Assignment 1

Data: Sales_Data

We have three tables: Customer, Product, and Sales.

Task 1:

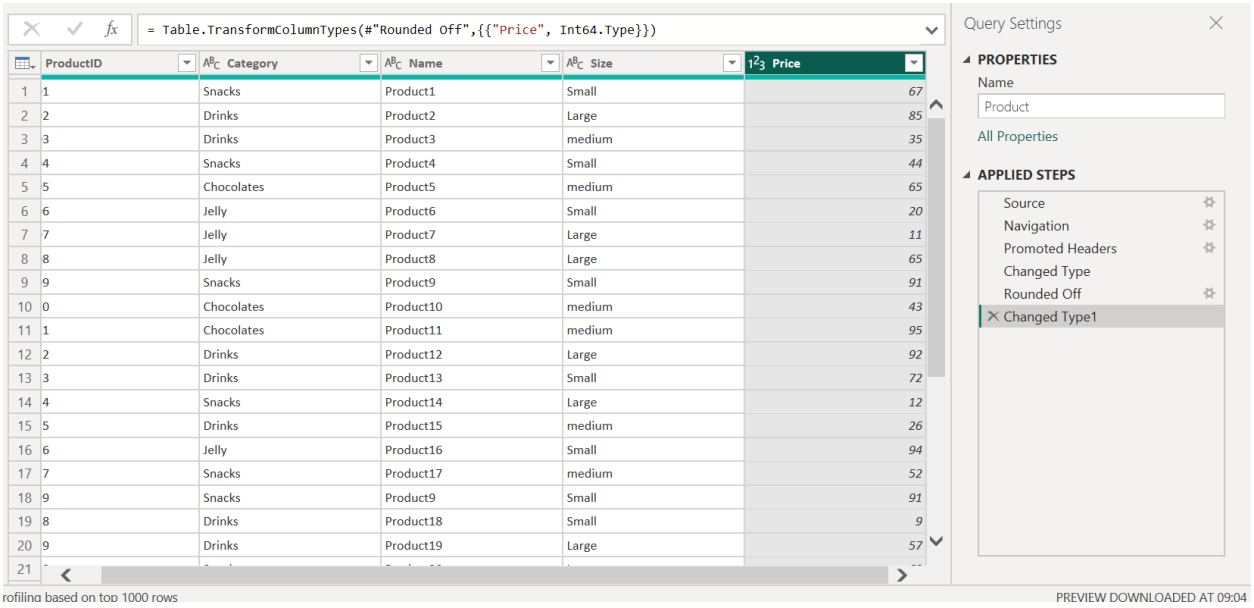
(a). Round the 'Price' column in the Product dataset to the nearest integer for simplicity.

(b). Split the 'Customer' column in the Customer table into two columns: 'FirstName' and 'LastName'.

Explication: (a)

To round the 'Price' column to the nearest integer in Power BI, we use Power Query. I round prices directly in the Power Query.

