Build Visual > Value = “Profit”
- Click on center to reverse to drill up and click on one part side to drill down.

Output:

Sum of Profit by Category, Sub-Category and Product Name

Y E ...
①





4. Creating Word Cloud:

- Visualizations > Build Visual > WordCloud
- Visualizations > Build Visual > Category = “State / Province”
- Visualizations > Build Visual > Value = “Sum of Profits”

- Click on Name of state to view its values.

Output:

Sum of Profit by State/Province



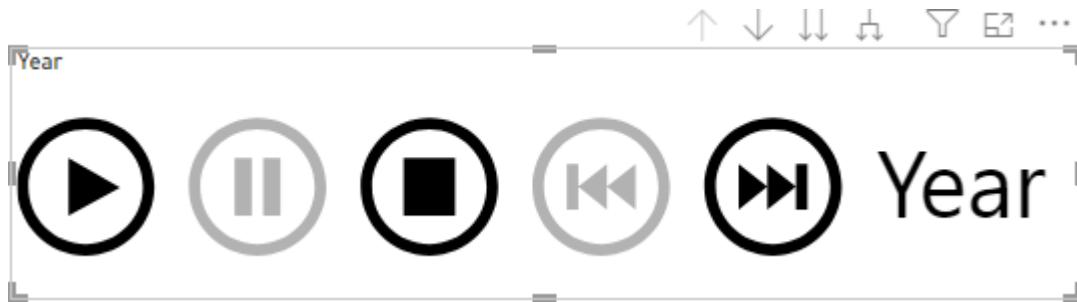
Sum of Profit by State/Province



5. Creating Play Axis:

- Visualizations > Build Visual > Play Axis
- Visualizations > Build Visual > Field= “Order Date”

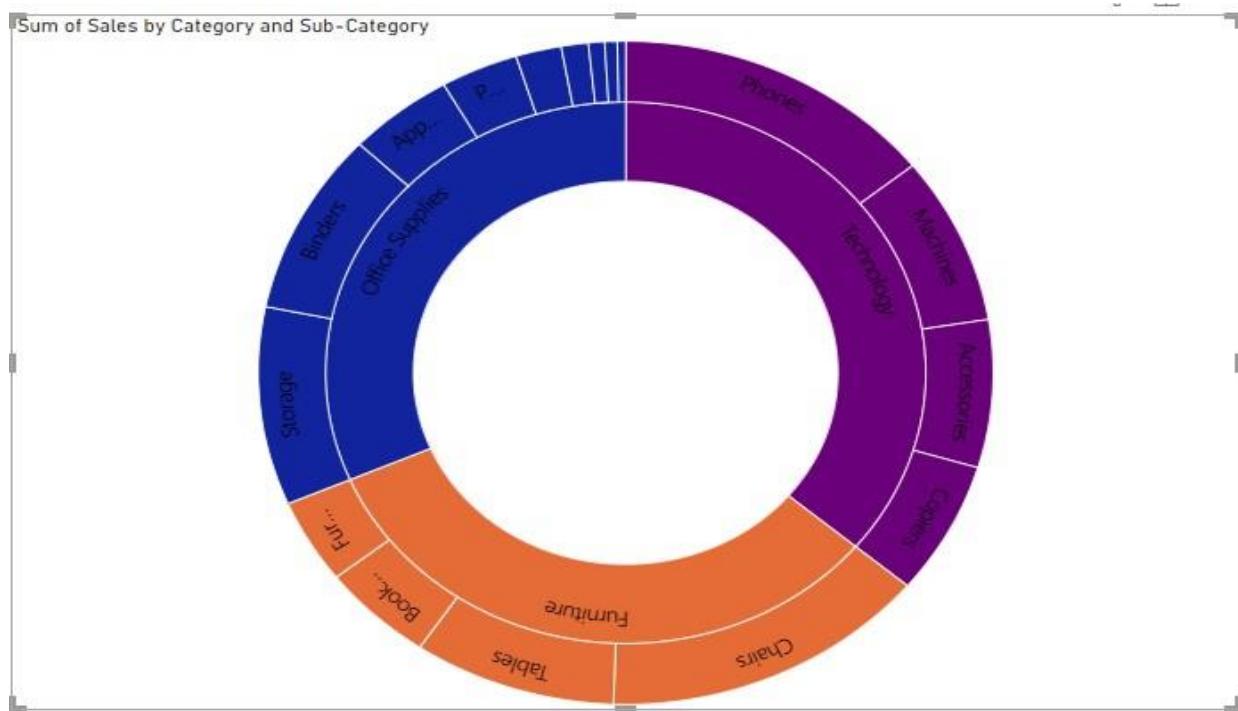
Output:



6. Creating Sun Burst:

- Visualizations > Build Visual > Sun Burst
- Visualizations > Build Visual > Groups= “Category, Sub Category”
- Visualizations > Build Visual > Values = “sum of sales”
- Drill down by selecting category name on the chart and drill up by click on it again.

Output:

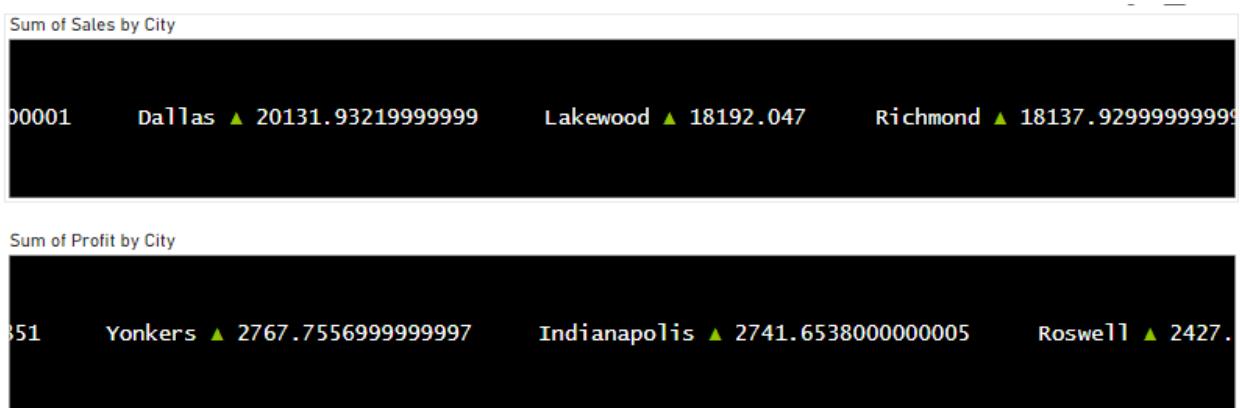




6. Creating Scroller:

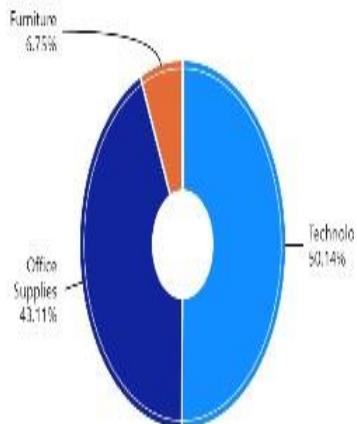
- Visualizations > Build Visual > Scroller
- Visualizations > Build Visual > Category= “City”
- Visualizations > Build Visual > Measure = “sum of sales”
- Visualizations > Build Visual > Category= “City”
- Visualizations > Build Visual > Measure = “Sum of profits”

Output:

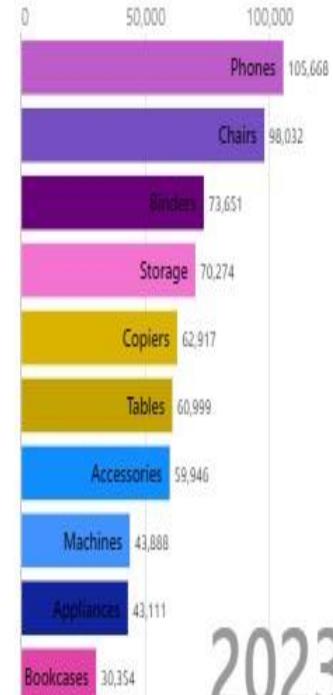


7. Final Report output:

Sum of Profit by Category, Sub-Category and Product Name



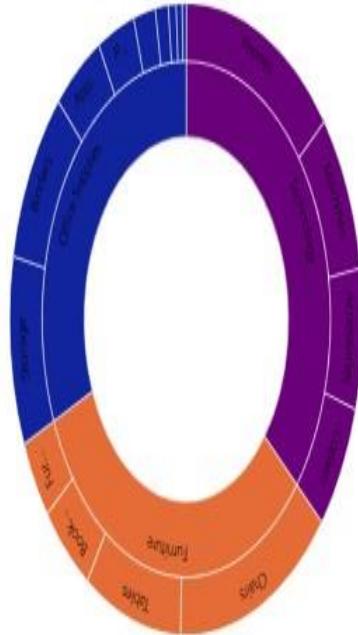
Sum of Sales by Sub-Category and Year



Sum of Profit by City



Sum of Sales by Category and Sub-Category



Sum of Profit by City



Sum of Sales by City



Experiment Number: 05

Aim:

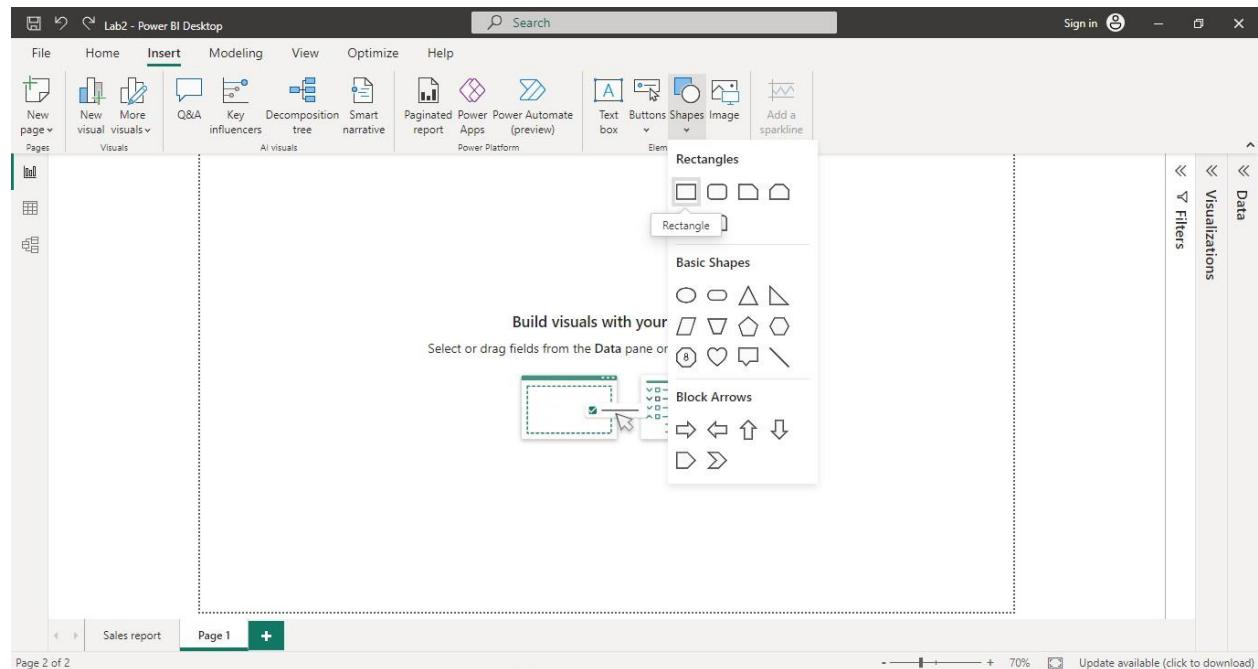
Create Reports Using set Interactions between Visuals, Hierarchies and Drilldown, Drill through into Power BI.

Procedure:

1. Importing the Dataset:

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import your sample dataset into Power BI.

2. Insert Rectangle Shape:



- Click on “Format tab” on right side and perform changes on visual.
- Shape > Style > #E66C37
- Shape > Text >Text = “Sales report”, Font Size = 46, Horizontal Alignment = “Center”.

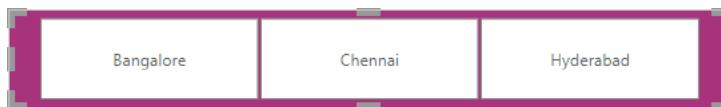
Output:

Sales report

3. Create a Slicer:

- Visualizations > Build Visual > Slicer
- Visualizations > Build Visual > Field = “Location”
- Visualizations >Format Visuals> Title> Font Size =14
- Visualizations >Format Visuals> Effects> Background Color = #9B0065
- Visualizations >Format Visuals> Effects> Height= 79
- Visualizations >Format Visuals> Effects> Width = 582

Output:



4. Add Card with Current Date:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- In the formula bar, enter the following DAX formula to create a measure that calculates the current date:
 - **CurrentDate = Now()**
- Press Enter to apply the formula.
- Visualization >Format Visual > General > Effects > Background Color : #F18F49
- Visualization > Format Visual >Visual > Category Label > Font Size = 12

Output:

02-08-2023 17:44:12

5. Create Stacked Bar Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”Category Name Hierarchy”
- Visualizations >Build Visuals >Fields > X-Axis =”Sum of Selling Price”
- Visualizations >Format Visuals> Y-axis> Values >Color = #5F6B6D
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Color = #5F6B6D
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #374649
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Bar> Accessories> Color = #374649
- Visualizations >Format Visuals> Bar> Formal>color = #D2B04C
- Visualizations >Format Visuals> Bar> SemiFormal> Color = #00ACFC
- Visualizations >Format Visuals> Bar> Casual Wear> Color = #C83D95
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 18
- Visualizations >Format Visuals> Title> Text =”Sum of selling Price By Category Name”
- Visualizations >Format Visuals> Title> Font Size =24
- Visualizations >Format Visuals> Effects> Background Color = #F1792

Output:



6. Create Stacked Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”selling price”
- Visualizations >Build Visuals >Fields > X-Axis =”Month”
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5F6B6D

- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="total selling price by month"
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #5C2D91

Output:



7. Create a Card to display Selling Price:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- In the formula bar, enter the following DAX formula to create a measure that calculates the total selling price:
 - total selling price = `SUMX(Data,Data[Sales price]*Data[Item quantity])`
- Drag “Total Selling Price” to “Fields”.
- Visualization >Format Visual > General > Effects > Background Color : #5B2D71
- Visualization > Format Visual >Visual > Category Label > Font Size = 20

Output:



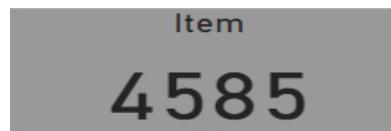
8. Create a Card to display Total Item Count:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the

contextmenu. This will open the formula bar at the top.

- Drag “Total Item Count” to “Fields”.
- In the formula bar, enter the following formula to create a measure that calculates the total item count:
 - **total item count = countx(data,Data[Item quantity])**
- Visualization >Format Visual > General > Effects > Background Color : #AF916D
- Visualization > Format Visual >Visual > Category Label > Font Size = 20

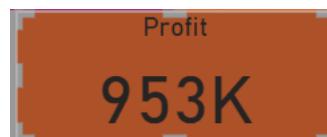
Output:



9. Create a Card to display Profit:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- Drag “profit” to “Fields”.
- In the formula bar, enter the following formula to create a measure that calculates the profit:
 - **profit = Data[total selling price]-[total cost price]**
- Visualization >Format Visual > General > Effects > Background Color :#5C0001
- Visualization > Format Visual >Visual > Category Label > Font Size = 20

Output:



10. Create a Card to display Profit %:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- Drag “profit %” to “Fields”.
- In the formula bar, enter the following formula to create a measure that calculates the profit%:
 - **%Profit = (Data[profit]/Data[total cost price])*100**
- Visualization >Format Visual > General > Effects > Background Color : #F8BCBD

- Visualization > Format Visual > Visual > Category Label > Font Size = 20

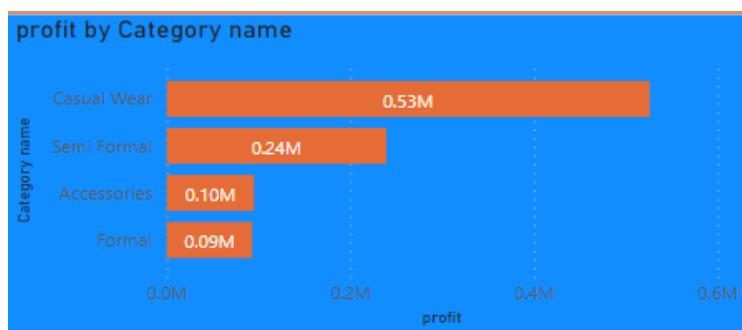
Output:



11. Create Stacked Bar Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”Category Name”
- Visualizations >Build Visuals >Fields > X-Axis =”Profit”
- Visualizations >Format Visuals> Y-axis> Values >Color = #5F6B6D
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Color = #5F6B6D
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #374649
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Bar> Accessories> Color = # F18F49
- Visualizations >Format Visuals> Bar>Formal>color = # F18F49
- Visualizations >Format Visuals> Bar> SemiFormal> Color = # F18F49
- Visualizations >Format Visuals> Bar> Casual Wear> Color = # F18F49
- Visualizations >Format Visuals> Data Labels > Options>> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 18
- Visualizations >Format Visuals> Title> Text =”Profit By Category Name”
- Visualizations >Format Visuals> Title> Font Size =18
- Visualizations >Format Visuals> Effects> Background Color = #008cEEE

Output:



12. Create Donut Chart:

- Visualizations >Build Visuals >Fields > Legend="Location"
- Visualizations >Build Visuals >Fields > Values="Sum of Item Count"
- Visualizations >Format Visuals> Legend> slices >Color ="374649"
- Visualizations >Format Visuals> Values >Color = #5F6B6D
- Visualizations >Format Visuals> Legend> slices>Chennai >Color = #1DD5EE
- Visualizations >Format Visuals> Legend> slices>Bangalore >Color = #5C2D91
- Visualizations >Format Visuals> Legend> slices >Hyderabad>Color = #F18F49
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="Sum of Item amount by Location"
- Visualizations >Format Visuals> Title> Font Size =18
- Visualizations >Format Visuals> Effects> Background Color = #EF008C

Output:

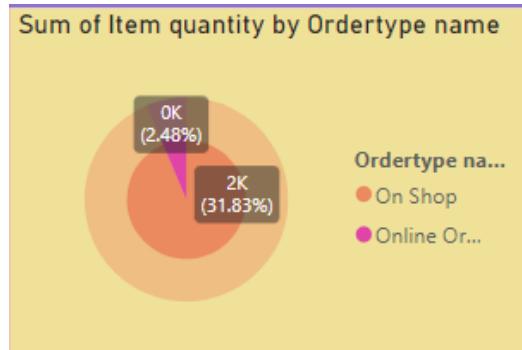


13. Create Pie-Chart:

- Visualizations >Build Visuals >Fields > Legend="Ordertype Name"
- Visualizations >Build Visuals >Fields > Values="Sum of Item quantity"
- Visualizations >Format Visuals> Legend> slices >Color = #374649
- Visualizations >Format Visuals> Values >Color = #374649
- Visualizations >Format Visuals> Legend> slices>on line>Color = #FE6D86
- Visualizations >Format Visuals> Legend> slices>On Shop >Color = #F18F49
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center

- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="Sum of Item quantiy by ordertype name"
- Visualizations >Format Visuals> Title> Font Size =16
- Visualizations >Format Visuals> Effects> Background Color = #FFD86C

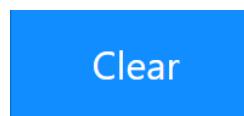
Output:



14. Create a Filter to clear Button:

- Insert > Shapes > Select “Rectangle Shape”
- Visualizations > Format > Shape > Text > “ON” > Text = “Clear”
- Visualizations > Format > Shape > Action > “ON”
- Now make all visuals to initial state the follow next step
- View > BookMark > Add BookMark =”Clear”
- Visualizations > Format > Shape > Action > Select = “BookMark”
- Visualizations > Format> Shape > Action > BookMark =”Clear”

Output:



15. Creating Hierarchy for drill down and drill up operations:

- Data > Category Name > Create hierarchy
- Data > Item Name > Add to hierarchy

- Place cursor on visual > Click “↓” to drill down
- Place cursor on visual > Click “↓” to drill next level of hierarchy

Output:

Initial:

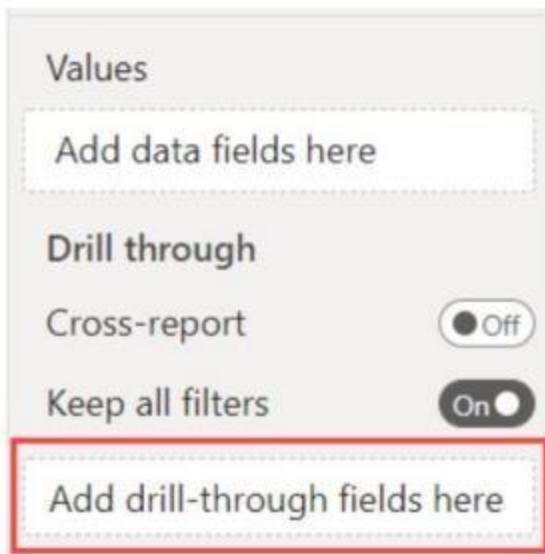


After Drill Down:



Drill through:

- To set up drillthrough, create a target report page that has the visuals you want for the type of entity that you're going to provide drillthrough for.
- Then, on that drillthrough target page, in the **Build visual** section of the Visualizations pane, drag the **field** for which you want to enable drillthrough into the Drill through well.