1. We selected the ‘Price’ column and
2. Click on Transform → Rounding → Round to 0 decimal places.

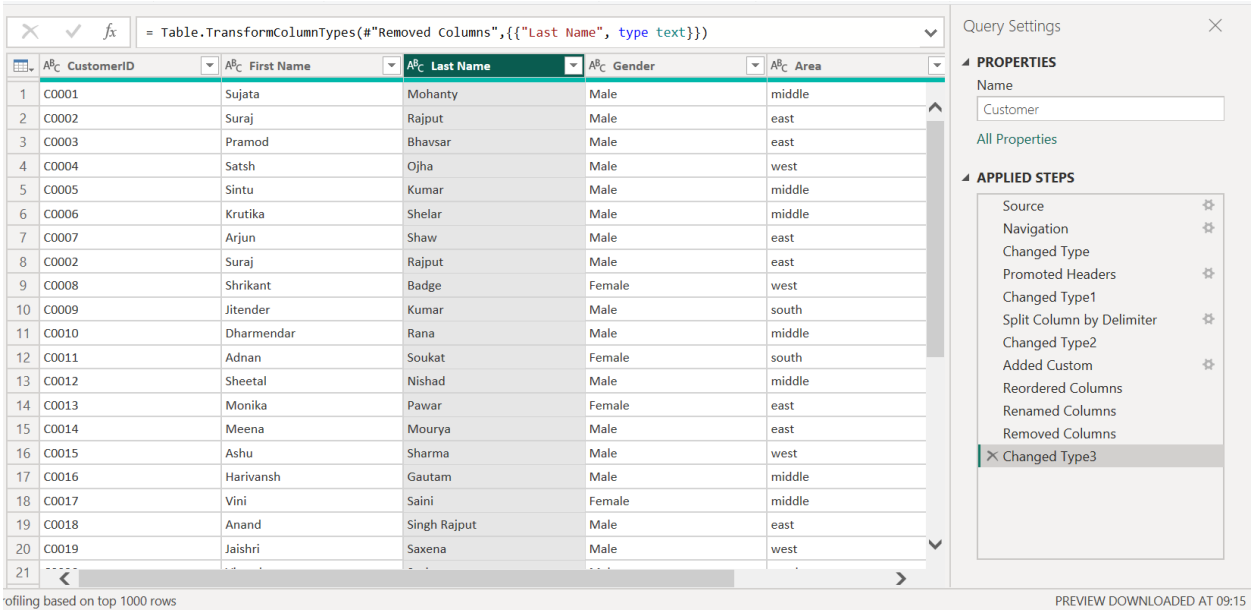


	ProductID	Category	Name	Size	Price
1	1	Snacks	Product1	Small	67
2	2	Drinks	Product2	Large	85
3	3	Drinks	Product3	medium	35
4	4	Snacks	Product4	Small	44
5	5	Chocolates	Product5	medium	65
6	6	Jelly	Product6	Small	20
7	7	Jelly	Product7	Large	11
8	8	Jelly	Product8	Large	65
9	9	Snacks	Product9	Small	91
10	0	Chocolates	Product10	medium	43
11	1	Chocolates	Product11	medium	95
12	2	Drinks	Product12	Large	92
13	3	Drinks	Product13	Small	72
14	4	Snacks	Product14	Large	12
15	5	Drinks	Product15	medium	26
16	6	Jelly	Product16	Small	94
17	7	Snacks	Product17	medium	52
18	9	Snacks	Product9	Small	91
19	8	Drinks	Product18	Small	9
20	9	Drinks	Product19	Large	57
21					

Explication: (b)

- **Split the column:**
    1. Selected the 'Customer' column.
    2. Clicked Transform → Split Column → By Delimiter.
    3. Chose Space (" ") as the delimiter.
    4. Selected "Each occurrence of the delimiter". Clicked OK.
    5. This created three new columns: Customer.1 (First Name), Customer.2 (Middle Name or Last Name), Customer.3 (Last Name).

- **Handled Three-Word Names:**
    1. Clicked at add column and chose custom column.
    2. Created another custom column for last name.
    3. If the third column was null, took customer. 2 as the last name.
    4. If there was a third name, merged customer. 2 and customer. 3.
    5. used this formula LastName = if [Customer.3] = null then [Customer.2] else [Customer.2] & " " & [Customer.3].
    6. And after deleted the customer.2 and customer.3 columns.
    7. Then reordered the column and renamed the columns.



Task 2:

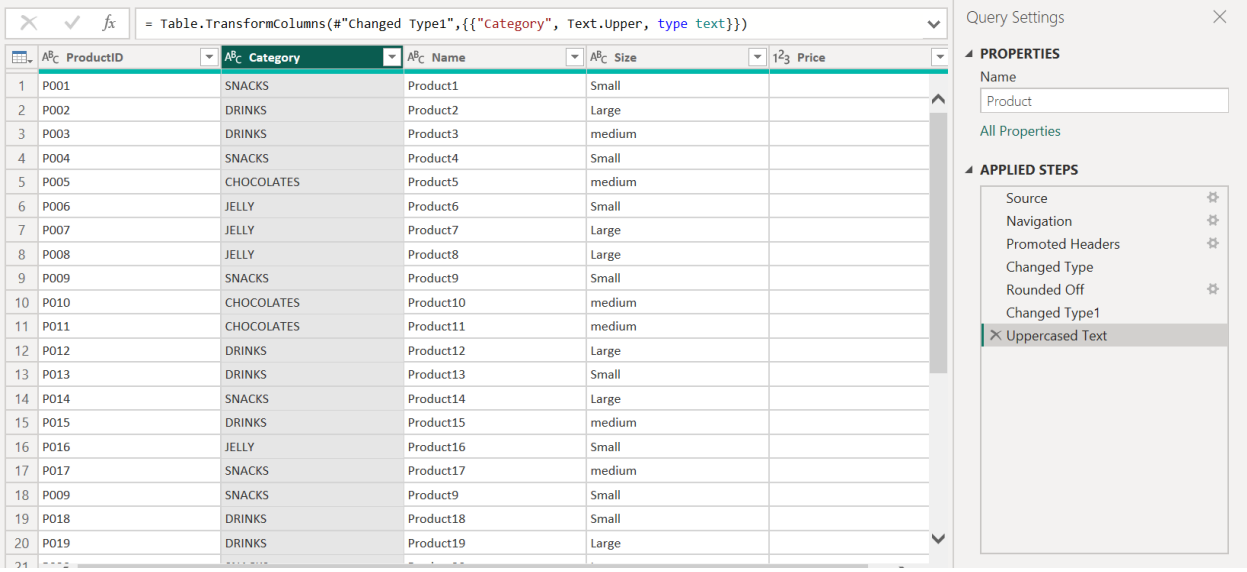
(c). Convert all entries in the 'Category' column in the Product table to uppercase.

(d). Replace all occurrences of 'unemployment' with 'Unemployed' in the 'Profession' column

of the Customer table.

Explication: (c)

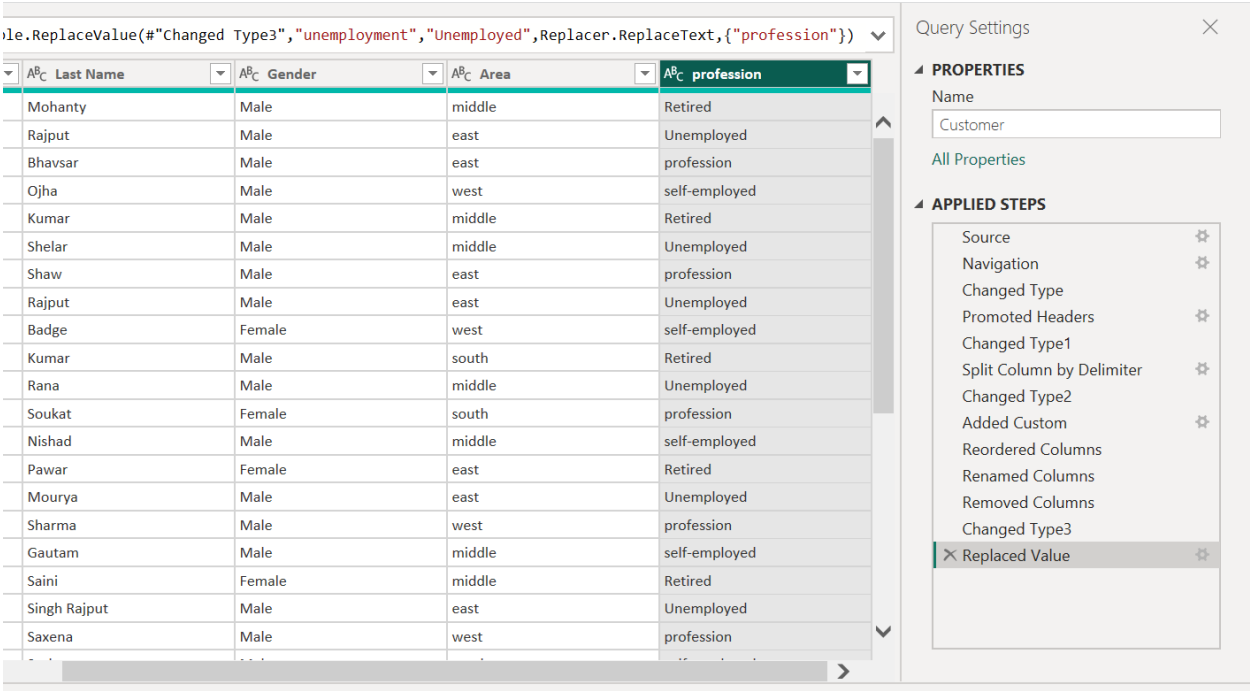
1. Selected category column.
2. Clicked on Transform → Format → Uppercase.
3. Then, all category names be in **UPPERCASE**.