- Add drill-through field = “CategoryName”

Output:

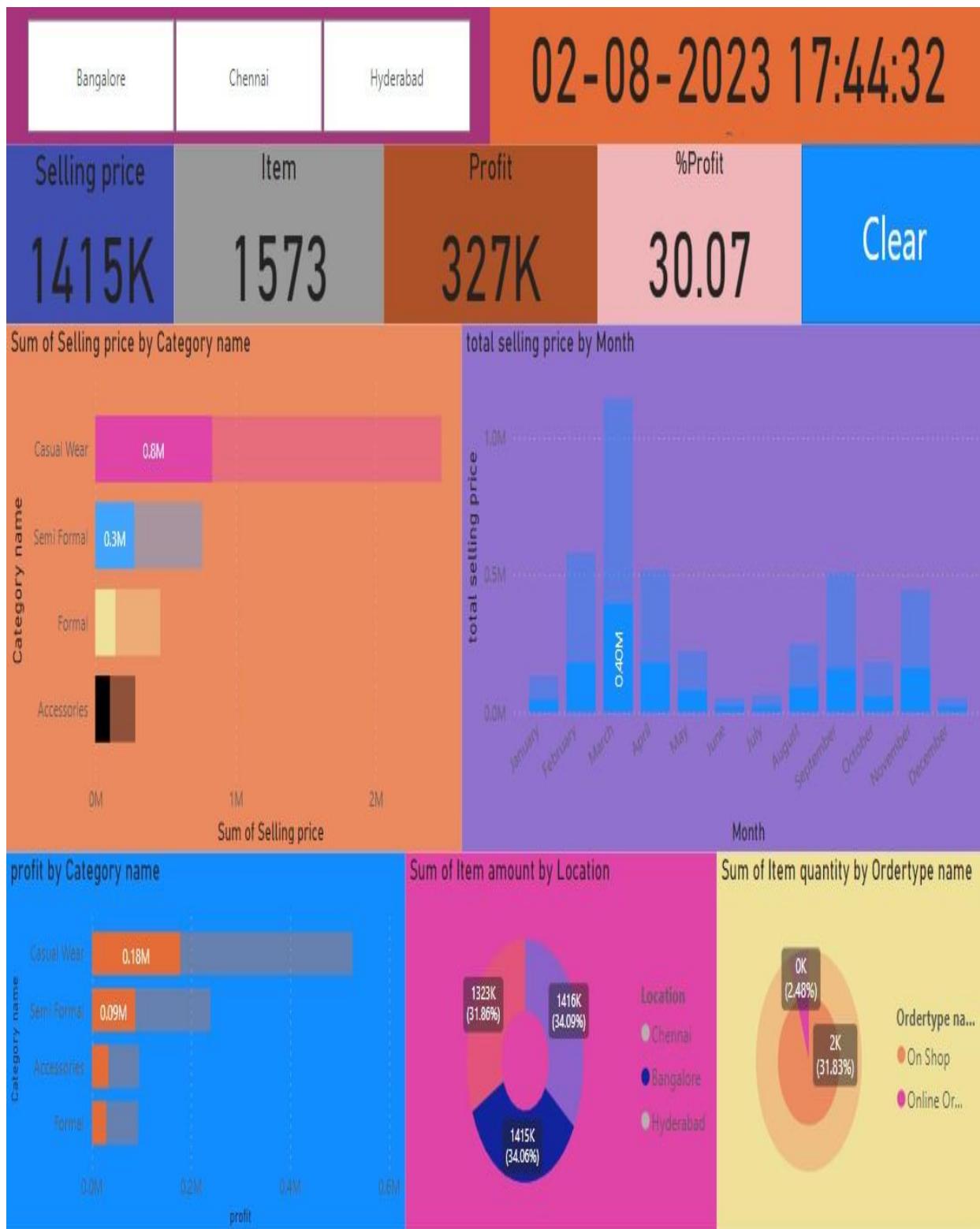
The table visualization displays the following data:

Receipt no	Category name	Item name	Location	Order type name	Sum of Cost Price	Sum of Item amount	Year	Quarter	Month	Day	Sum of Selling price	Sum c
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	1400	1800	2019	Qtr 1	January	9	1800	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	700	900	2019	Qtr 1	March	9	900	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	1400	1800	2019	Qtr 2	April	9	1800	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	700	900	2019	Qtr 2	May	9	900	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	1400	1800	2019	Qtr 2	June	9	1800	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	700	900	2019	Qtr 3	July	9	900	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	700	900	2019	Qtr 4	October	9	900	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	700	900	2019	Qtr 4	November	9	900	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	1400	1800	2019	Qtr 4	December	9	1800	0
BL100	Casual Wear	Jeans - Denim	Bangalore	On Shop	700	900	2020	Qtr 1	January	9	900	0
BL100	Casual Wear	Jeans - Denim	Chennai	On Shop	700	900	2019	Qtr 1	February	9	900	0
BL100	Casual Wear	Jeans - Denim	Chennai	On Shop	700	900	2019	Qtr 1	March	9	900	0
BL100	Casual Wear	Jeans - Denim	Chennai	On Shop	700	900	2019	Qtr 3	August	9	900	0
BL100	Casual Wear	Jeans - Denim	Chennai	On Shop	700	900	2019	Qtr 4	October	9	900	0
BL100	Casual Wear	Jeans - Denim	Chennai	On Shop	700	900	2020	Qtr 1	January	9	900	0
BL100	Casual Wear	Jeans - Denim	Chennai	On Shop	700	900	2020	Qtr 1	February	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2019	Qtr 1	February	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2019	Qtr 2	May	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2019	Qtr 3	July	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2019	Qtr 3	August	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	1400	1800	2019	Qtr 3	September	9	1800	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2019	Qtr 4	November	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2020	Qtr 1	February	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	700	900	2020	Qtr 1	March	9	900	0
BL100	Casual Wear	Jeans - Denim	Hyderabad	On Shop	1400	1800	2020	Qtr 1	September	9	1800	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2019	Qtr 3	September	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2019	Qtr 4	December	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2019	Qtr 4	January	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2019	Qtr 4	February	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2020	Qtr 1	March	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2020	Qtr 1	April	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2020	Qtr 1	May	10	1100	0
BL101	Casual Wear	Jeans - Levi's	Bangalore	On Shop	900	1100	2020	Qtr 1	July	10	1100	0
Total					1974300	2626500					2468300	0

16. Final Visual Format:

- Visualizations >Page Information > Name =”Page1”
- Visualizations >canvas Background > color=”D8D7BF ”
- Visualizations > Wall Paper > color = “#FFFFFF”

Output:



Experiment Number: 06

Aim:

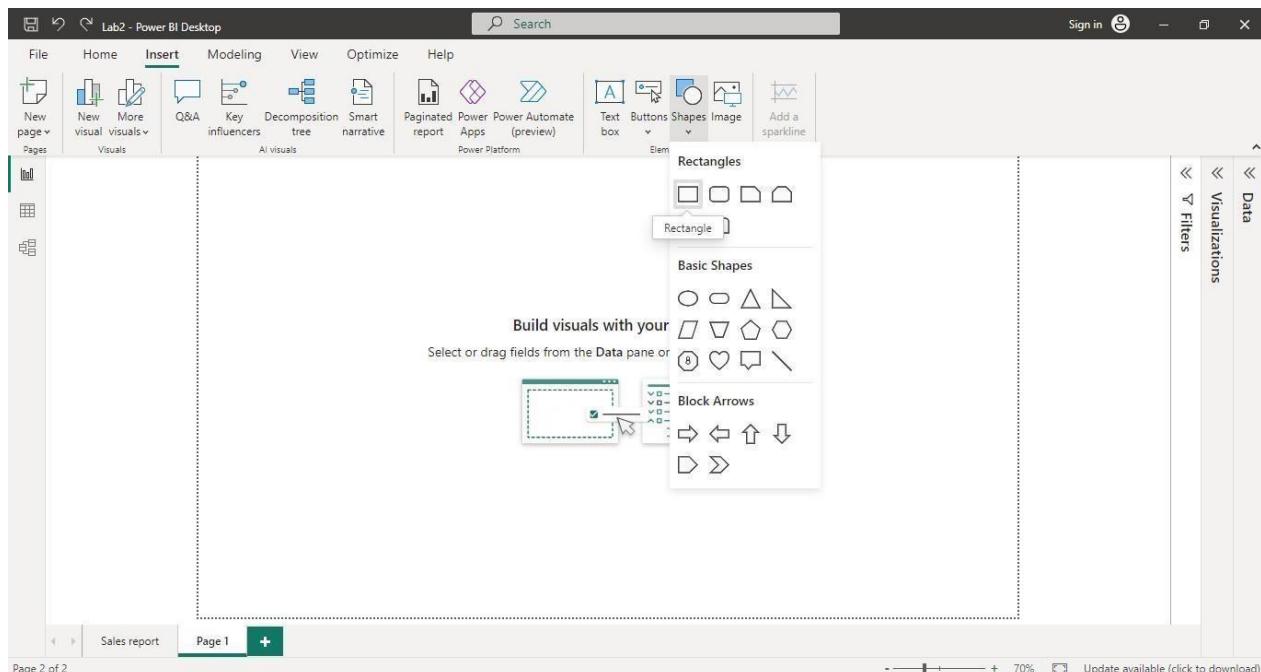
Create Reports using Aggregation functions calculate a value such as count, sum, average, minimum or maximum for all rows in a column or table as defined by the expression.

Procedure:

1. Importing the Dataset:

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import yoursample dataset into Power BI.

2. Insert Rectangle Shape:



- Click on “Format tab” on right side and perform changes on visual.
- Shape > Style > #E66C37
- Shape > Text >Text = “Sales report”, Font Size = 46, Horizontal Alignment = “Center”.

3.Add card for Displaying Sum Values of Profit and sales :

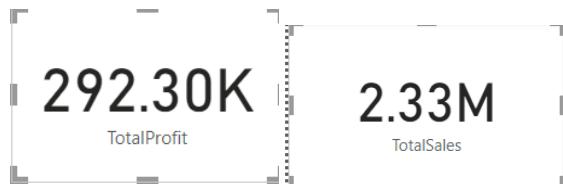
- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.

In the formula bar, enter the following DAX formula to create a measure that calculates the total profit and sales.

```
TotalProfit = CALCULATE(SUM(ORDERS[PROFIT]))  
TotalSales = CALCULATE(sum(Orders[Sales]))
```

- Press Enter to apply the formula.
- Visualization > Format Visual > General > Effects > Background Color : #E6E6E6
- Visualization > Format Visual > Visual > Category Label > Font Size = 12

Output:



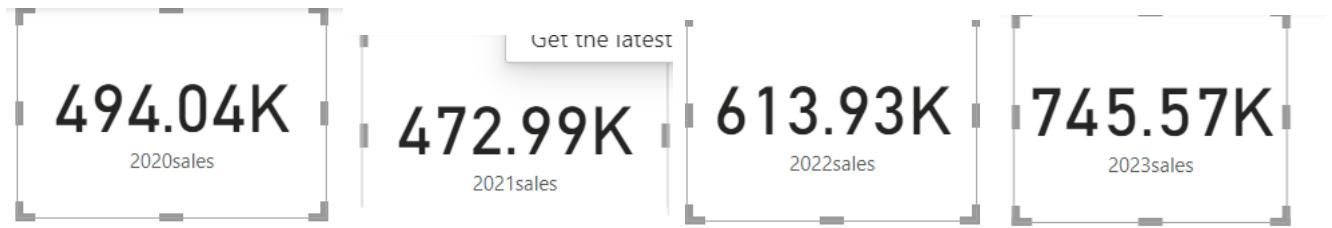
Similarly, calculate the individual years total profit by using the below formulas:

- 2020Profit = CALCULATE(SUM(ORDERS[PROFIT]), year(Orders[Order Date])=2020)

Similarly, calculate the individual years total sales by using the below formulas:

- 2020sales = calculate(sum(Orders[Sales]), year(Orders[Order Date])=2020)

OUTPUT:



4. Add card for Displaying Average Values of Profit and sales :

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- In the formula bar, enter the following DAX formula to create a measure that calculates the average profit and sales

```
avgprofit = CALCULATE(AVERAGE(Orders[Profit]))  
avgsales = CALCULATE(AVERAGE(Orders[Sales]))
```

- Press Enter to apply the formula.
- Visualization > Format Visual > General > Effects > Background Color : #B6E6E6
- Visualization > Format Visual > Visual > Category Label > Font Size = 12

Output:



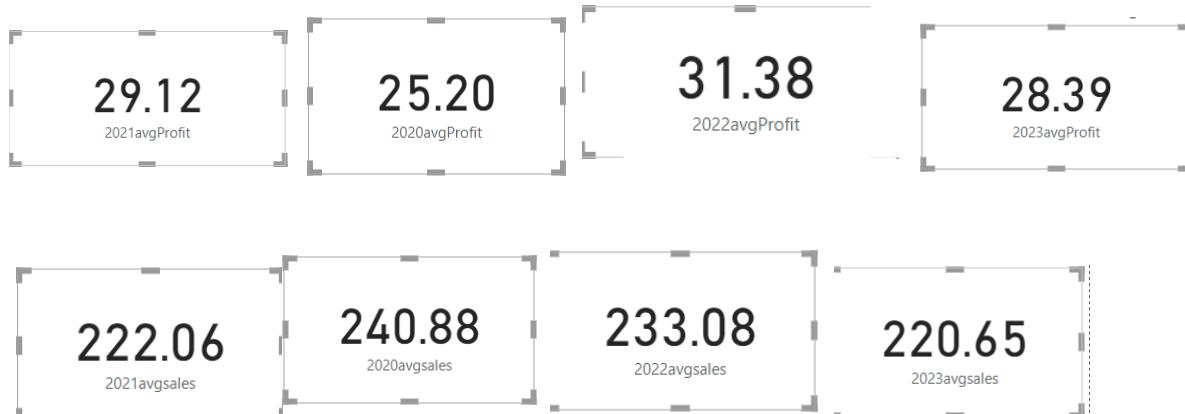
Similarly, calculate the individual years average profit by using the below formulas:

- 2020avgProfit = CALCULATE(AVERAGE(ORDERS[PROFIT]), year(Orders[Order Date])=2020)
- 2021avgProfit = CALCULATE(AVERAGE(ORDERS[PROFIT]), year(Orders[Order Date])=2021)
- 2022avgProfit = CALCULATE(AVERAGE(ORDERS[PROFIT]), year(Orders[Order Date])=2022)
- 2023avgProfit = CALCULATE(AVERAGE(ORDERS[PROFIT]), year(Orders[Order Date])=2023)

Similarly, calculate the individual years average sales by using the below formulas:

- 2020avgsales = CALCULATE(AVERAGE(Orders[Sales]), year(Orders[Order Date])=2020)
- 2021avgsales = CALCULATE(AVERAGE(Orders[Sales]), year(Orders[Order Date])=2021)
- 2022avgsales = CALCULATE(AVERAGE(Orders[Sales]), year(Orders[Order Date])=2022)
- 2023avgsales = CALCULATE(AVERAGE(Orders[Sales]), year(Orders[Order Date])=2023)

OUTPUT:



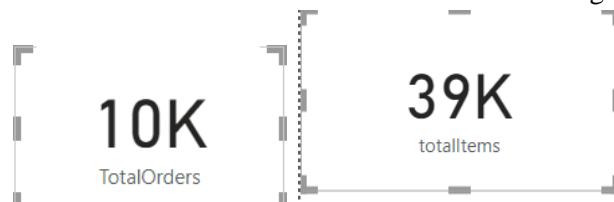
5. Add card for Displaying count of items and orders:

- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- In the formula bar, enter the following DAX formula to create a measure that calculates the no of items and orders

```
totalItems = CALCULATE(sum(orders[quantity]))  
TotalOrders = CALCULATE(COUNT(Orders[Order ID]))
```

Press Enter to apply the formula.

- Visualization > Format Visual > General > Effects > Background Color : #E6F2g6
- Visualization > Format Visual > Visual > Category Label > Font Size = 12



Similarly, calculate the individual years orders by using the below formulas:

- 2020OrderCount = CALCULATE(count(Orders[Order ID]), year(Orders[Order Date])=2020)
- 2021OrderCount = CALCULATE(count(Orders[Order ID]), year(Orders[Order Date])=2021)
- 2022OrderCount = CALCULATE(count(Orders[Order ID]), year(Orders[Order Date])=2022)
- 2023OrderCount = CALCULATE(count(Orders[Order ID]), year(Orders[Order Date])=2023)

Output:



Similarly, calculate the individual year items by using the below formulas:

- 2020items = calculate(sum(Orders[Quantity]), year(Orders[Order Date])=2020)
- 2021items = calculate(sum(Orders[Quantity]), year(Orders[Order Date])=2021)
- 2022items = calculate(sum(Orders[Quantity]), year(Orders[Order Date])=2022)
- 2023items = calculate(sum(Orders[Quantity]), year(Orders[Order Date])=2023)

Output:



7.Add card for Displaying max and min no of orders:

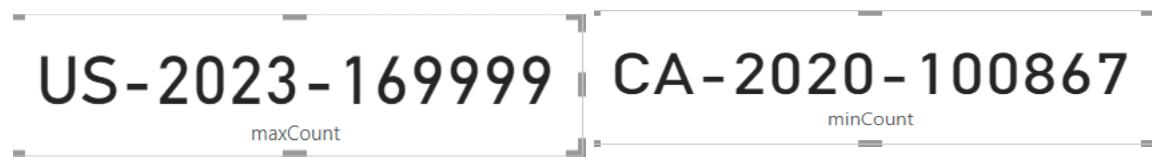
- With the card visualization selected, locate the "Fields" pane on the right-hand side.
- Right-click anywhere in the "Fields" pane and select "New Measure" from the contextmenu. This will open the formula bar at the top.
- In the formula bar, enter the following DAX formula to create a measure that calculates the max and min no of orders

```
maxCount = CALCULATE(MAX(Orders[Order ID]))  
minCount = CALCULATE(MIN(Orders[Order ID]))
```

Press Enter to apply the formula.

- Visualization > Format Visual > General > Effects > Background Color : #E6F2g6
- Visualization > Format Visual > Visual > Category Label > Font Size = 14

OUTPUT:



Similarly, calculate the individual year max orders by using the below formulas

- 2020maxCount = CALCULATE(max(Orders[Order ID]),year(Orders[Order Date])=2020)
- 2021maxCount = CALCULATE(max(Orders[Order ID]),year(Orders[Order Date])=2021)
- 2022maxCount = CALCULATE(max(Orders[Order ID]),year(Orders[Order Date])=2022)
- 2023maxCount = CALCULATE(max(Orders[Order ID]),year(Orders[Order Date])=2023)

OUTPUT:



Similarly, calculate the individual year min orders by using the below formulas:

- 2020minCount = CALCULATE(min(Orders[Order ID]),year(Orders[Order Date])=2020)
- 2021minCount = CALCULATE(min(Orders[Order ID]),year(Orders[Order Date])=2021)
- 2022minCount = CALCULATE(min(Orders[Order ID]),year(Orders[Order Date])=2022)
- 2023minCount = CALCULATE(min(Orders[Order ID]),year(Orders[Order Date])=2023)

OUTPUT:



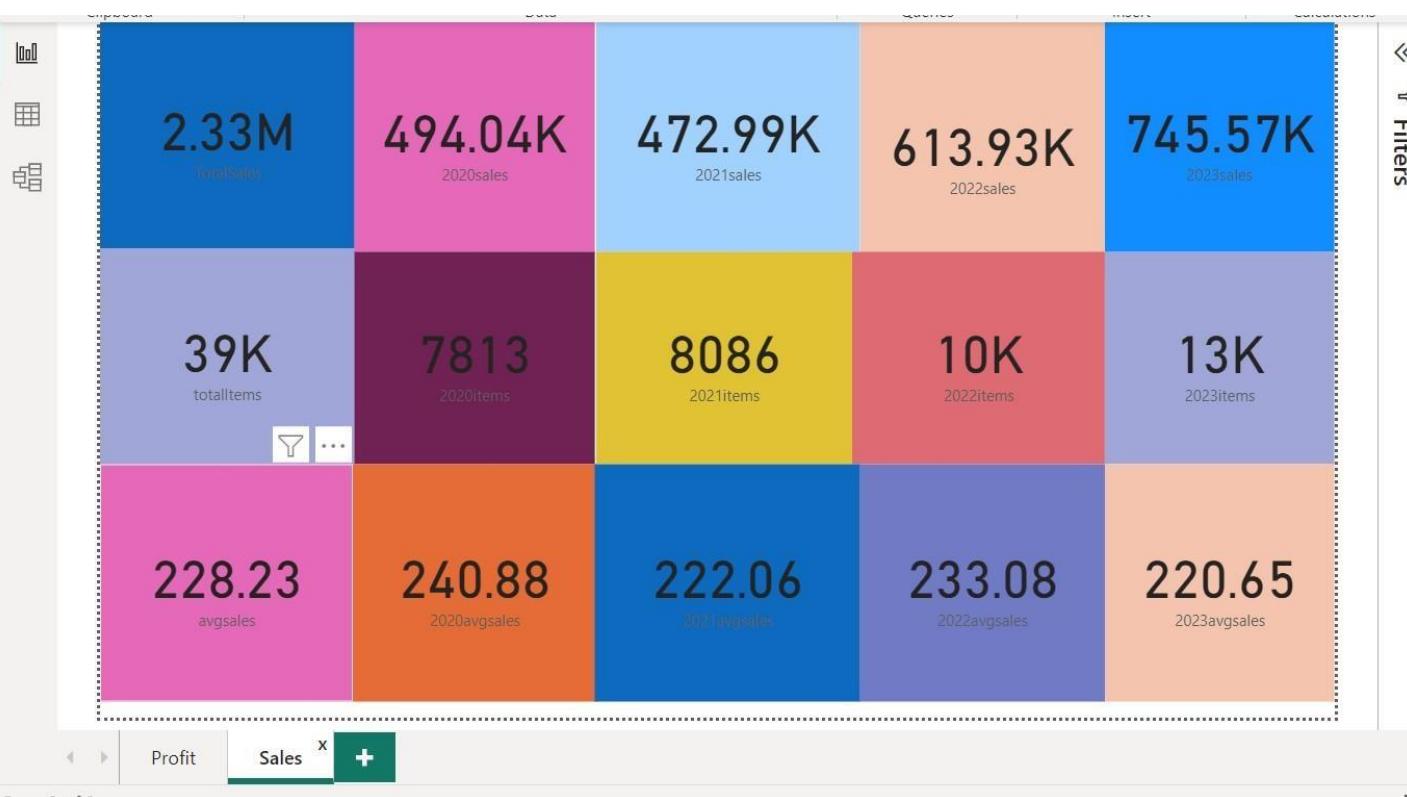
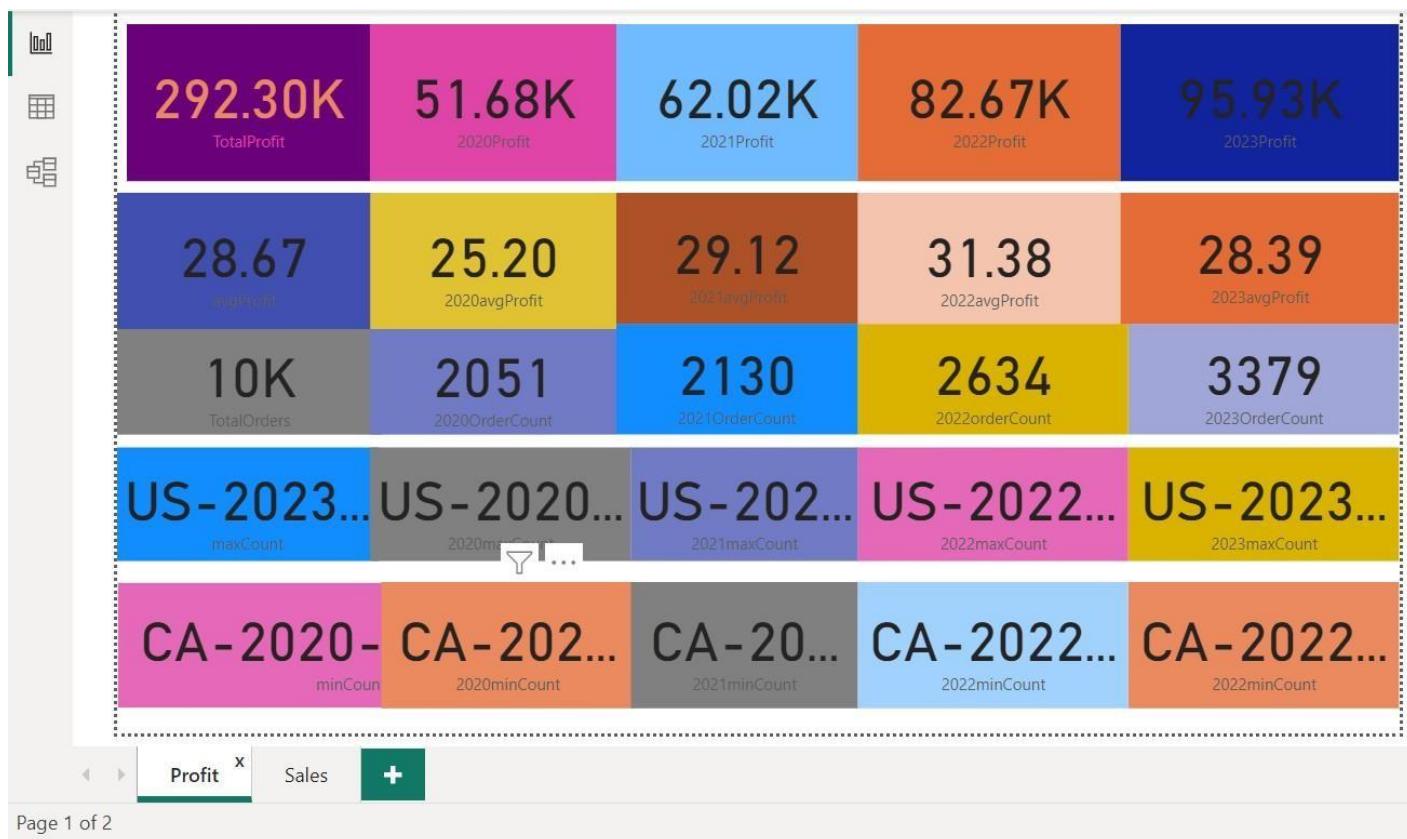
8. Final Visual Format for profit page:

- Visualizations > Page Information > Name =”Profit”
- Visualizations > Canvas Background > color = #12239E
- Visualizations > WallPaper > Color = #A0D1FF

9.Final Visual Format for sales page:

- Visualizations > Page Information > Name =”Sales”
- Visualizations > Canvas Background > color = #12239E
- Visualizations > WallPaper > Color = #A0D1F

Output:



Experiment Number: 07

Aim:

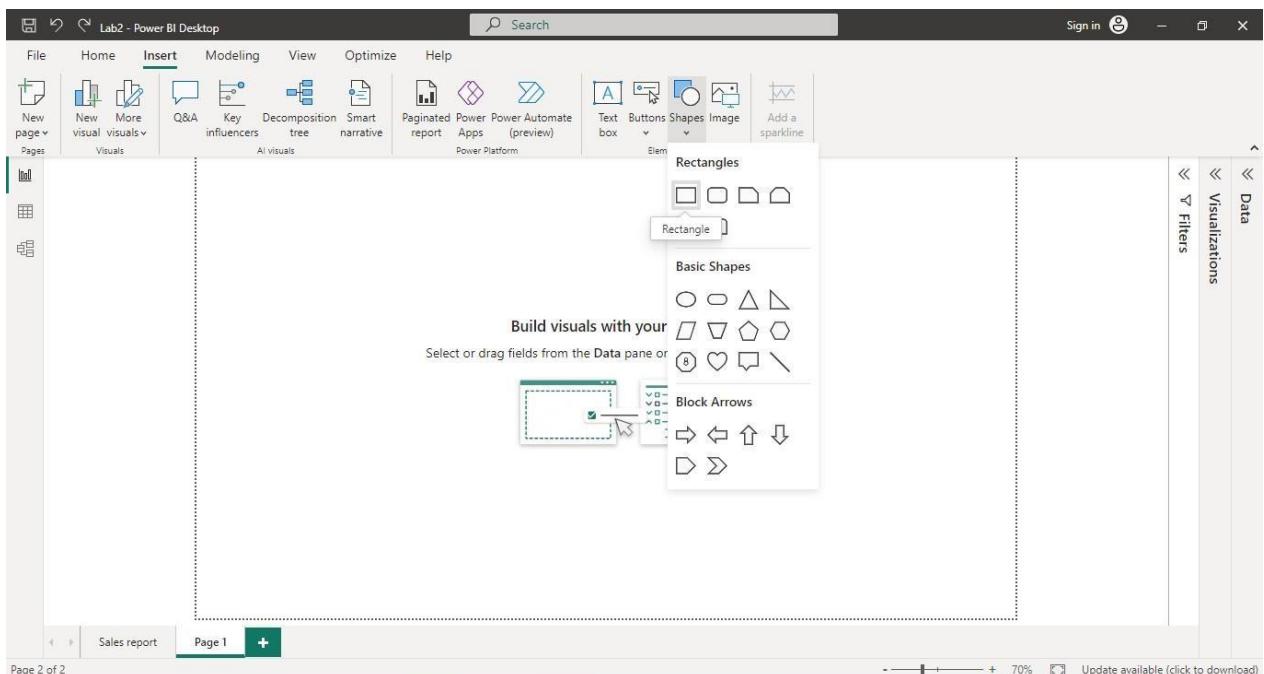
Create reports using calculations based on dates and times.

Procedure:

1.Importing the Dataset:

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import your sample dataset into Power BI.

2.Insert Rectangle Shape:

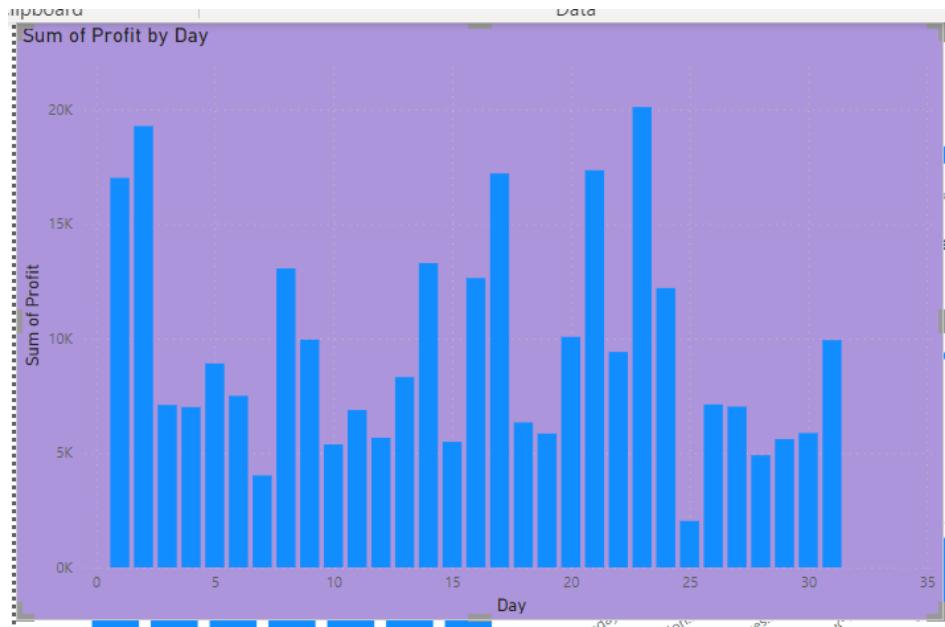


- Click on “Format tab” on right side and perform changes on visual.
- Shape > Style > #E66C37
- Shape > Text >Text = “Dates and Time” , Font Size = 46, Horizontal Alignment = “Center”

3.Create Stacked Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”day”
- For day data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

```
Day = DAY(Orders[Order Date].[Date])
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by day”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #5C2D91



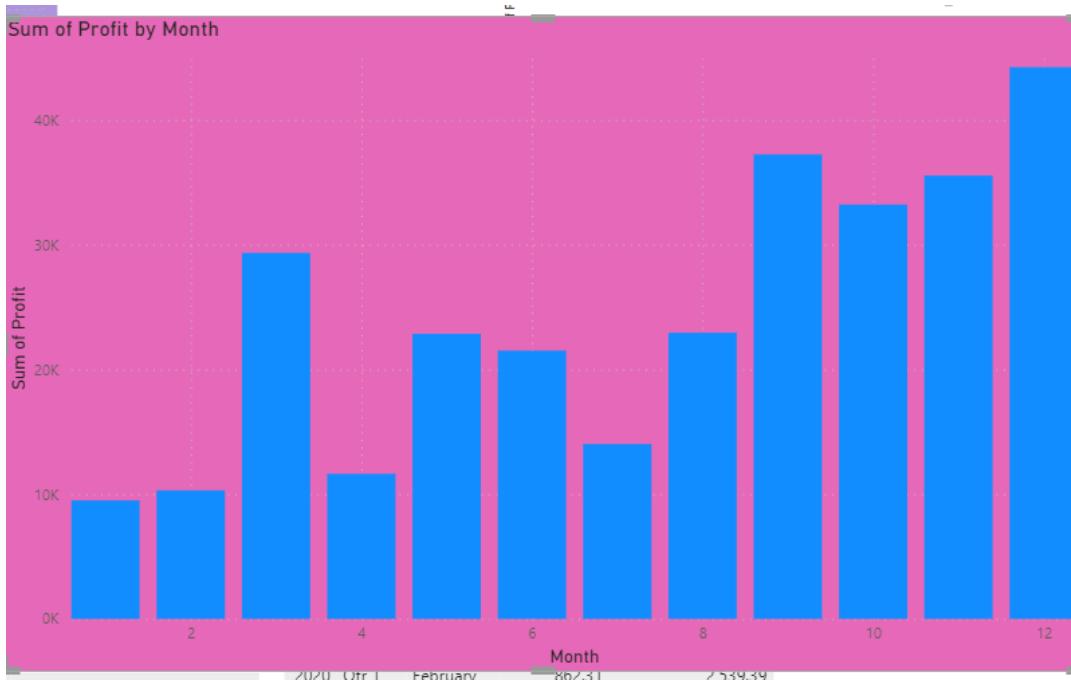
4.Create Stacked Column Chart:

Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”

- Visualizations >Build Visuals >Fields > X-Axis =”month”
- For month data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

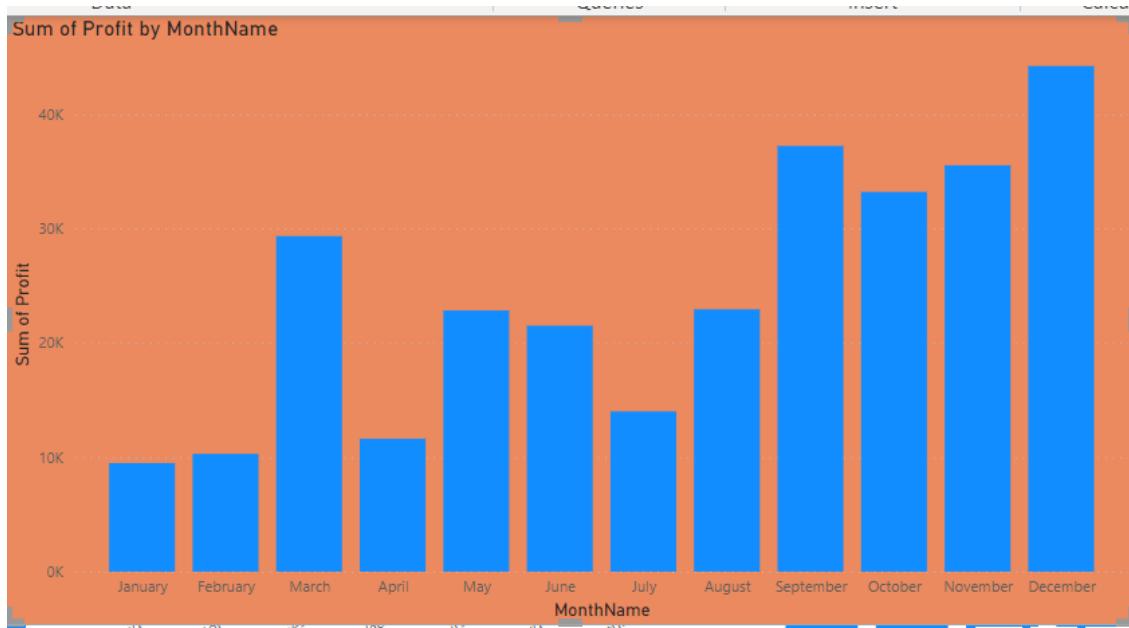
```
Month = MONTH(Orders[Order Date].[Date])
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D

- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="sum of profit by month"
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #e6b999



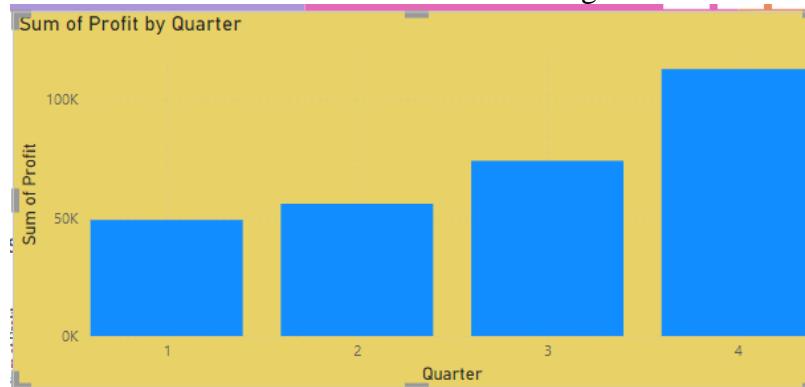
5.Create Stacked Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis ="sum of profit"
- Visualizations >Build Visuals >Fields > X-Axis ="month name"
- For monthname data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:
`MonthName = Orders[Order Date].[Month]`
Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="sum of profit by month name"
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #ebf89f



6. Create Stacked Column Chart:

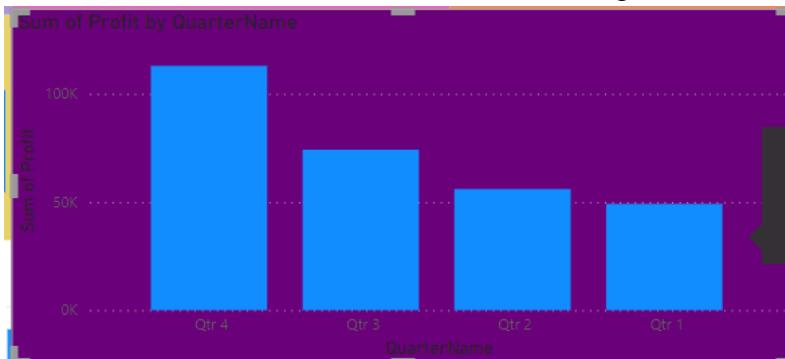
- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”quarter”
- For quarter data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:
`Quarter = QUARTER(Orders[Order Date].[Date])`
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by quarter”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #e8d166



7. Create Stacked Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”quarter name”
- For quartername data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

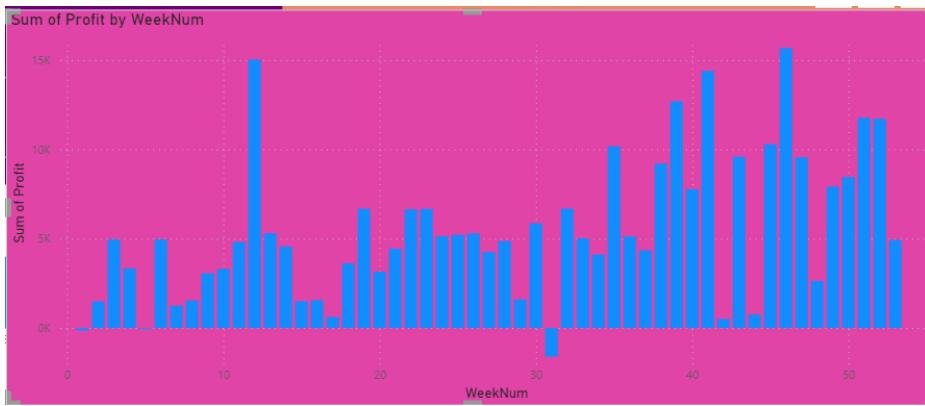
```
QuarterName = Orders[Order Date].[Quarter]
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by quarter name”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #6b0010



8. Create Stacked Column Chart:

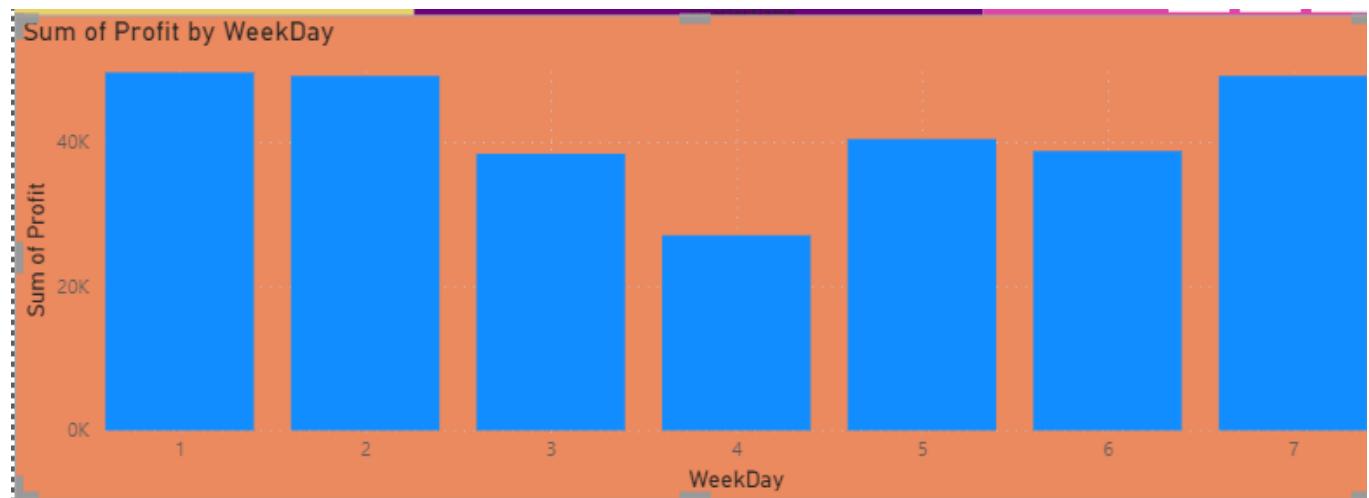
- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”week number”
- For weeknum data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

```
WeekNum = WEEKNUM(Orders[Order Date].[Date])
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by week num”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #EO0047