	ProductID	Category	Name	Size	Price
1	P001	SNACKS	Product1	Small	
2	P002	DRINKS	Product2	Large	
3	P003	DRINKS	Product3	medium	
4	P004	SNACKS	Product4	Small	
5	P005	CHOCOLATES	Product5	medium	
6	P006	JELLY	Product6	Small	
7	P007	JELLY	Product7	Large	
8	P008	JELLY	Product8	Large	
9	P009	SNACKS	Product9	Small	
10	P010	CHOCOLATES	Product10	medium	
11	P011	CHOCOLATES	Product11	medium	
12	P012	DRINKS	Product12	Large	
13	P013	DRINKS	Product13	Small	
14	P014	SNACKS	Product14	Large	
15	P015	DRINKS	Product15	medium	
16	P016	JELLY	Product16	Small	
17	P017	SNACKS	Product17	medium	
18	P009	SNACKS	Product9	Small	
19	P018	DRINKS	Product18	Small	
20	P019	DRINKS	Product19	Large	

Explication: (d)

1. Selected Customer Table in Power Query editor.
2. Then selected the ‘Profession’ column.
3. Clicked on Transform → Replace Values.
4. In the 'Value to Find' box, entered: unemployment.
5. In the 'Replace With' box, entered: Unemployed.
6. Then clicked ok.
7. Then, all occurrences of 'unemployment' have been replaced with 'Unemployed'.



Last Name	Gender	Area	profession
Mohanty	Male	middle	Retired
Rajput	Male	east	Unemployed
Bhavsar	Male	east	profession
Ojha	Male	west	self-employed
Kumar	Male	middle	Retired
Shelar	Male	middle	Unemployed
Shaw	Male	east	profession
Rajput	Male	east	Unemployed
Badge	Female	west	self-employed
Kumar	Male	south	Retired
Rana	Male	middle	Unemployed
Soukat	Female	south	profession
Nishad	Male	middle	self-employed
Pawar	Female	east	Retired
Mourya	Male	east	Unemployed
Sharma	Male	west	profession
Gautam	Male	middle	self-employed
Saini	Female	middle	Retired
Singh Rajput	Male	east	Unemployed
Saxena	Male	west	profession

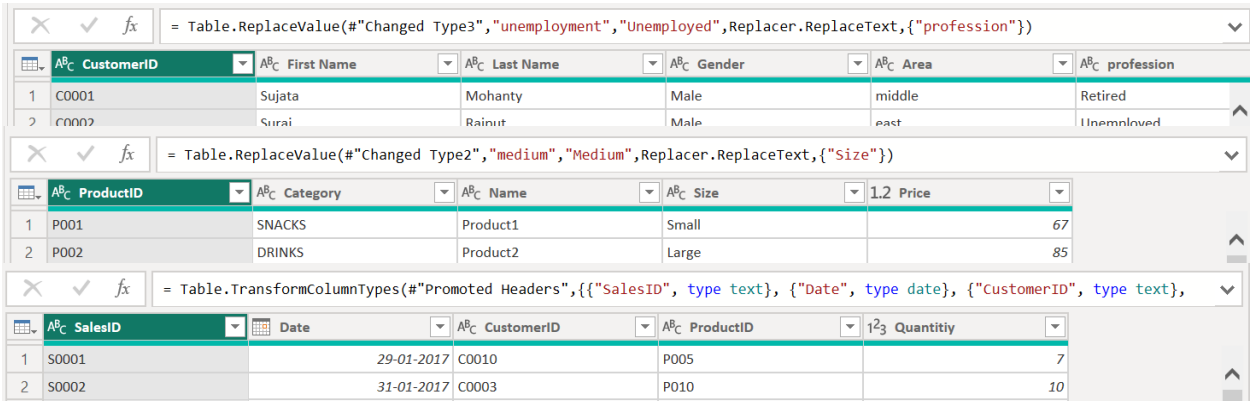
Task 3:

(e). Ensure all columns in the datasets have appropriate data types, e.g., 'Date' column as Date type, 'Price' as Decimal type.

(f). Identify and replace any inconsistent values in the 'Size' column of the Product dataset to ensure uniformity (e.g., replace "medium" with "Medium").