9. Create Stacked Column Chart:

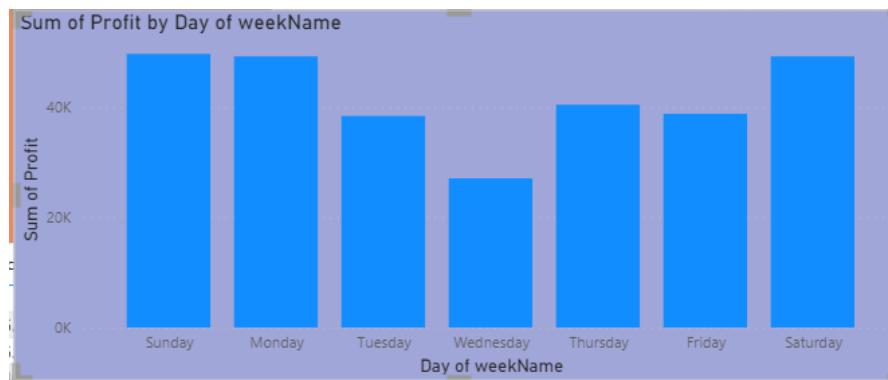
- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”week day”
- For weekday data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:
`WeekDay = WEEKDAY(Orders[Order Date].[Date])`
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by week day”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #ebf567



10. Create Stacked Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”day of week name”
- For weekname data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

```
Day of weekName = FORMAT(Orders[Order Date], "ddd")
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by day of week name”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #a0A078

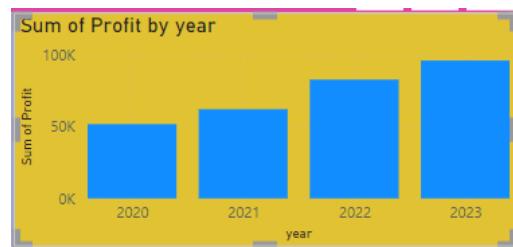


11. Create Stacked Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit”
- Visualizations >Build Visuals >Fields > X-Axis =”year”
- For year data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

```
year = YEAR(Orders[Order Date].[Date])
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit by year”

- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #a0A078



12. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>profit>previousYear Profit
- Orders->NewColumn->and enter the below dax formula:

```
previousDayProfit = CALCULATE(SUM(Orders[Profit]), PREVIOUSDAY(Orders[Order Date].[Date]))
```

Year	Quarter	Month	Day	Sum of Profit	previousDayProfit
2020	Qtr 1	January	3	5.55	
2020	Qtr 1	January	4	-65.99	5.55
2020	Qtr 1	January	5	4.88	-65.99
2020	Qtr 1	January	6	1,358.05	4.88
2020	Qtr 1	January	7	-71.96	1,358.05
2020	Qtr 1	January	8		-71.96
2020	Qtr 1	January	9	10.92	
2020	Qtr 1	January	10	22.65	10.92
2020	Qtr 1	January	11	3.08	22.65
2020	Qtr 1	January	12		3.08
2020	Qtr 1	January	13	673.64	
2020	Qtr 1	January	14	-53.29	673.64
2020	Qtr 1	January	15	65.98	-53.29
2020	Qtr 1	January	16	-5.93	65.98
2020	Qtr 1	January	17		-5.93
2020	Qtr 1	January	18	6.49	
2020	Qtr 1	January	19	-288.00	6.49
2020	Qtr 1	January	20	584.37	-288.00
Total				2,92,296.81	

13. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>profit>previousMonthProfit
- Orders->NewColumn->and enter the below dax formula:

```
previousMonthProfit = CALCULATE(SUM(Orders[Profit]), PREVIOUSMONTH(Orders[Order Date].[Date]))
```

Year	Quarter	Month	Sum of Profit	previousMonthProfit
2020	Qtr 1	January	2,539.39	
2020	Qtr 1	February	862.31	2,539.39
2020	Qtr 1	March	693.45	862.31
2020	Qtr 2	April	3,488.84	693.45
2020	Qtr 2	May	3,196.39	3,488.84
2020	Qtr 2	June	4,999.76	3,196.39
Total				2,92,296.81

14. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > previousqtrProfit
- Orders -> NewColumn -> and enter the below dax formula:
`previousqtrProfit = CALCULATE(SUM(Orders[Profit]), PREVIOUSQUARTER(Orders[Order Date].[Date]))`

Year	Quarter	previousqtrProfit	Sum of Profit
2020	Qtr 1		4,095.15
2020	Qtr 2	4,095.15	11,684.99
2020	Qtr 3	11,684.99	13,517.37
2020	Qtr 4	13,517.37	22,386.79
2021	Qtr 1	22,386.79	9,554.66
2021	Qtr 2	9,554.66	12,200.19
2021	Qtr 3	12,200.19	16,880.30
2021	Qtr 4	16,880.30	23,385.82
2022	Qtr 1	23,385.82	11,628.49
2022	Qtr 2	11,628.49	16,594.68
2022	Qtr 3	16,594.68	16,247.49
2022	Qtr 4	16,247.49	38,194.55
2023	Qtr 1	38,194.55	23,858.60
2023	Qtr 2	23,858.60	15,503.91
2023	Qtr 3	15,503.91	27,545.38
2023	Qtr 4	27,545.38	29,018.46
Total			2,92,296.81

15. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > previousyearprofit
- Orders -> NewColumn -> and enter the below dax formula:

`previousyearProfit = CALCULATE(SUM(Orders[Profit]), PREVIOUSYEAR(Orders[Order Date].[Date]))`

Year	Sum of Profit	previousyearProfit
2020	51,684.30	
2021	62,020.97	51,684.30
2022	82,665.20	62,020.97
2023	95,926.35	82,665.20
Total	2,92,296.81	

16. Create Clustered Column Chart:

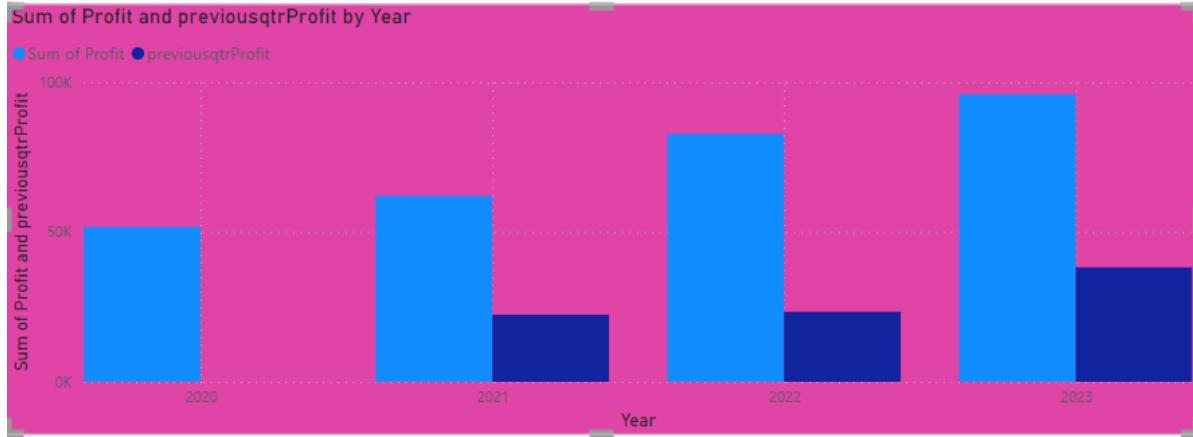
- Visualizations > Build Visuals > Fields > Y-Axis = "sum of profit, previousyearprofit"
- Visualizations > Build Visuals > Fields > X-Axis = "order date"

- For previousyearprofit data field create a new column measure
- Orders -> NewColumn -> and enter the below dax formula:

`previousyearProfit = CALCULATE(SUM(Orders[Profit]), PREVIOUSYEAR(Orders[Order Date].[Date]))`

- Visualizations > Format Visuals > Y-axis > Values > Color = #374649
- Visualizations > Format Visuals > Y-axis > Values > Title > Color = #5F6B6D
- Visualizations > Format Visuals > X-axis > Values > Color = #374649
- Visualizations > Format Visuals > X-axis > Values > Title > Color = #5F6B6D
- Visualizations > Format Visuals > Bar > Show All

- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="sum of profit and previousprofit by year"
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #E044A7

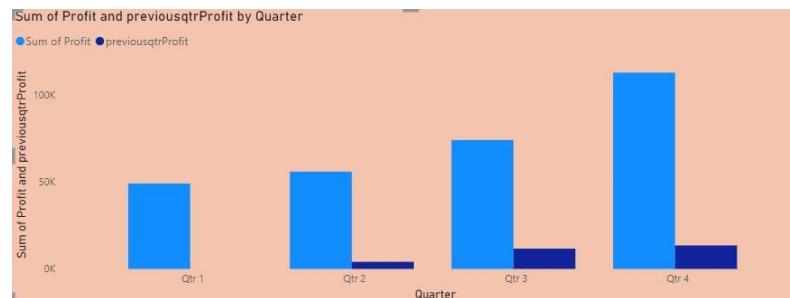


17. Create Clustered Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis ="sum of profit,previousqtrprofit"
- Visualizations >Build Visuals >Fields > X-Axis ="order date"
- For previousqtrprofit data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:


```
previousqtrProfit = CALCULATE(SUM(Orders[Profit]), PREVIOUSQUARTER(Orders[Order Date].[Date]))
```

 - Visualizations >Format Visuals> Y-axis> Values >Color = #374649
 - Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
 - Visualizations >Format Visuals> X-axis> Values >Color = #374649
 - Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
 - Visualizations >Format Visuals> Bar> Show All
 - Visualizations >Format Visuals> Data Labels > Options> Inside Center
 - Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
 - Visualizations >Format Visuals> Title> Text ="sum of profit and previousqtrprofit by quarter"
 - Visualizations >Format Visuals> Title> Font Size =20
 - Visualizations >Format Visuals> Effects> Background Color = #fc67e9

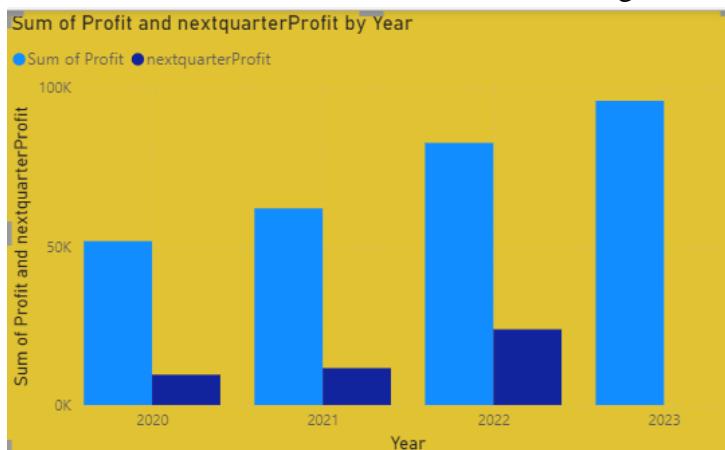


18. Create Clustered Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit,nextqtrprofit”
- Visualizations >Build Visuals >Fields > X-Axis =”order date”
- For nextqtrprofit data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

```
nextquarterProfit = CALCULATE(SUM(Orders[Profit]),NEXTQUARTER(Orders[Order Date].[Date]))
```

Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit and nextqtrprofit by year”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #e1c233



19. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>profit>nextmonthprofit
- Visualizations >Columns>orderDate>profit>nextquarterprofit
- Visualizations >Columns>orderDate>profit>nextyearprofit
- Orders->NewColumn->and enter the below dax formula:

```
nextmonthProfit = CALCULATE(SUM(Orders[Profit]),NEXTMONTH(Orders[Order Date].[Date]))
```



```
nextquarterProfit = CALCULATE(SUM(Orders[Profit]),NEXTQUARTER(Orders[Order Date].[Date]))
```



```
nextyearProfit = CALCULATE(SUM(Orders[Profit]),NEXTYEAR(Orders[Order Date].[Date]))
```

Year	Quarter	Month	Sum of Profit	nextmonthProfit	Year	Sum of Profit	nextyearProfit	
2020	Qtr 4	November	9,502.90	9,554.00	2020	Qtr 1	4,095.15	11,684.99
2020	Qtr 4	December	9,554.66	-3,189.80	2020	Qtr 2	11,684.99	13,517.37
2021	Qtr 1	January	-3,189.80	2,813.85	2020	Qtr 3	13,517.37	22,386.79
2021	Qtr 1	February	2,813.85	9,930.61	2020	Qtr 4	22,386.79	9,554.66
2021	Qtr 1	March	9,930.61	4,187.50	2021	Qtr 1	9,554.66	12,200.19
2021	Qtr 2	April	4,187.50	4,677.14	2021	Qtr 2	12,200.19	16,880.30
2021	Qtr 2	May	4,677.14	3,335.56	2021	Qtr 3	16,880.30	23,385.82
2021	Qtr 2	June	3,335.56	3,288.65	2021	Qtr 4	23,385.82	11,628.49
2021	Qtr 3	July	3,288.65	5,371.63	2022	Qtr 1	11,628.49	16,594.68
2021	Qtr 3	August	5,371.63	8,220.03	2022	Qtr 2	16,594.68	16,247.49
2021	Qtr 3	September	8,220.03	2,817.97	2022	Qtr 3	16,247.49	38,194.55
2021	Qtr 3	October	2,817.97	2,817.97	2022	Qtr 4	38,194.55	23,858.60
Total			2,92,296.81		Total			
			2,92,296.81		Total			

20. Create Clustered Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit,nextyearprofit”
- Visualizations >Build Visuals >Fields > X-Axis =”order date”
- For nextqtrprofit data field create a new column measure
- Orders->NewColumn->and enter the below dax formula:

nextyearProfit = `CALCULATE(SUM(Orders[Profit]),NEXTYEAR(Orders[Order Date].[Date]))`

Visualizations >Format Visuals> Y-axis> Values >Color = #374649

- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
- Visualizations >Format Visuals> X-axis> Values >Color = #374649
- Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
- Visualizations >Format Visuals> Bar> Show All
- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text =”sum of profit and nextyearprofit by year,quarter,month and day”
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #f5ac4af



21. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > 3daysaheadprofit
- Visualizations > Columns > orderDate > profit > 3daysbackprofit
- Orders -> NewColumn -> and enter the below dax formula:

```
3daysaheadprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],3,DAY))  
3DaysBackprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],-3,DAY))
```

Year	Quarter	Month	Day	Sum of Profit	3daysaheadprofit	3DaysBackprofit
2020	Qtr 1	January	1	-181.41		
2020	Qtr 1	January	2	-207.05		
2020	Qtr 1	January	3	5.55	704.28	
2020	Qtr 1	January	4	-65.99		
2020	Qtr 1	January	5	4.88		
2020	Qtr 1	January	6	1,358.05	15.52	5.55
2020	Qtr 1	January	7	-71.96	758.72	-65.99
2020	Qtr 1	January	8		80.37	4.88
2020	Qtr 1	January	9	10.92	-228.74	1,358.05
2020	Qtr 1	January	10	22.65		-71.96
2020	Qtr 1	January	11	3.08		
2020	Qtr 1	January	12		-1,101.52	10.92
Total				2,92,296.81	95,926.35	2,91,485.89

22. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > 3monthsaheadprofit
- Visualizations > Columns > orderDate > profit > 3monthsbackprofit
- Orders -> NewColumn -> and enter the below dax formula:

```
3monthsaheadprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],3,MONTH))
```

```
3monthsBackprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],-3,MONTH))
```

Year	Quarter	Month	3monthsaheadprofit	3monthsBackprofit	Sum of Profit
2020	Qtr 1	January	7,231.64		2,539.39
2020	Qtr 1	February	1,613.87		862.31
2020	Qtr 1	March	15,013.09		693.45
2020	Qtr 2	April	957.53	2,539.39	3,488.84
2020	Qtr 2	May	6,299.81	862.31	3,196.39
2020	Qtr 2	June	8,246.57	693.45	4,999.76
2020	Qtr 3	July	7,006.50	3,488.84	-841.48
2020	Qtr 3	August	9,488.07	3,196.39	5,765.23
2020	Qtr 3	September	11,050.80	4,999.76	8,593.63
2020	Qtr 4	October	10,670.53	-841.48	3,469.17
2020	Qtr 4	November	9,692.10	5,765.23	9,362.96
2020	Qtr 4	December	8,655.83	8,593.63	9,554.66
2021	Qtr 1	January		3,469.17	-3,189.80
2021	Qtr 1	February		9,362.96	2,813.85
2021	Qtr 1	March		9,554.66	9,930.61
2021	Qtr 2	April		-3,189.80	4,187.50
2021	Qtr 2	May		2,813.85	4,677.14
Total			95,926.35	2,63,278.35	2,92,296.81

23. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > 3quarteraheadprofit
- Visualizations > Columns > orderDate > profit > 3quarterbackprofit

- Orders->NewColumn->and enter the below dax formula:

```
3quartersaheadprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date].[Date],3,QUARTER))
3quartersBackprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],-3,QUARTER))
```

Year	Quarter	Sum of Profit	3quarterBackprofit	3quartersaheadprofit
2022	Qtr 1	11,628.49	12,200.19	
2021	Qtr 1	9,554.66	11,684.99	
2022	Qtr 4	38,194.55	11,628.49	
2021	Qtr 4	23,385.82	9,554.66	
2020	Qtr 4	22,386.79	4,095.15	29,018.46
2020	Qtr 1	4,095.15		23,858.60
2020	Qtr 2	11,684.99		15,503.91
2020	Qtr 3	13,517.37		27,545.38
Total		2,92,296.81	2,20,229.07	95,926.35

24. Create table:

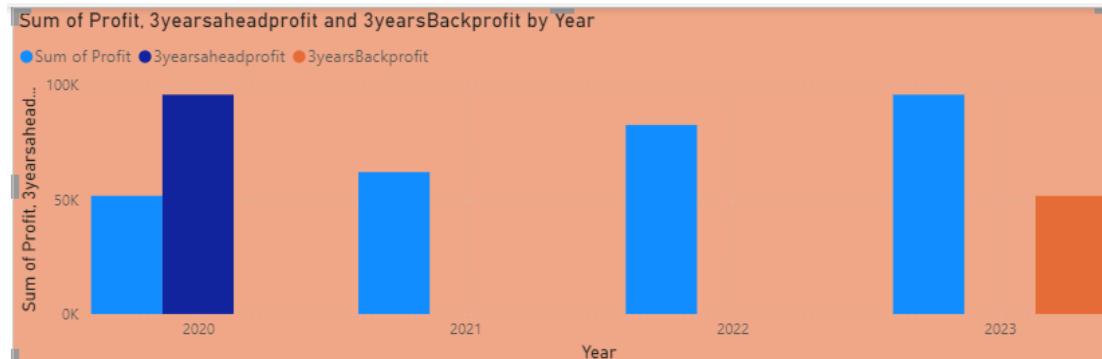
- Home > Enter data > Create table by giving values to the columns
 - Visualizations >Columns>orderDate>profit>3yearsaheadprofit
 - Visualizations >Columns>orderDate>profit>3yearsbackprofit
 - Orders->NewColumn->and enter the below dax formula:
- ```
3yearsaheadprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],3,year))
3yearsBackprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],-3,year))
```

| Year         | Sum of Profit      | 3yearsaheadprofit | 3yearsBackprofit |
|--------------|--------------------|-------------------|------------------|
| 2020         | 51,684.30          | 95,926.35         |                  |
| 2021         | 62,020.97          |                   |                  |
| 2022         | 82,665.20          |                   |                  |
| 2023         | 95,926.35          |                   | 51,684.30        |
| <b>Total</b> | <b>2,92,296.81</b> | <b>95,926.35</b>  | <b>51,684.30</b> |

## 25. Create Clustered Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis =”sum of profit,3yearsbackprofit,3yearsaheadprofit”
  - Visualizations >Build Visuals >Fields > X-Axis =”order date”
  - For 3yearsaheadprofit, 3yearsBackprofit data field create a new column measure
  - Orders->NewColumn->and enter the below dax formula:
- ```
3yearsaheadprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],3,year))
3yearsBackprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],-3,year))
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
 - Visualizations >Format Visuals> X-axis> Values >Color = #374649
 - Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
 - Visualizations >Format Visuals> Bar> Show All

- Visualizations >Format Visuals> Data Labels > Options> Inside Center
- Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
- Visualizations >Format Visuals> Title> Text ="sum of profit ,3yearsaheadprofit and 3yearsbackprofit by year.
- Visualizations >Format Visuals> Title> Font Size =20
- Visualizations >Format Visuals> Effects> Background Color = #f0af87



26. Create Clustered Column Chart:

- Visualizations >Build Visuals >Fields > Y –Axis ="sum of profit,3quartersbackprofit,3quarteraheadprofit"
 - Visualizations >Build Visuals >Fields > X-Axis ="order date"
 - For 3yearsaheadprofit , 3yearsBackprofit data field create a new column measure
 - Orders->NewColumn->and enter the below dax formula:
- ```
3quartersaheadprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],3,QUARTER))
3quartersBackprofit = CALCULATE(sum(Orders[Profit]),DATEADD(Orders[Order Date].[Date],-3,QUARTER))
```
- Visualizations >Format Visuals> Y-axis> Values >Color = #374649
- Visualizations >Format Visuals> Y-axis> Values >Title >Color = #5
  - Visualizations >Format Visuals> X-axis> Values >Color = #374649
  - Visualizations >Format Visuals> X-axis> Values >Title >Color = #5F6B6D
  - Visualizations >Format Visuals> Bar> Show All
  - Visualizations >Format Visuals> Data Labels > Options> Inside Center
  - Visualizations >Format Visuals> Data Labels> Values > Font Size = 14
  - Visualizations >Format Visuals> Title> Text ="sum of profit ,3yearsaheadprofit and 3yearsbackprofit by year.
  - Visualizations >Format Visuals> Title> Font Size =20
  - Visualizations >Format Visuals> Effects> Background Color = # E044A7



## 27. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > sameperiodlastyearprofit
- Orders -> New Column -> and enter the below DAX formula:  
sameperiodlastyearprofit = `CALCULATE(SUM(Orders[Profit]), SAMEPERIODLASTYEAR(Orders[Order Date].[Date]))`

| Year  | Sum of Profit | sameperiodlastyearprofit |
|-------|---------------|--------------------------|
| 2020  | 51,684.30     |                          |
| 2021  | 62,020.97     | 51684                    |
| 2022  | 82,665.20     | 62021                    |
| 2023  | 95,926.35     | 82665                    |
| Total | 2,92,296.81   | 196370                   |

## 28. Create Line Chart:

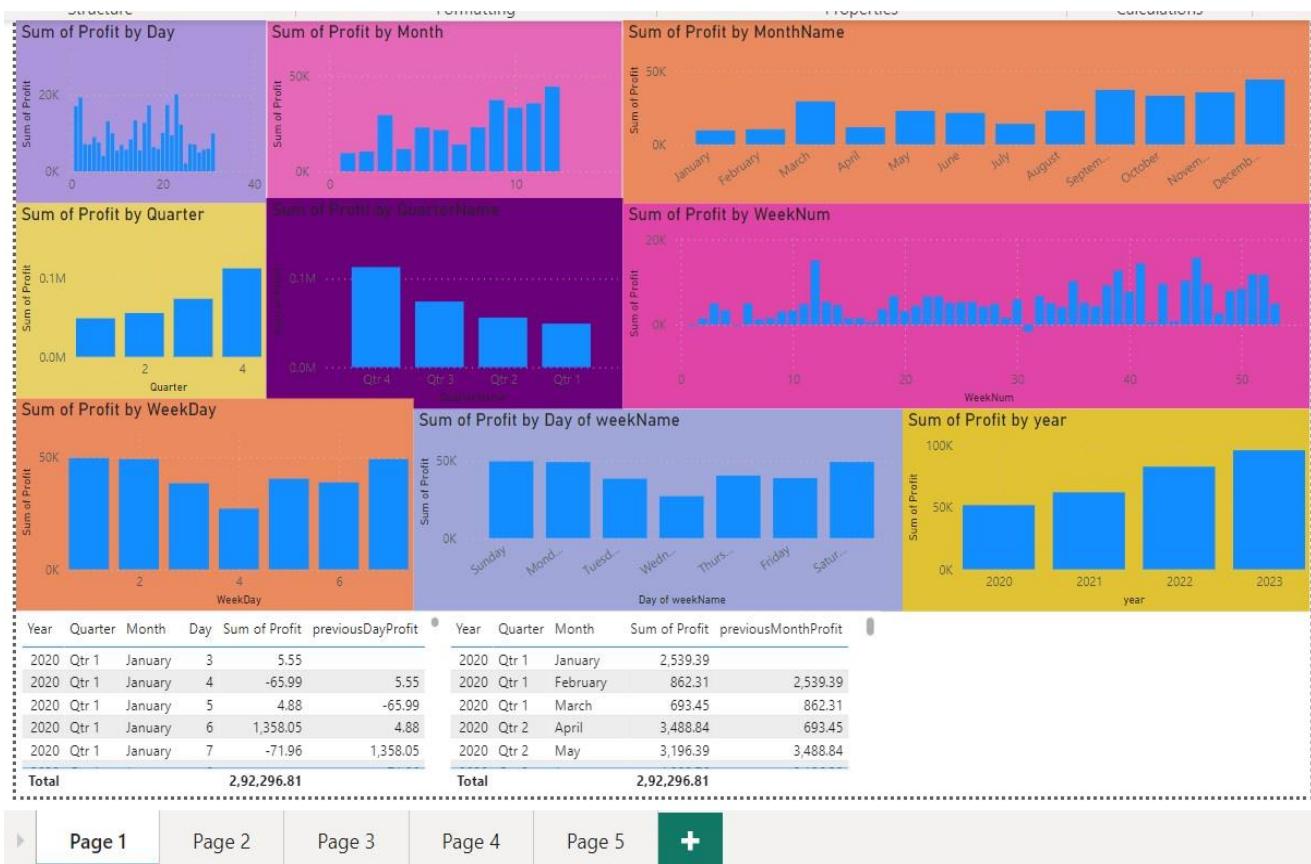
- Visualizations > Build Visuals > Fields > Y-Axis = "sum of profit,"
- Visualizations > Build Visuals > Fields > Second dray - Y-Axis = sameperiodlastyear"
- Visualizations > Build Visuals > Fields > X-Axis = "order date"
- For sameperiodlastyear data field create a new column measure
- Orders -> New Column -> and enter the below DAX formula:

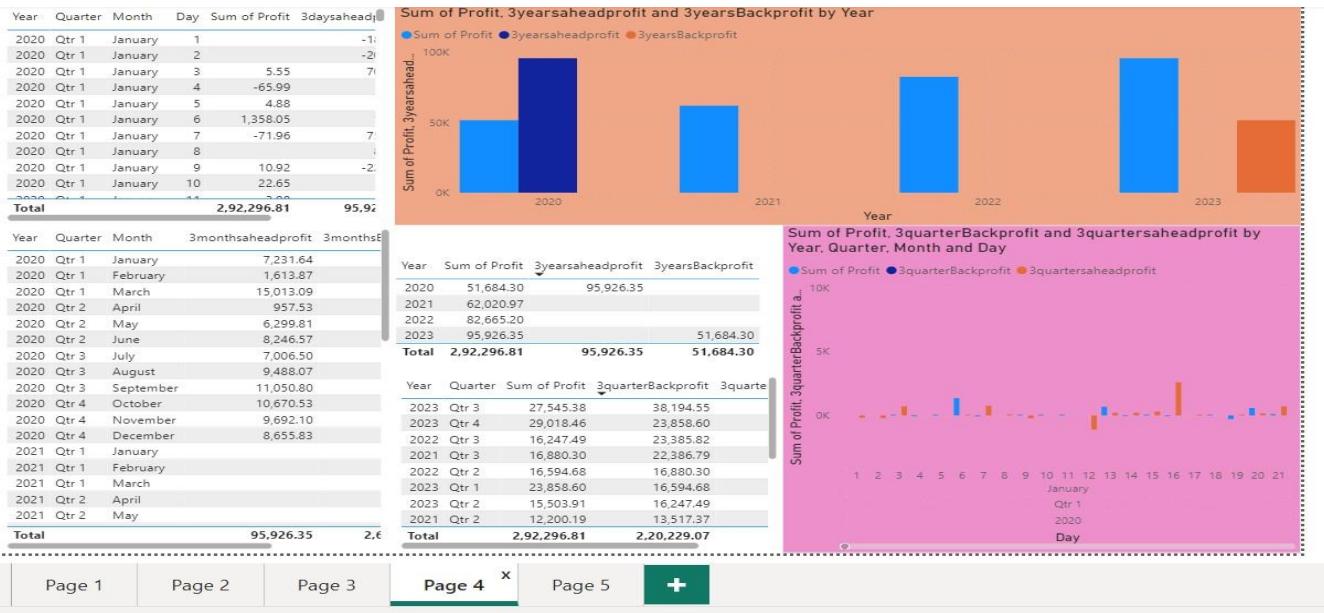
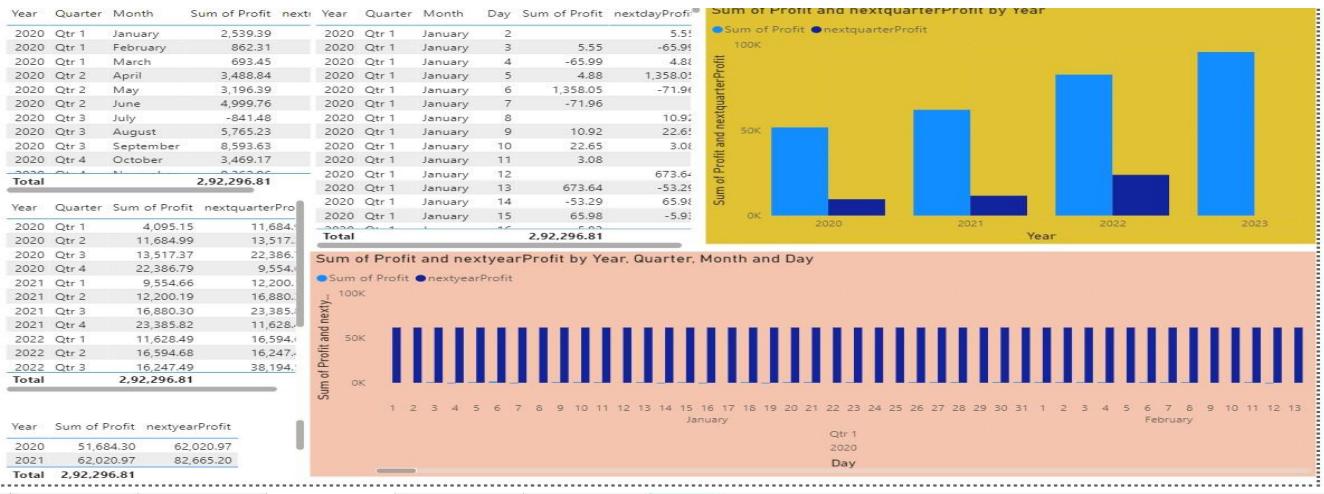
sameperiodlastyearprofit = `CALCULATE(SUM(Orders[Profit]), SAMEPERIODLASTYEAR(Orders[Order Date].[Date]))`

- Visualizations > Format Visuals > Y-axis > Values > Color = #374649
- Visualizations > Format Visuals > Y-axis > Values > Title > Color = #5
- Visualizations > Format Visuals > X-axis > Values > Color = #374649
- Visualizations > Format Visuals > X-axis > Values > Title > Color = #5F6B6D
- Visualizations > Format Visuals > Bar > Show All
- Visualizations > Format Visuals > Data Labels > Options > Inside Center
- Visualizations > Format Visuals > Data Labels > Values > Font Size = 14
- Visualizations > Format Visuals > Title > Text = "sum of profit and sameperiodlastyearprofit by year and month"
- Visualizations > Format Visuals > Title > Font Size = 20
- Visualizations > Format Visuals > Effects > Background Color = # Ef567w



# Final Output:





## **Experiment Number: 08**

### **Aim:**

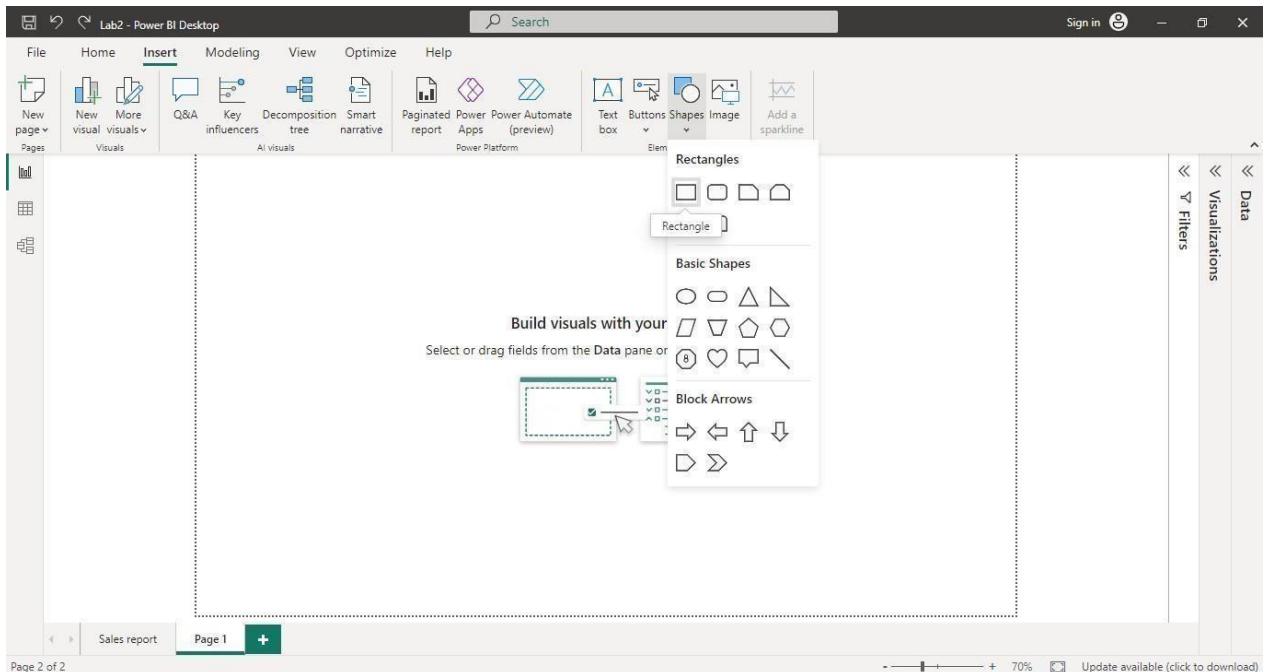
**Create reports using MTD,YTD,QTD In power-bi?**

### **Procedure:**

#### **1. Importing the Dataset:**

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import yoursample dataset into Power BI.

#### **2. Insert Rectangle Shape:**



- Click on “Format tab” on right side and perform changes on visual.
- Shape > Style > #E66C37
- Shape > Text >Text = “Page1”, Font Size = 46, Horizontal Alignment = “Center”.

### 3.Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>Quantity>mtd item quantity
- Click on new measure>and enter the below dax formula:  
`Mtd item qty = TOTALMTD(SUM(Orders[Quantity]),Orders[Order Date].[Date])`

| Year  | Quarter | Month    | Day | Sum of Quantity | Mtd item qty |
|-------|---------|----------|-----|-----------------|--------------|
| 2020  | Qtr 1   | January  | 25  | 25              | 25           |
| 2020  | Qtr 1   | January  | 26  | 38              | 291          |
| 2020  | Qtr 1   | January  | 27  | 8               | 299          |
| 2020  | Qtr 1   | January  | 28  | 1               | 300          |
| 2020  | Qtr 1   | January  | 29  |                 | 300          |
| 2020  | Qtr 1   | January  | 30  | 4               | 304          |
| 2020  | Qtr 1   | January  | 31  | 2               | 306          |
| 2020  | Qtr 1   | February | 1   | 6               | 6            |
| 2020  | Qtr 1   | February | 2   | 12              | 18           |
| 2020  | Qtr 1   | February | 3   | 5               | 23           |
| 2020  | Qtr 1   | February | 4   | 9               | 32           |
| 2020  | Qtr 1   | February | 5   |                 | 32           |
| 2020  | Qtr 1   | February | 6   | 12              | 44           |
| Total |         |          |     | 38654           | 1820         |

### 4.Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>Quantity>qtd item quantity
- Click on new measure>and enter the below dax formula:  
`qtd item qty = TOTALQTD(SUM(Orders[Quantity]),Orders[Order Date].[Date])`

| Year  | Quarter | Month     | Sum of Quantity | qtd item qty |
|-------|---------|-----------|-----------------|--------------|
|       | Qtr 2   | April     | 536             | 536          |
|       | Qtr 2   | May       | 504             | 1040         |
|       | Qtr 2   | June      | 524             | 1564         |
|       | Qtr 3   | July      | 550             | 550          |
|       | Qtr 3   | August    | 624             | 1174         |
|       | Qtr 3   | September | 1015            | 2189         |
|       | Qtr 4   | October   | 605             | 605          |
|       | Qtr 4   | November  | 1235            | 1840         |
|       | Qtr 4   | December  | 1158            | 2998         |
|       | Qtr 1   | January   | 260             | 260          |
|       | Qtr 1   | February  | 239             | 499          |
|       | Qtr 1   | March     | 528             | 1027         |
|       | Qtr 2   | April     | 543             | 543          |
| Total |         |           |                 | 38654 4828   |

### 5.Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>Quantity>ytd item quantity
- Click on new measure>and enter the below dax formula:

`Ytd item qty = TOTALYTD(SUM(Orders[Quantity]),Orders[Order Date].[Date])`

| Year        | Quarter | Sum of Quantity | ytd item qty |
|-------------|---------|-----------------|--------------|
| 2020        | Qtr 1   | 1062            | 1062         |
| 2020        | Qtr 2   | 1564            | 2626         |
| 2020        | Qtr 3   | 2189            | 4815         |
| 2020        | Qtr 4   | 2998            | 7813         |
| 2021        | Qtr 1   | 1027            | 1027         |
| 2021        | Qtr 2   | 1624            | 2651         |
| 2021        | Qtr 3   | 2250            | 4901         |
| 2021        | Qtr 4   | 3185            | 8086         |
| 2022        | Qtr 1   | 1280            | 1280         |
| 2022        | Qtr 2   | 2283            | 3563         |
| 2022        | Qtr 3   | 2803            | 6366         |
| 2022        | Qtr 4   | 3652            | 10018        |
| 2023        | Qtr 1   | 1808            | 1808         |
| Total       |         |                 |              |
| 38654 12737 |         |                 |              |

## 6. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > Total Mtd Orders
- Visualizations > Columns > orderDate > Total qtd Orders
- Visualizations > Columns > orderDate > Total ytd Orders
- Click on new measure > and enter the below dax formula:

Total Mtd Orders = `TOTALMTD(Count(Orders[Order ID]),Orders[Order Date].[date])`

Total Qtd Orders = `TOTALQTD(Count(Orders[Order ID]),Orders[Order Date].[date])`

Total Ytd Orders = `TOTALYTD(Count(Orders[Order ID]),Orders[Order Date].[date])`

| Year         | Quarter | Month     | Total Mtd Orders | Total qtd Orders | Total Ytd Orders |
|--------------|---------|-----------|------------------|------------------|------------------|
| 2020         | Qtr 1   | January   | 84               | 84               | 84               |
| 2020         | Qtr 1   | February  | 46               | 130              | 130              |
| 2020         | Qtr 1   | March     | 159              | 289              | 289              |
| 2020         | Qtr 2   | April     | 135              | 135              | 424              |
| 2020         | Qtr 2   | May       | 132              | 267              | 556              |
| 2020         | Qtr 2   | June      | 136              | 403              | 692              |
| 2020         | Qtr 3   | July      | 143              | 143              | 835              |
| 2020         | Qtr 3   | August    | 158              | 301              | 993              |
| 2020         | Qtr 3   | September | 273              | 574              | 1266             |
| 2020         | Qtr 4   | October   | 168              | 168              | 1434             |
| 2020         | Qtr 4   | November  | 320              | 488              | 1754             |
| 2020         | Qtr 4   | December  | 297              | 785              | 2051             |
| 2021         | Qtr 1   | January   | 64               | 64               | 64               |
| 2021         | Qtr 1   | February  | 64               | 128              | 128              |
| 2021         | Qtr 1   | March     | 141              | 269              | 269              |
| 2021         | Qtr 2   | April     | 160              | 160              | 420              |
| <b>Total</b> |         |           | <b>482</b>       | <b>1251</b>      | <b>3379</b>      |

## 7. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > mtdProfit
- Click on new measure > and enter the below dax formula:

MTDprofit = `CALCULATE(sum(Orders[Profit]),DATESMTD(Orders[Order Date].[Date]))`

| Year         | Quarter | Month    | Day | Sum of Profit      | MTDprofit       |
|--------------|---------|----------|-----|--------------------|-----------------|
| 2020         | Qtr 1   | January  | 26  | 150.55             | 150.55          |
| 2020         | Qtr 1   | January  | 27  | 9.68               | 2,523.00        |
| 2020         | Qtr 1   | January  | 28  | 1.33               | 2,524.32        |
| 2020         | Qtr 1   | January  | 29  | 2,524.32           |                 |
| 2020         | Qtr 1   | January  | 30  | 11.65              | 2,535.97        |
| 2020         | Qtr 1   | January  | 31  | 3.42               | 2,539.39        |
| 2020         | Qtr 1   | February | 1   | 206.32             | 206.32          |
| 2020         | Qtr 1   | February | 2   | 7.15               | 213.47          |
| 2020         | Qtr 1   | February | 3   | 31.56              | 245.03          |
| 2020         | Qtr 1   | February | 4   | 51.14              | 296.17          |
| 2020         | Qtr 1   | February | 5   | 296.17             |                 |
| 2020         | Qtr 1   | February | 6   | 76.48              | 372.66          |
| 2020         | Qtr 1   | February | 7   | 59.35              | 432.01          |
| 2020         | Qtr 1   | February | 8   | 5.53               | 437.54          |
| 2020         | Qtr 1   | February | 9   | 437.54             |                 |
| 2020         | Qtr 1   | February | 10  | 437.54             |                 |
| <b>Total</b> |         |          |     | <b>2,92,296.81</b> | <b>8,655.83</b> |

## 8. Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations > Columns > orderDate > profit > qtdProfit
- Click on new measure > and enter the below dax formula:

QTDprofit = `CALCULATE(sum(Orders[Profit]),DATESQTD(Orders[Order Date].[Date]))`

| Year         | Quarter | Month     | Sum of Profit      | QTDprofit        |
|--------------|---------|-----------|--------------------|------------------|
| 2021         | Qtr 1   | January   | -3,189.80          | -3,189.80        |
| 2021         | Qtr 1   | February  | 2,813.85           | -375.95          |
| 2021         | Qtr 1   | March     | 9,930.61           | 9,554.66         |
| 2021         | Qtr 2   | April     | 4,187.50           | 4,187.50         |
| 2021         | Qtr 2   | May       | 4,677.14           | 8,864.63         |
| 2021         | Qtr 2   | June      | 3,335.56           | 12,200.19        |
| 2021         | Qtr 3   | July      | 3,288.65           | 3,288.65         |
| 2021         | Qtr 3   | August    | 5,371.63           | 8,660.28         |
| 2021         | Qtr 3   | September | 8,220.03           | 16,880.30        |
| 2021         | Qtr 4   | October   | 2,817.97           | 2,817.97         |
| 2021         | Qtr 4   | November  | 12,474.79          | 15,292.75        |
| 2021         | Qtr 4   | December  | 8,093.06           | 23,385.82        |
| 2022         | Qtr 1   | January   | 2,916.02           | 2,916.02         |
| 2022         | Qtr 1   | February  | 5,004.58           | 7,920.60         |
| 2022         | Qtr 1   | March     | 3,707.89           | 11,628.49        |
| <b>Total</b> |         |           | <b>2,92,296.81</b> | <b>29,018.46</b> |

## 9..Create table:

- Home > Enter data > Create table by giving values to the columns
- Visualizations >Columns>orderDate>profit>ytdProfit
- Click on new measure>and enter the below dax formula:

YTDprofit = `CALCULATE(sum(Orders[Profit]),DATESYTD(Orders[Order Date].[Date]))`

| Year         | Quarter | Sum of Profit | YTDprofit          |
|--------------|---------|---------------|--------------------|
| 2020         | Qtr 1   | 4,095.15      | 4,095.15           |
| 2020         | Qtr 2   | 11,684.99     | 11,684.99          |
| 2020         | Qtr 3   | 13,517.37     | 13,517.37          |
| 2020         | Qtr 4   | 22,386.79     | 22,386.79          |
| 2021         | Qtr 1   | 9,554.66      | 9,554.66           |
| 2021         | Qtr 2   | 12,200.19     | 12,200.19          |
| 2021         | Qtr 3   | 16,880.30     | 16,880.30          |
| 2021         | Qtr 4   | 23,385.82     | 23,385.82          |
| 2022         | Qtr 1   | 11,628.49     | 11,628.49          |
| 2022         | Qtr 2   | 16,594.68     | 16,594.68          |
| 2022         | Qtr 3   | 16,247.49     | 16,247.49          |
| 2022         | Qtr 4   | 38,194.55     | 38,194.55          |
| 2023         | Qtr 1   | 23,858.60     | 23,858.60          |
| 2023         | Qtr 2   | 15,503.91     | 15,503.91          |
| 2023         | Qtr 3   | 27,545.38     | 27,545.38          |
| <b>Total</b> |         |               | <b>2,92,296.81</b> |
|              |         |               | <b>29,018.46</b>   |

## Final Output:

The screenshot displays a Microsoft Power BI report interface. On the left, there are three small icons: a grid, a calendar, and a cube. Below them is a navigation bar with 'Page 1' and a plus sign, followed by a search bar containing 'My Dell'.

**Table 1: Daily Sales Data**

| Year         | Quarter | Month    | Day | Sum of Quantity | Mtd item qty |
|--------------|---------|----------|-----|-----------------|--------------|
| 2020         | Qtr 1   | January  | 27  | 8               | 299          |
| 2020         | Qtr 1   | January  | 28  | 1               | 300          |
| 2020         | Qtr 1   | January  | 29  |                 | 300          |
| 2020         | Qtr 1   | January  | 30  | 4               | 304          |
| 2020         | Qtr 1   | January  | 31  | 2               | 306          |
| 2020         | Qtr 1   | February | 1   | 6               | 6            |
| 2020         | Qtr 1   | February | 2   | 12              | 18           |
| 2020         | Qtr 1   | February | 3   | 5               | 23           |
| 2020         | Qtr 1   | February | 4   | 9               | 32           |
| 2020         | Qtr 1   | February | 5   |                 | 32           |
| 2020         | Qtr 1   | February | 6   | 12              | 44           |
| 2020         | Qtr 1   | February | 7   | 11              | 55           |
| <b>Total</b> |         |          |     | <b>38654</b>    | <b>1820</b>  |

**Table 2: Monthly Profit Data**

| Year         | Quarter | Sum of Quantity | year item qty | Quarter      | Month           | Day      | Sum of Profit      | MTDprofit       |
|--------------|---------|-----------------|---------------|--------------|-----------------|----------|--------------------|-----------------|
| 2020         | Qtr 1   | 1062            | 1062          | Qtr 1        | January         | 16       | 0.49               | 1,934.07        |
| 2020         | Qtr 2   | 1564            | 2626          | Qtr 1        | January         | 19       | -288.00            | 1,666.07        |
| 2020         | Qtr 3   | 2189            | 4815          | Qtr 1        | January         | 20       | 584.37             | 2,250.44        |
| 2020         | Qtr 4   | 2998            | 7813          | Qtr 1        | January         | 21       | 93.30              | 2,343.75        |
| 2021         | Qtr 1   | 1027            | 1027          | Qtr 1        | January         | 22       |                    | 2,343.75        |
| 2021         | Qtr 2   | 1624            | 2651          | Qtr 1        | January         | 23       | 19.24              | 2,362.99        |
| 2021         | Qtr 3   | 2250            | 4901          | Qtr 1        | January         | 24       |                    | 2,362.99        |
| 2021         | Qtr 4   | 3185            | 8086          | Qtr 1        | January         | 25       |                    | 2,362.99        |
| 2022         | Qtr 1   | 1280            | 1280          | Qtr 1        | January         | 26       | 150.33             | 2,513.31        |
| 2022         | Qtr 2   | 2283            | 3563          | Qtr 1        | January         | 27       | 9.68               | 2,523.00        |
| 2022         | Qtr 3   | 2803            | 6366          | Qtr 1        | January         | 28       | 1.33               | 2,524.32        |
| 2022         | Qtr 4   | 3652            | 10018         | Qtr 1        | January         | 29       |                    | 2,524.32        |
| 2023         | Qtr 1   | 1898            | 1898          | Qtr 1        | January         | 30       | 11.65              | 2,535.97        |
| 2023         | Qtr 2   | 2571            | 4469          | Qtr 1        | January         | 31       | 3.42               | 2,539.39        |
| <b>Total</b> |         | <b>38654</b>    | <b>12737</b>  | <b>Qtr 1</b> | <b>February</b> | <b>1</b> | <b>206.32</b>      | <b>206.32</b>   |
|              |         |                 |               |              |                 |          | <b>2,92,296.81</b> | <b>8,655.83</b> |

**Table 3: Quarterly Sales Data**

| Year         | Quarter | Month     | Sum of Quantity | qtd item qt | Year         | Quarter | Month     | Total Mtd Orders | Total qtd Orders | Total Ytd Orders |
|--------------|---------|-----------|-----------------|-------------|--------------|---------|-----------|------------------|------------------|------------------|
| 2020         | Qtr 1   | January   | 306             | 30          | 2020         | Qtr 3   | August    | 158              | 301              | 993              |
| 2020         | Qtr 1   | February  | 159             | 46          | 2020         | Qtr 3   | September | 273              | 574              | 1266             |
| 2020         | Qtr 1   | March     | 597             | 106         | 2020         | Qtr 4   | October   | 168              | 168              | 1434             |
| 2020         | Qtr 2   | April     | 536             | 53          | 2020         | Qtr 4   | November  | 320              | 488              | 1754             |
| 2020         | Qtr 2   | May       | 504             | 104         | 2021         | Qtr 1   | December  | 297              | 785              | 2051             |
| 2020         | Qtr 2   | June      | 524             | 156         | 2021         | Qtr 1   | January   | 64               | 64               | 64               |
| 2020         | Qtr 2   | July      | 550             | 55          | 2021         | Qtr 1   | February  | 64               | 128              | 128              |
| 2020         | Qtr 2   | August    | 624             | 117         | 2021         | Qtr 1   | March     | 141              | 269              | 269              |
| 2020         | Qtr 3   | September | 1015            | 218         | 2021         | Qtr 2   | April     | 160              | 160              | 429              |
| 2020         | Qtr 3   | October   | 605             | 60          | 2021         | Qtr 2   | May       | 150              | 310              | 579              |
| 2020         | Qtr 3   | November  | 1235            | 184         | 2021         | Qtr 2   | June      | 138              | 448              | 717              |
| 2020         | Qtr 3   | December  | 1158            | 299         | 2021         | Qtr 3   | July      | 140              | 140              | 857              |
| 2020         | Qtr 3   | August    | 152             | 202         | 2021         | Qtr 3   | August    | 152              | 202              | 1010             |
| <b>Total</b> |         |           | <b>38654</b>    | <b>482</b>  | <b>Total</b> |         |           | <b>482</b>       | <b>1251</b>      | <b>3379</b>      |

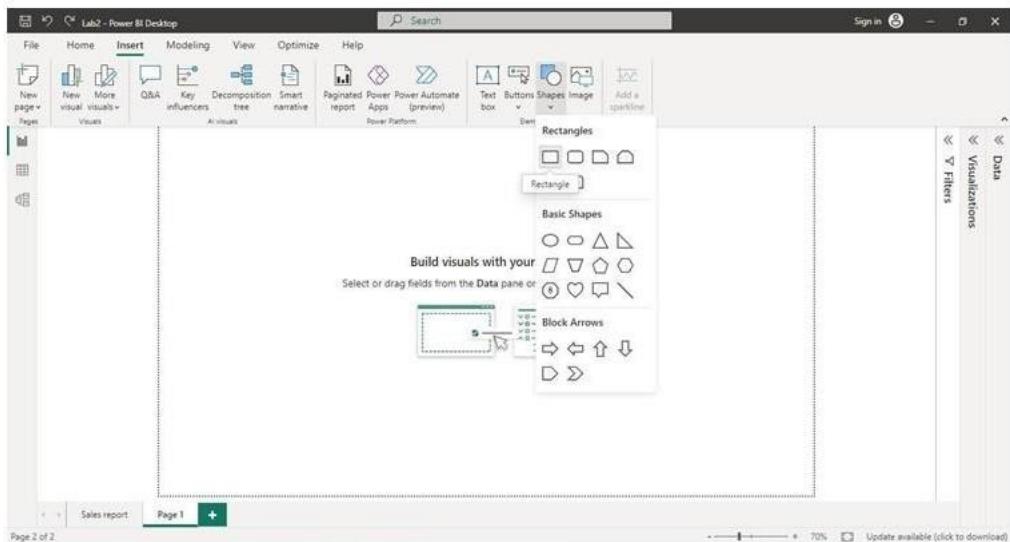
## **Experiment Number: 09**

### **Aim: Create Reports using Filter Functions in DAX**

#### **1.Importing the Dataset:**

- Launch Power BI Desktop.
- Click on "Get Data" in the Home tab of the ribbon.
- Select the appropriate data source option "Excel" and follow the prompts to import yoursample dataset into Power BI.
- Select sample-super store data,xsl
- Select orders table from the check-boxws.

#### **2.Insert Rectangle Shape:**



- Click on “Format tab” on right side and perform changes on visual.
- Shape > Style > #E66C37
- Shape > Text >Text = “Page1”, Font Size = 46, Horizontal Alignment = “Center”.

### 3.Create Table:

- Create table and place it in the report
- In the fields column drag and drop category

| Category        |
|-----------------|
| Furniture       |
| Office Supplies |
| Technology      |
| Total           |

### 4.Create Table for calculating profits:

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:  
Total Profit = `SUM(Orders[profit])`
- Visualizations >Columns>Total profit

| Category        | Total Profit |
|-----------------|--------------|
| Furniture       | 19,730.00    |
| Office Supplies | 1,26,023.44  |
| Technology      | 1,46,543.38  |
| Total           | 2,92,296.81  |

### 5.Applying ALL-Filter:

**Syntax:** ALL(<table>|<column>].<column>[,...]]])

**Description:** returns all the rows in a table or all the values in the column, ignoring any filters that have been applied. This function is useful for clearing filters and creating calculations or all the rows in a table

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:

All profit filter = `CALCULATE([Total Profit],ALL(orders))`

| Category        | Total Profit | All profit filter |
|-----------------|--------------|-------------------|
| Furniture       | 19,730.00    | 2,92,296.81       |
| Office Supplies | 1,26,023.44  | 2,92,296.81       |
| Technology      | 1,46,543.38  | 2,92,296.81       |
| Total           | 2,92,296.81  | 2,92,296.81       |

## 6.Applying ALLAccept:

**Syntax:** ALLACCEPT(<table>|<column>].<column>[,...]]])

**Description:** returns all the rows in a table or all the values in the column, ignoring any filters that have been applied except the given coulmn. This function is useful for clearing filters and creating calculations or all the rows in a table except given column.

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:  

```
All profit Except Cat = CALCULATE([Total Profit], ALLEXCEPT(Orders, Orders[Category]))
```
- Visualizations >Columns>All profit Except cat

| Category        | Total Profit       | All profit filter  | All profit Except Cat |
|-----------------|--------------------|--------------------|-----------------------|
| Furniture       | 19,730.00          | 2,92,296.81        | 19,730.00             |
| Office Supplies | 1,26,023.44        | 2,92,296.81        | 1,26,023.44           |
| Technology      | 1,46,543.38        | 2,92,296.81        | 1,46,543.38           |
| <b>Total</b>    | <b>2,92,296.81</b> | <b>2,92,296.81</b> | <b>2,92,296.81</b>    |

## 7.calculating % of profit for each category:

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:  

```
%profit Cat = DIVIDE([Total Profit], [All profit filter])
```
- Visualizations >Columns>%profit cat
- Change the mode to %

| Category        | Total Profit       | All profit filter  | All profit Except Cat | %profit Cat    |
|-----------------|--------------------|--------------------|-----------------------|----------------|
| Furniture       | 19,730.00          | 2,92,296.81        | 19,730.00             | 6.75%          |
| Office Supplies | 1,26,023.44        | 2,92,296.81        | 1,26,023.44           | 43.11%         |
| Technology      | 1,46,543.38        | 2,92,296.81        | 1,46,543.38           | 50.14%         |
| <b>Total</b>    | <b>2,92,296.81</b> | <b>2,92,296.81</b> | <b>2,92,296.81</b>    | <b>100.00%</b> |



## 8.Applying filter to a particular Column:

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:  

```
technology profit = CALCULATE([total profit], Orders[category] = "Technology")
```
- Visualizations >Columns>technology profit

| Category        | Total Profit       | All profit filter  | All profit Except Cat | %profit Cat    | technology profit  | (KP)Technology profit |
|-----------------|--------------------|--------------------|-----------------------|----------------|--------------------|-----------------------|
| Furniture       | 19,730.00          | 2,92,296.81        | 19,730.00             | 6.75%          | 1,46,543.38        |                       |
| Office Supplies | 1,26,023.44        | 2,92,296.81        | 1,26,023.44           | 43.11%         | 1,46,543.38        |                       |
| Technology      | 1,46,543.38        | 2,92,296.81        | 1,46,543.38           | 50.14%         | 1,46,543.38        |                       |
| <b>Total</b>    | <b>2,92,296.81</b> | <b>2,92,296.81</b> | <b>2,92,296.81</b>    | <b>100.00%</b> | <b>1,46,543.38</b> | <b>1,46,543.38</b>    |

## 9. Applying Keep-Filter:

**Syntax:** KEEPFILTERS(<Expression>)

**Description:** Modifies how filters are applied for evaluating.

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:

(KP)Technology profit = `calculate([Total Profit],keepfilters(orders[category] = "Technology"))`

- Visualizations >Columns>(KP)Technology Profit

| Category        | Total Profit       | All profit filter  | All profit Except Cat | %profit Cat    | technology profit  | (KP)Technology profit | All Profit RF filter |
|-----------------|--------------------|--------------------|-----------------------|----------------|--------------------|-----------------------|----------------------|
| Furniture       | 19,730.00          | 2,92,296.81        | 19,730.00             | 6.75%          | 1,46,543.38        |                       |                      |
| Office Supplies | 1,26,023.44        | 2,92,296.81        | 1,26,023.44           | 43.11%         | 1,46,543.38        |                       |                      |
| Technology      | 1,46,543.38        | 2,92,296.81        | 1,46,543.38           | 50.14%         | 1,46,543.38        | 1,46,543.38           |                      |
| <b>Total</b>    | <b>2,92,296.81</b> | <b>2,92,296.81</b> | <b>2,92,296.81</b>    | <b>100.00%</b> | <b>1,46,543.38</b> | <b>1,46,543.38</b>    | <b>2,92,296.81</b>   |

## 10. Applying REMOVE-Filter:

**Syntax:** RemoveFilter(<column>[,...]]])

**Description:** same as all filter but not returns all the rows in a table or all the values in the column, ignoring any filters that have been applied. Majorly used for reducing complexity and increasing performance. This function is useful for clearing filters and creating calculations or all the rows in a table

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:

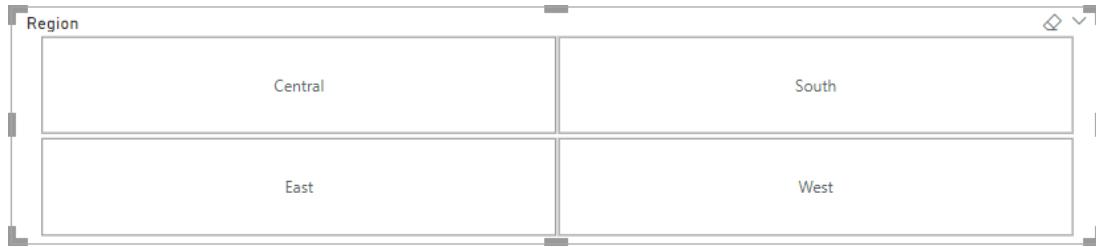
All Profit RF filter = `calculate([total profit],REMOVEFILTERS(Orders[category]))`

- Visualizations >Columns>All profit RF filter

| Category        | Total Profit       | All profit filter  | All profit Except Cat | %profit Cat    | technology profit  | (KP)Technology profit | All Profit RF filter |
|-----------------|--------------------|--------------------|-----------------------|----------------|--------------------|-----------------------|----------------------|
| Furniture       | 19,730.00          | 2,92,296.81        | 19,730.00             | 6.75%          | 1,46,543.38        |                       | 2,92,296.81          |
| Office Supplies | 1,26,023.44        | 2,92,296.81        | 1,26,023.44           | 43.11%         | 1,46,543.38        |                       | 2,92,296.81          |
| Technology      | 1,46,543.38        | 2,92,296.81        | 1,46,543.38           | 50.14%         | 1,46,543.38        | 1,46,543.38           | 2,92,296.81          |
| <b>Total</b>    | <b>2,92,296.81</b> | <b>2,92,296.81</b> | <b>2,92,296.81</b>    | <b>100.00%</b> | <b>1,46,543.38</b> | <b>1,46,543.38</b>    | <b>2,92,296.81</b>   |

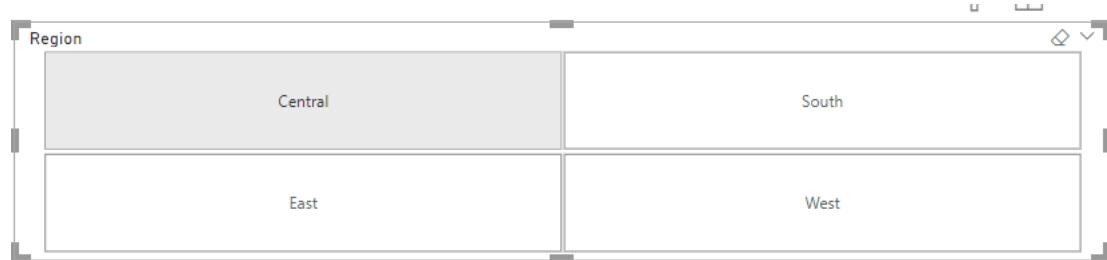
## 11. Creating a slicer for comparison:

- Home>visulazation>build visual>select slicer
- Chose religion in the fields
- From setting change the slicer settings>
- Choose style as tile



**comparison:**

if region=central

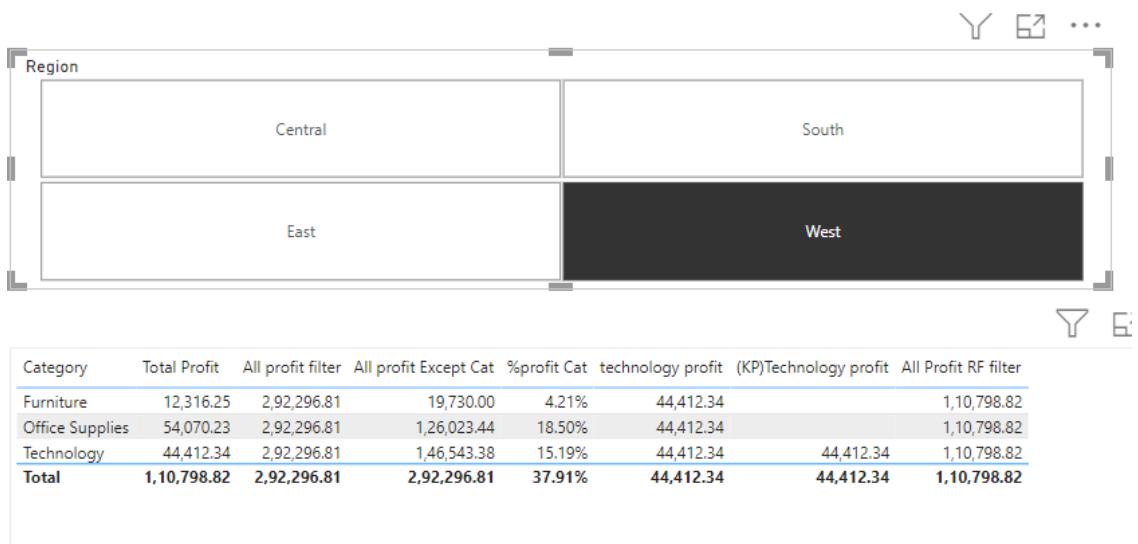


| Category        | Total Profit | All profit filter | All profit Except Cat | %profit Cat | technology profit | (KP)Technology profit | All Profit RF filter |
|-----------------|--------------|-------------------|-----------------------|-------------|-------------------|-----------------------|----------------------|
| Furniture       | -2,802.21    | 2,92,296.81       | 19,730.00             | -0.96%      | 33,697.43         |                       | 39,865.31            |
| Office Supplies | 8,970.08     | 2,92,296.81       | 1,26,023.44           | 3.07%       | 33,697.43         |                       | 39,865.31            |
| Technology      | 33,697.43    | 2,92,296.81       | 1,46,543.38           | 11.53%      | 33,697.43         | 33,697.43             | 39,865.31            |
| Total           | 39,865.31    | 2,92,296.81       | 2,92,296.81           | 13.64%      | 33,697.43         | 33,697.43             | 39,865.31            |

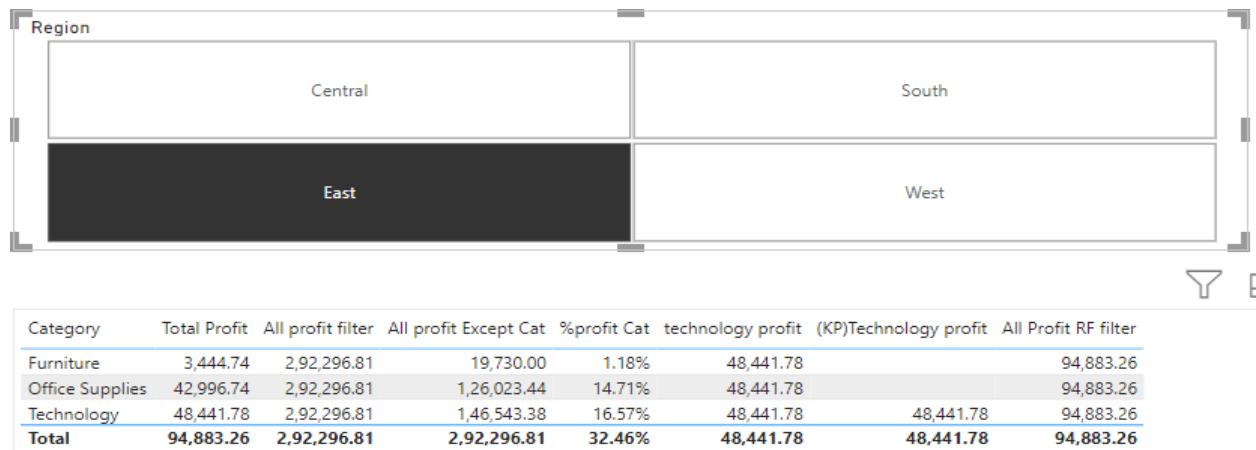
if region=south:



if region=East:



if region=West:



## 12. Create Table:

- Home > Enter data > Create table by giving values to the columns
- Click on new measure>and enter the below dax formula:
- Profit rank = `RANKX(ALL(Orders[region]),[total profit],,desc`
- Visualizations >Columns>religion>profit>profit rank

| Region       | Sum of Profit      | Profit rank |
|--------------|--------------------|-------------|
| West         | 1,10,798.82        | 1           |
| East         | 94,883.26          | 2           |
| South        | 46,749.43          | 3           |
| Central      | 39,865.31          | 4           |
| <b>Total</b> | <b>2,92,296.81</b> | <b>1</b>    |

## 13. Output:

The screenshot displays a Microsoft Power BI report interface. On the left, there is a navigation pane with three icons: a bar chart, a grid, and a cube. The main area contains three visualizations:

- A treemap visualization titled "Region" showing four segments: Central (top-left), South (top-right), East (bottom-left), and West (bottom-right). The segments are represented by orange rectangles.
- A table titled "Category" showing profit data across various categories. The columns include Total Profit, All profit filter, All profit Except Cat, %profit Cat, technology profit, (KP)Technology profit, and All Profit RF filter. The rows show Furniture, Office Supplies, Technology, and a Total row.
- A table titled "Region" showing the sum of profit and profit rank for each region. The columns are Region, Sum of Profit, and Profit rank. The rows show West, East, South, Central, and a Total row.

At the bottom of the report, there are navigation controls: a left arrow, a right arrow, the text "Page 1", and a green button with a white plus sign.

| Category        | Total Profit | All profit filter | All profit Except Cat | %profit Cat | technology profit | (KP)Technology profit | All Profit RF filter |
|-----------------|--------------|-------------------|-----------------------|-------------|-------------------|-----------------------|----------------------|
| Furniture       | 19,730.00    | 2,92,296.81       | 19,730.00             | 6.75%       | 1,46,543.38       |                       | 2,92,296.81          |
| Office Supplies | 1,26,023.44  | 2,92,296.81       | 1,26,023.44           | 43.11%      | 1,46,543.38       |                       | 2,92,296.81          |
| Technology      | 1,46,543.38  | 2,92,296.81       | 1,46,543.38           | 50.14%      | 1,46,543.38       | 1,46,543.38           | 2,92,296.81          |
| Total           | 2,92,296.81  | 2,92,296.81       | 2,92,296.81           | 100.00%     | 1,46,543.38       | 1,46,543.38           | 2,92,296.81          |

| Region  | Sum of Profit | Profit rank |
|---------|---------------|-------------|
| West    | 1,10,798.82   | 1           |
| East    | 94,883.26     | 2           |
| South   | 46,749.43     | 3           |
| Central | 39,865.31     | 4           |
| Total   | 2,92,296.81   | 1           |

**Experiment Number: 10**

**Aim:** To publish the Power-BI project report and create a dashboard

**Procedure:**

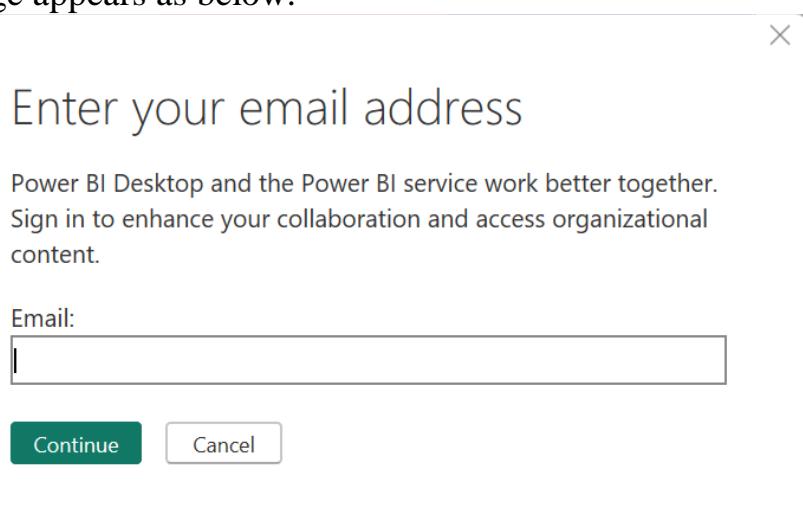
**2. Open the Report View:**

- Open the Power-bi file that is needed to be published
- Open the report view of the document

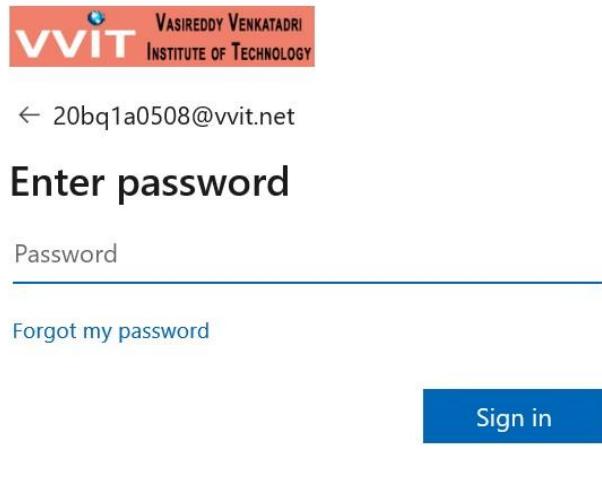


**3. Sign-in to your Microsoft Account:**

- On the right side of the page click on the sign in-button
- A page appears as below.



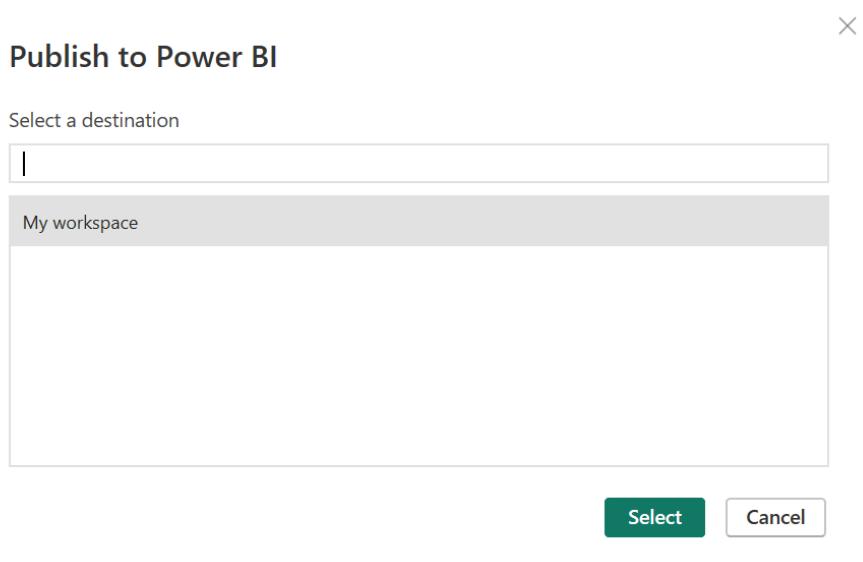
- Enter the Email or the select the email in the drop down list shown.
- A page appears as follows:



- Enter the password and click on the sign-in button
- Now,your signed-in to your Microsoft account.

#### **4.PUBLISH YOUR REPORT:**

- Click on the publish icon on the right-side of the document.
- A page appears as follows:



- Click on the My workspace from the drop-down menu
- And follow by clicking on the select button.
- A page appears as follows.

## Publishing to Power BI

.. Publishing 'lab6.pbix' to Power BI



### Did you know?

You can create a portrait view of your report, tailored for mobile phones. On the **View** tab, select **Mobile Layout**. [Learn more](#)

[Cancel](#)

- After successfully publishing the report a dialog-box appears as below:

## Publishing to Power BI

✓ Success!

[Open 'Lab2.pbix' in Power BI](#)

[Get Quick Insights](#)



### Did you know?

You can create a portrait view of your report, tailored for mobile phones. On the **View** tab, select **Mobile Layout**. [Learn more](#)

[Got it](#)

## 5. View the Report:

- Open your browser
- Search for App.powerbi.com
- A page appears as below.

The screenshot shows the Power BI Home page. On the left, there's a sidebar with icons for Home, Create, Browse, Data Lake, Apps, Metrics, Workspaces, and My Workspace. The main area features a banner about the Power BI app in Teams, a search bar, and a 'New report' button. Below this, a 'Recommended' section displays four cards: 'Getting started with Power BI' (Explore basic Power BI concepts), 'Explore this data story' (Explore the 100 most useful productivity tips), 'Explore this data story' (Cancer Analytics Dashboard, showing Cancer statistics in the USA), and 'Getting started with' (Intro—What is Power BI?). At the bottom right, there are navigation arrows and a 'My workspace' link.

- Sign in to your Microsoft account.
- Click on the My Workspace icon that is viewed on the left-side of the page.

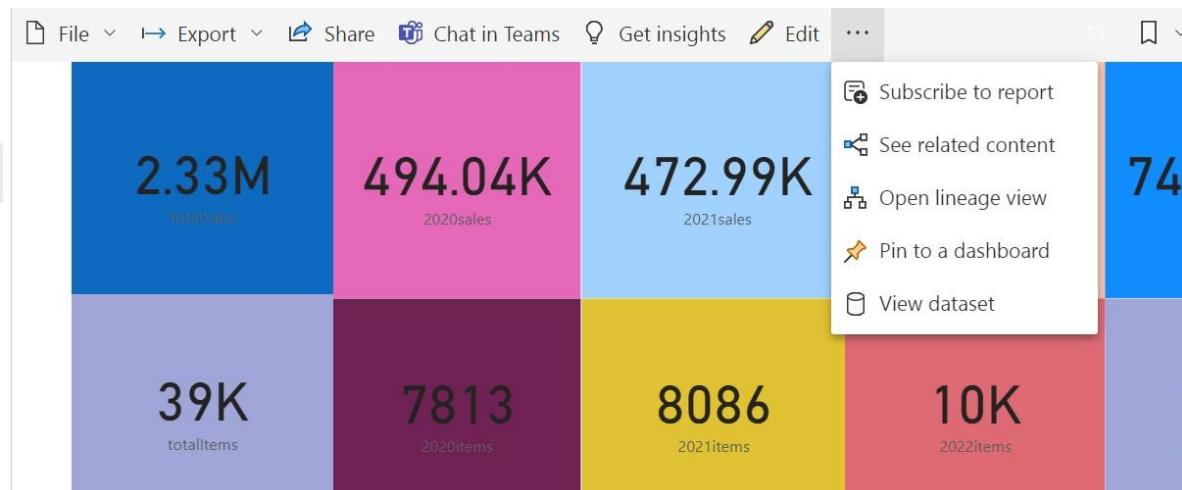
- The documents you have published can be viewed on this page

The screenshot shows the 'My workspace' section of the Power BI service. At the top, there are buttons for '+ New', 'Upload', 'Workspace settings', a search bar 'Filter by keyword', and a 'Filter' dropdown. Below this is a table with columns: Name, Type, Owner, Refreshed, and Next refresh. The table lists five items:

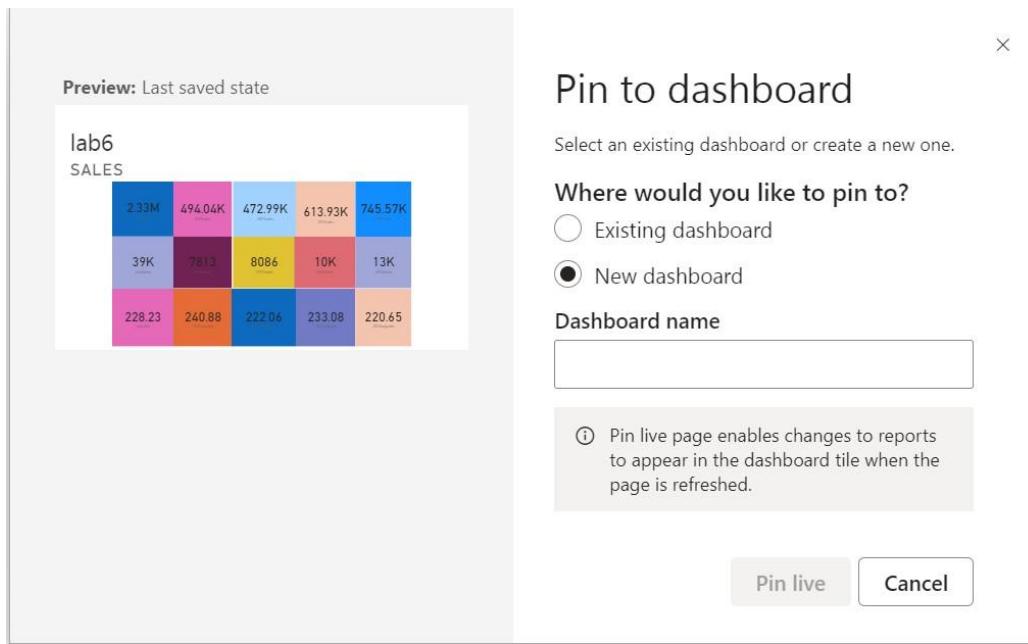
| Name                 | Type      | Owner               | Refreshed            | Next refresh |
|----------------------|-----------|---------------------|----------------------|--------------|
| lab6                 | Report    | 20BQ1A0508 - ANA... | 8/10/23, 11:00:34 am | —            |
| lab6                 | Dataset   | 20BQ1A0508 - ANA... | 8/10/23, 11:00:34 am | N/A          |
| lab8                 | Report    | 20BQ1A0508 - ANA... | 5/10/23, 10:19:04 am | —            |
| lab8                 | Dataset   | 20BQ1A0508 - ANA... | 5/10/23, 10:19:04 am | N/A          |
| MTD,QTD,YTD Formulas | Dashboard | 20BQ1A0508 - ANA... | —                    | —            |

## 6.Pin To Dashboard:

- We can also create dashboards for all the important data that is needed to view more oftenly.
- For Example there are 2 pages in the report we have published i.e. profit and sales.
- So if we need to view sales page often we can create a dashboard for it.
- Open the page and click on the three dots that are visible on the right side of the page
- The page appears as below.



- Click on the pin to a dashboard option.
- Two options are shown as below:



- We can pin it to new dashboard or an existing dashboard.
- Give a suitable dashboard name
- After clicking on pin-live the pinned page will be shown as follows.



- Similarly publish all the power-bi files that have been done.

## 7.Final Report:

- After publishing all the documents, open the browser.
- Sign in to your account
- Click on My Workspaces.
- Along with the published documents the pinned reports will be shown on your dashboard.

## 8.Final Output:

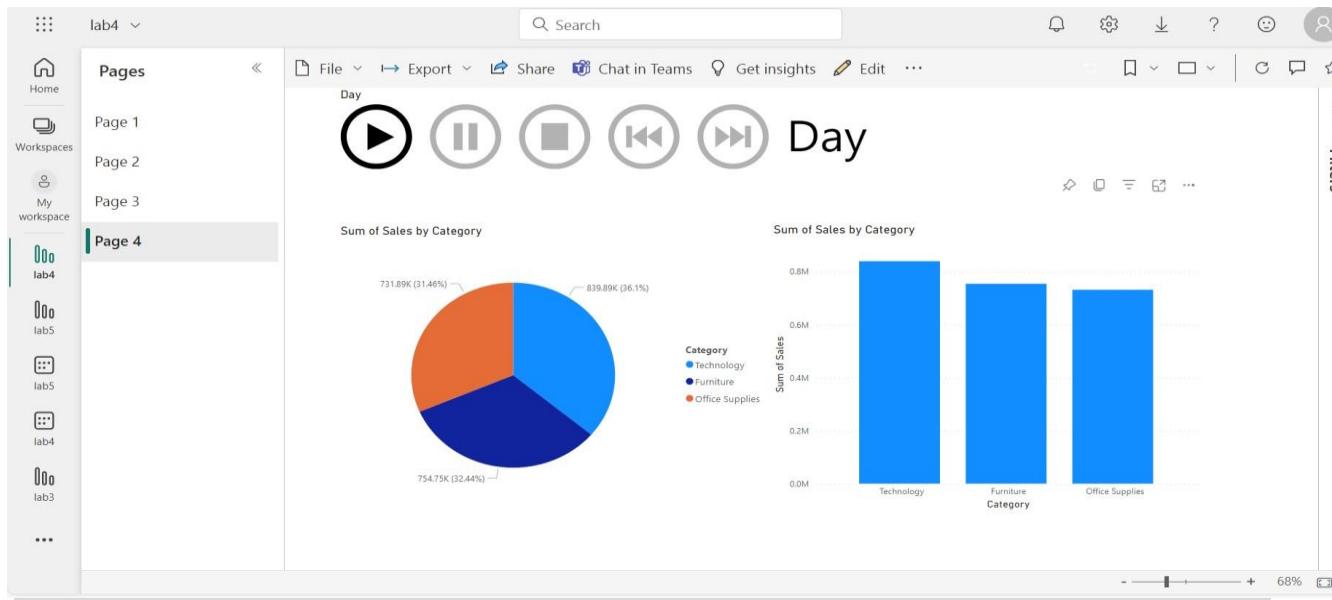
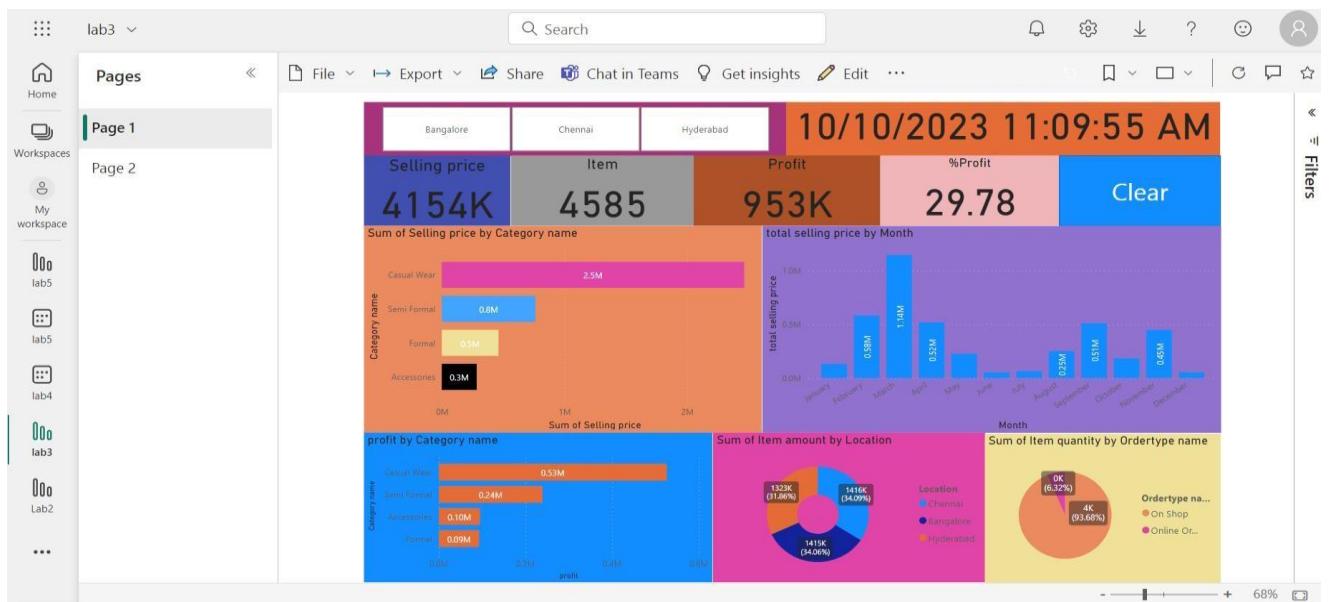
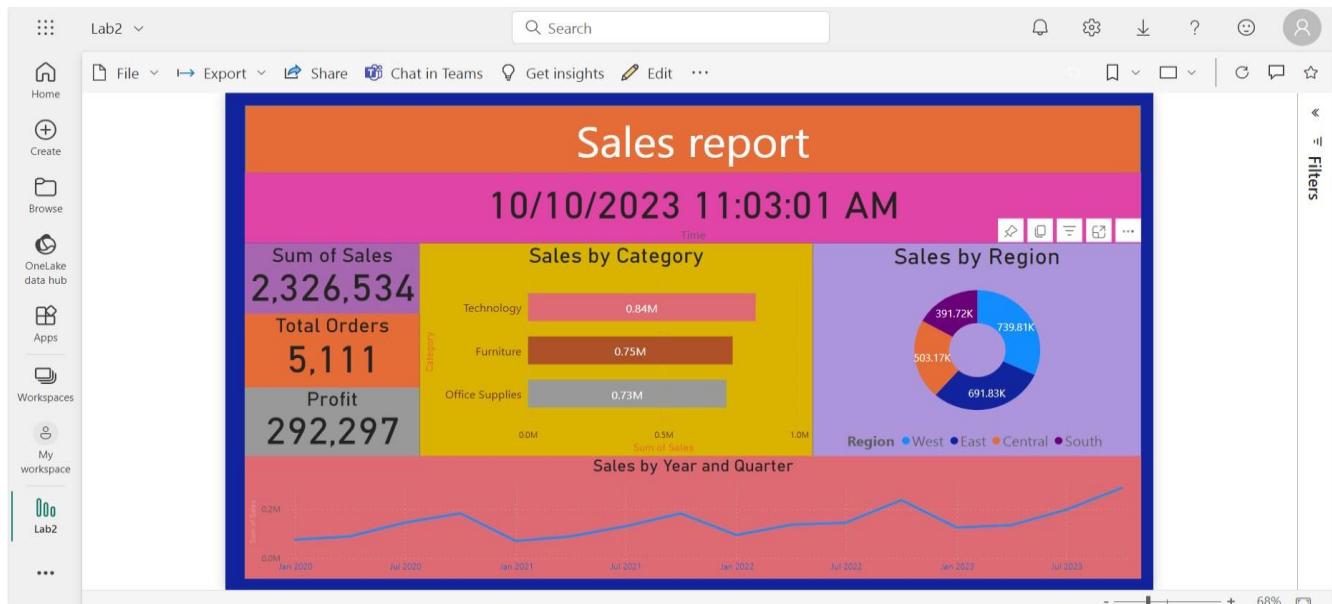
The pinned pages will be appeared as below in the dashboard

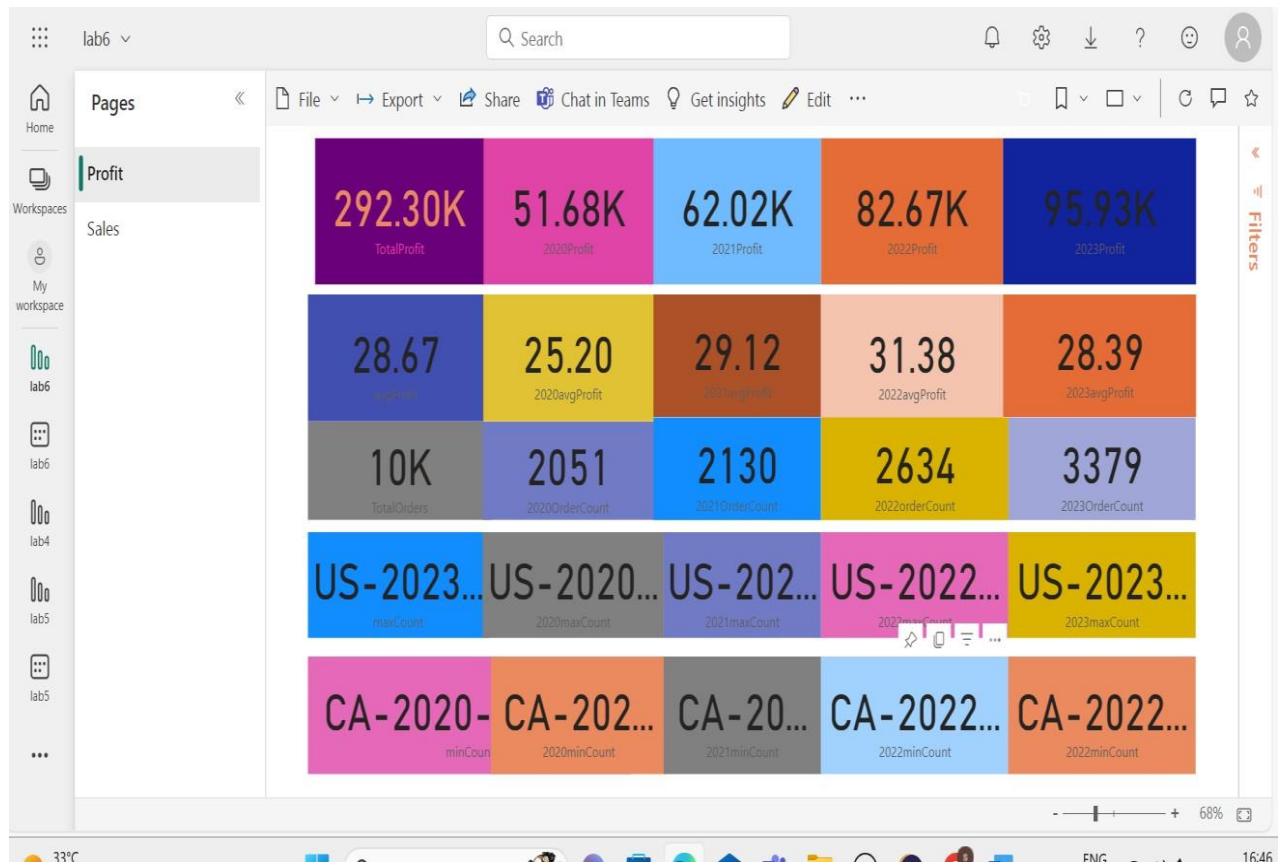
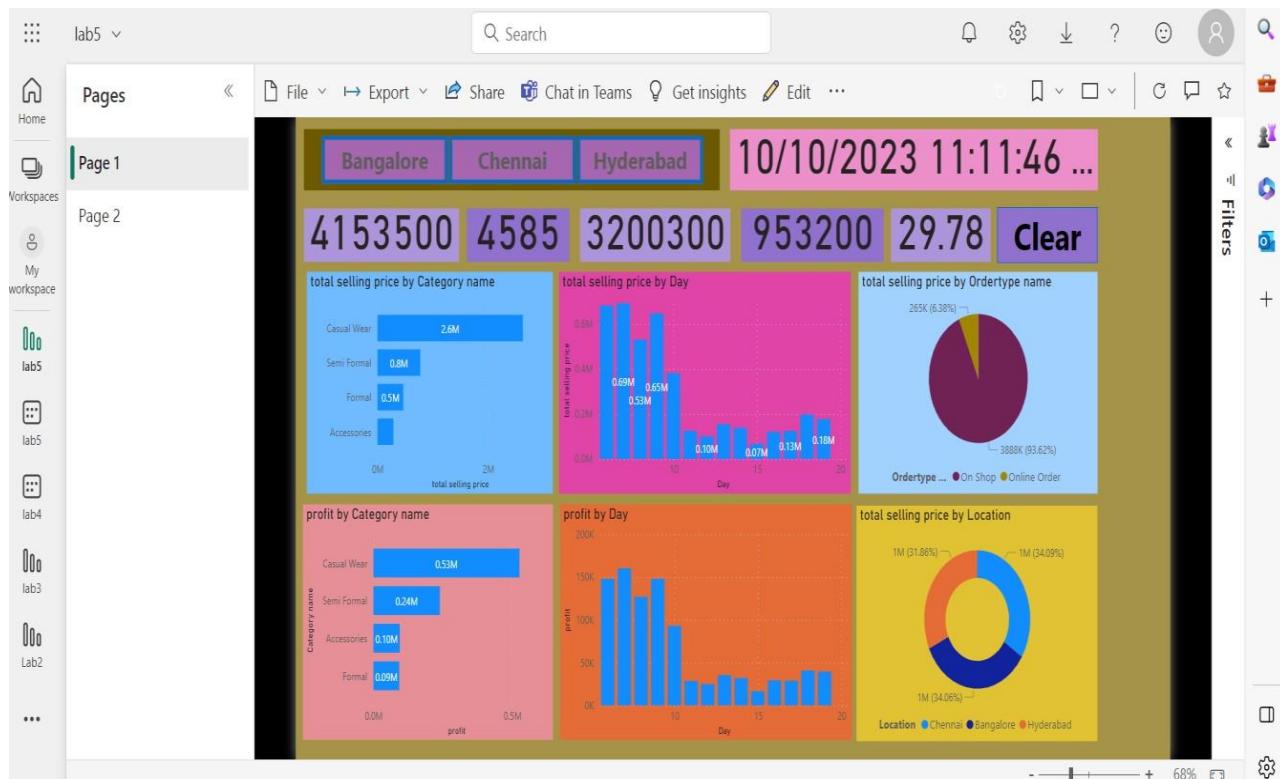
|   | Name                       | Type      | Opened         | Owner               | Enc |
|---|----------------------------|-----------|----------------|---------------------|-----|
| ⌚ | Advanced Visualizations    | Dashboard |                | 20BQ1A0508 - ANA... | —   |
| ⌚ | Extracting Transformations | Dashboard |                | 20BQ1A0508 - ANA... | —   |
| ⌚ | profit                     | Dashboard |                | 20BQ1A0508 - ANA... | —   |
| ⌚ | sales report               | Dashboard | a minute ago   | 20BQ1A0508 - ANA... | —   |
| ⌚ | Sameperiodlastyear         | Dashboard | 2 minutes ago  | 20BQ1A0508 - ANA... | —   |
| ⌚ | Sales                      | Dashboard | 19 minutes ago | 20BQ1A0508 - ANA... | —   |
| ⌚ | MTD,QTD,YTD Formulas       | Dashboard | 3 days ago     | 20BQ1A0508 - ANA... | —   |

All the reports you have published will be shown in workspace as shown below:

The screenshot shows the Power BI 'My workspace' interface. On the left, there's a sidebar with navigation icons for Home, Workspaces, My workspace, and recent reports. The main area is titled 'My workspace' and displays a list of published items. At the top of the list are two reports: 'Lab2' and 'Lab2'. Below them are four datasets: 'lab3', 'lab3', 'lab4', and 'lab4'. The list includes columns for Name, Type, Owner, Refreshed, Next refresh, and Enc.

|   | Name | Type    | Owner               | Refreshed            | Next refresh | Enc |
|---|------|---------|---------------------|----------------------|--------------|-----|
| ⌚ | Lab2 | Report  | 20BQ1A0508 - ANA... | 8/10/23, 11:17:33 am | —            | —   |
| ⌚ | Lab2 | Dataset | 20BQ1A0508 - ANA... | 8/10/23, 11:17:33 am | N/A          | —   |
| ⌚ | lab3 | Report  | 20BQ1A0508 - ANA... | 8/10/23, 11:16:41 am | —            | —   |
| ⌚ | lab3 | Dataset | 20BQ1A0508 - ANA... | 8/10/23, 11:16:41 am | N/A          | —   |
| ⌚ | lab4 | Report  | 20BQ1A0508 - ANA... | 8/10/23, 11:15:49 am | —            | —   |
| ⌚ | lab4 | Dataset | 20BQ1A0508 - ANA... | 8/10/23, 11:15:49 am | N/A          | —   |
| ⌚ | lab6 | Report  | 20BQ1A0508 - ANA... | 8/10/23, 11:00:34 am | —            | —   |





lab7

Pages

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Sum of Profit by Day

Sum of Profit by Month

Sum of Profit by MonthName

Sum of Profit by Quarter

Sum of Profit by QuarterName

Sum of Profit by WeekNum

Sum of Profit by WeekDay

Sum of Profit by Day of weekName

Sum of Profit by year

Year Quarter Month Day Sum of Profit previousDayProfit

|              |       |         |   |                   |          |
|--------------|-------|---------|---|-------------------|----------|
| 2020         | Qtr 1 | January | 3 | 5.55              |          |
| 2020         | Qtr 1 | January | 4 | -65.99            | 5.55     |
| 2020         | Qtr 1 | January | 5 | 4.88              | -65.99   |
| 2020         | Qtr 1 | January | 6 | 1,358.05          | 4.88     |
| 2020         | Qtr 1 | January | 7 | -71.96            | 1,358.05 |
| <b>Total</b> |       |         |   | <b>292,296.81</b> |          |

Year Quarter Month Sum of Profit previousMonthProfit

|              |       |          |          |                   |
|--------------|-------|----------|----------|-------------------|
| 2020         | Qtr 1 | January  | 2,539.39 |                   |
| 2020         | Qtr 1 | February | 862.31   | 2,539.39          |
| 2020         | Qtr 1 | March    | 693.45   | 862.31            |
| 2020         | Qtr 2 | April    | 3,488.84 | 693.45            |
| 2020         | Qtr 2 | May      | 3,196.39 | 3,488.84          |
| <b>Total</b> |       |          |          | <b>292,296.81</b> |

68%

lab8

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| Year         | Quarter | Month   | Day | Sum of Quantity | Mtd item qty |
|--------------|---------|---------|-----|-----------------|--------------|
| 2020         | Qtr 1   | January | 3   | 2               | 2            |
| 2020         | Qtr 1   | January | 4   | 8               | 10           |
| 2020         | Qtr 1   | January | 5   | 3               | 13           |
| 2020         | Qtr 1   | January | 6   | 30              | 43           |
| 2020         | Qtr 1   | January | 7   | 10              | 53           |
| 2020         | Qtr 1   | January | 8   |                 | 53           |
| 2020         | Qtr 1   | January | 9   | 5               | 58           |
| 2020         | Qtr 1   | January | 10  | 2               | 60           |
| 2020         | Qtr 1   | January | 11  | 2               | 62           |
| 2020         | Qtr 1   | January | 12  |                 | 62           |
| 2020         | Qtr 1   | January | 13  | 48              | 110          |
| 2020         | Qtr 1   | January | 14  | 4               | 114          |
| <b>Total</b> |         |         |     |                 |              |
|              |         |         |     | <b>38654</b>    | <b>1820</b>  |

| Year         | Quarter | Month   | Day | Sum of Quantity | item qty     |
|--------------|---------|---------|-----|-----------------|--------------|
| 2020         | Qtr 1   | January | 3   | 1062            | 1062         |
| 2020         | Qtr 2   | January | 4   | 1564            | 2626         |
| 2020         | Qtr 3   | January | 5   | 2189            | 4815         |
| 2020         | Qtr 4   | January | 6   | 2998            | 7813         |
| 2021         | Qtr 1   | January | 7   | 1027            | 1027         |
| 2021         | Qtr 2   | January | 8   | 1624            | 2651         |
| 2021         | Qtr 3   | January | 9   | 2250            | 4901         |
| 2021         | Qtr 4   | January | 10  | 3185            | 8086         |
| 2022         | Qtr 1   | January | 11  | 1280            | 1280         |
| 2022         | Qtr 2   | January | 12  | 2883            | 3563         |
| 2022         | Qtr 3   | January | 13  | 2803            | 6366         |
| 2022         | Qtr 4   | January | 14  | 3652            | 10018        |
| 2023         | Qtr 1   | January | 15  | 1898            | 1898         |
| 2023         | Qtr 2   | January | 16  | 2571            | 4469         |
| <b>Total</b> |         |         |     |                 |              |
|              |         |         |     | <b>38654</b>    | <b>12737</b> |

| Year         | Quarter | Month   | Day | Sum of Profit     | Mtd        |
|--------------|---------|---------|-----|-------------------|------------|
| 2020         | Qtr 1   | January | 3   | 5.55              | 5.55       |
| 2020         | Qtr 1   | January | 4   | -65.99            | 2,539.39   |
| 2020         | Qtr 1   | January | 5   | 4.88              | 862.31     |
| 2020         | Qtr 1   | January | 6   | 1,358.05          | 693.45     |
| 2020         | Qtr 1   | January | 7   | -71.96            | 3,488.84   |
| 2020         | Qtr 1   | January | 8   | 1,                | 3,196.39   |
| 2020         | Qtr 1   | January | 9   | 10.92             | 4,999.76   |
| 2020         | Qtr 1   | January | 10  | 22.65             | 11,684.99  |
| 2020         | Qtr 1   | January | 11  | 3.08              | 11,684.99  |
| 2020         | Qtr 1   | January | 12  | 1,                | 11,684.99  |
| 2020         | Qtr 1   | January | 13  | 673.64            | 11,684.99  |
| 2020         | Qtr 1   | January | 14  | -53.29            | 11,684.99  |
| 2020         | Qtr 1   | January | 15  | 65.98             | 11,684.99  |
| 2020         | Qtr 1   | January | 16  | -5.93             | 11,684.99  |
| <b>Total</b> |         |         |     |                   |            |
|              |         |         |     | <b>292,296.81</b> | <b>8,1</b> |

| Year         | Quarter | Month     | Day | Sum of Profit     | MTDprofit         |
|--------------|---------|-----------|-----|-------------------|-------------------|
| 2020         | Qtr 1   | January   | 1   | 2,539.39          | 2,539.39          |
| 2020         | Qtr 1   | February  | 1   | 862.31            | 3,401.70          |
| 2020         | Qtr 1   | March     | 1   | 693.45            | 4,095.15          |
| 2020         | Qtr 2   | April     | 1   | 3,488.84          | 7,581.99          |
| 2020         | Qtr 2   | May       | 1   | 3,196.39          | 11,684.99         |
| 2020         | Qtr 2   | June      | 1   | 4,999.76          | 16,684.99         |
| 2020         | Qtr 2   | July      | 1   | -841.48           | 16,684.99         |
| 2020         | Qtr 2   | August    | 1   | 5,765.23          | 22,386.79         |
| 2020         | Qtr 2   | September | 1   | 8,593.63          | 31,517.37         |
| 2020         | Qtr 2   | October   | 1   | 16,285.60         | 43,802.97         |
| 2020         | Qtr 2   | November  | 1   | 320               | 43,802.97         |
| 2020         | Qtr 2   | December  | 1   | 297               | 43,802.97         |
| 2021         | Qtr 1   | January   | 1   | 9,930.61          | 5,554.66          |
| 2021         | Qtr 1   | February  | 1   | 2,813.85          | 8,348.46          |
| 2021         | Qtr 1   | March     | 1   | 9,930.61          | 15,503.91         |
| 2021         | Qtr 1   | April     | 1   | 3,469.17          | 15,503.91         |
| 2021         | Qtr 1   | May       | 1   | 6,685.23          | 22,386.79         |
| 2021         | Qtr 1   | June      | 1   | 4,999.76          | 27,545.38         |
| 2021         | Qtr 1   | July      | 1   | -841.48           | 27,545.38         |
| 2021         | Qtr 1   | August    | 1   | 5,765.23          | 33,317.37         |
| 2021         | Qtr 1   | September | 1   | 8,593.63          | 41,805.94         |
| 2021         | Qtr 1   | October   | 1   | 16,285.60         | 58,091.54         |
| 2021         | Qtr 1   | November  | 1   | 320               | 58,091.54         |
| 2021         | Qtr 1   | December  | 1   | 297               | 58,091.54         |
| 2022         | Qtr 1   | January   | 1   | 9,930.61          | 5,554.66          |
| 2022         | Qtr 1   | February  | 1   | 2,813.85          | 8,348.46          |
| 2022         | Qtr 1   | March     | 1   | 9,930.61          | 15,503.91         |
| 2022         | Qtr 1   | April     | 1   | 3,469.17          | 22,386.79         |
| 2022         | Qtr 1   | May       | 1   | 6,685.23          | 33,317.37         |
| 2022         | Qtr 1   | June      | 1   | 4,999.76          | 41,805.94         |
| 2022         | Qtr 1   | July      | 1   | -841.48           | 41,805.94         |
| 2022         | Qtr 1   | August    | 1   | 5,765.23          | 49,554.66         |
| 2022         | Qtr 1   | September | 1   | 8,593.63          | 58,091.54         |
| 2022         | Qtr 1   | October   | 1   | 16,285.60         | 74,377.14         |
| 2022         | Qtr 1   | November  | 1   | 320               | 74,377.14         |
| 2022         | Qtr 1   | December  | 1   | 297               | 74,377.14         |
| 2023         | Qtr 1   | January   | 1   | 9,930.61          | 5,554.66          |
| 2023         | Qtr 1   | February  | 1   | 2,813.85          | 8,348.46          |
| 2023         | Qtr 1   | March     | 1   | 9,930.61          | 15,503.91         |
| 2023         | Qtr 1   | April     | 1   | 3,469.17          | 22,386.79         |
| 2023         | Qtr 1   | May       | 1   | 6,685.23          | 33,317.37         |
| 2023         | Qtr 1   | June      | 1   | 4,999.76          | 41,805.94         |
| 2023         | Qtr 1   | July      | 1   | -841.48           | 41,805.94         |
| 2023         | Qtr 1   | August    | 1   | 5,765.23          | 49,554.66         |
| 2023         | Qtr 1   | September | 1   | 8,593.63          | 58,091.54         |
| 2023         | Qtr 1   | October   | 1   | 16,285.60         | 74,377.14         |
| 2023         | Qtr 1   | November  | 1   | 320               | 74,377.14         |
| 2023         | Qtr 1   | December  | 1   | 297               | 74,377.14         |
| <b>Total</b> |         |           |     |                   |                   |
|              |         |           |     | <b>292,296.81</b> | <b>29,018.46</b>  |
|              |         |           |     | <b>Total</b>      | <b>292,296.81</b> |
|              |         |           |     | <b>Total</b>      | <b>29,018.46</b>  |

68%