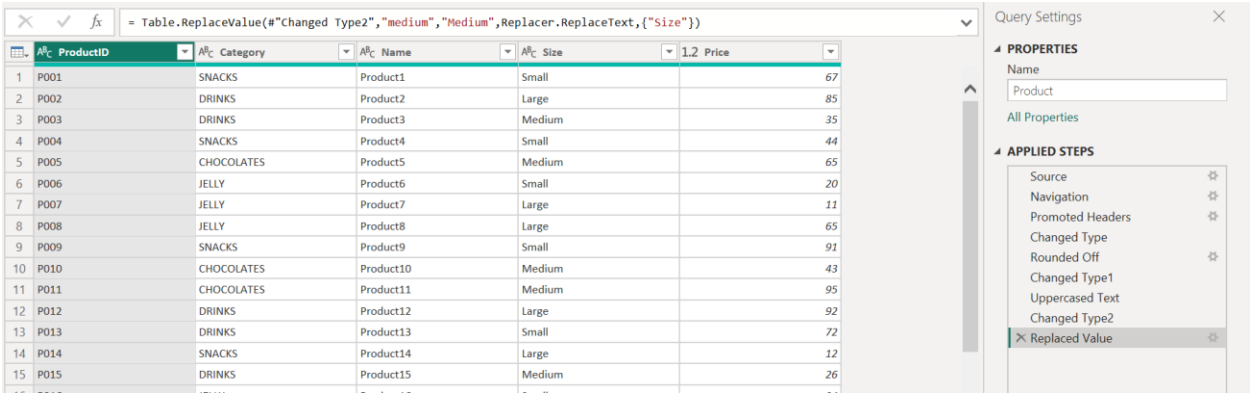
Explication: (e)

1. All columns in the datasets have appropriate data types now. I have attached the screenshot. Three tables: Customer, Product, and Sales.



Explication: (f)

1. Selected Product Table in Power Query editor.
2. Then selected the ‘Size’ column.
3. Clicked on Transform → Replace Values.
4. In the 'Value to Find' box, entered: medium.
5. In the 'Replace With' box, entered: Medium.
6. Then clicked ok.
7. Then, all occurrences of 'medium' have been replaced with 'Medium'.



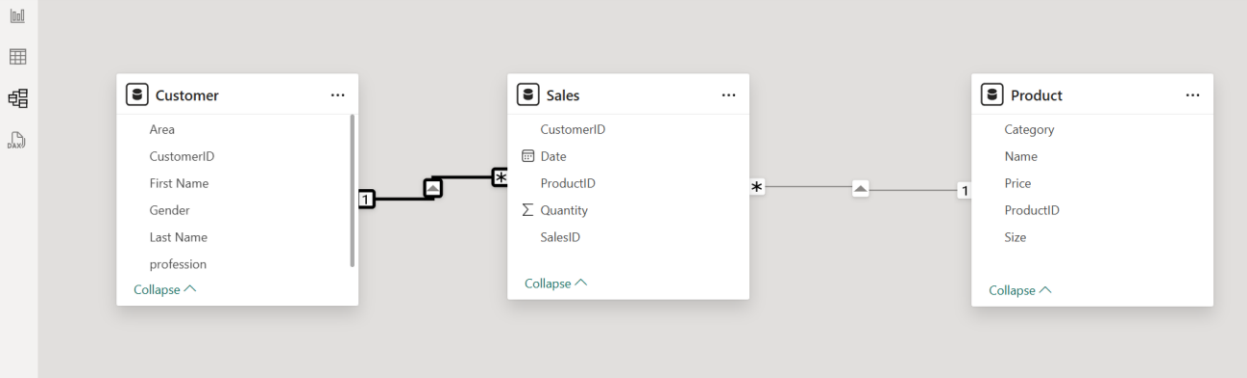
Task 4:

(g). Create relationships between the tables using 'CustomerID' and 'ProductID' as keys.

(h). Clean the data by removing any duplicate entries in the Customer and Product tables.

Explication: (g)

1. After completing the above Task 1, Task 2, and Task 3 we click File → Close & Apply.
2. Click on model view icon from the left pane.
3. From the customer table drag CustomerID in sales table to CustomerID.
4. A one-to-many (1:M) relationship (Customer to Sales) selected from cardinality then click on save.
5. From the Sales table we drag ProductID in Product Table to ProductID.
6. A many-to-one (M:*1*) relationship (Sales to Product) selected from cardinality then click on save.



Explication: (h)

1. Clicked on Transform Data to open Power Query Editor.
2. Selected the Customer table from the left panel.
3. Clicked on the CustomerID column.
4. clicked to the Home tab and click Remove Duplicates.
5. Same process for the Product table I selected ProductId columns.

Task 5:

Sales by Category:

(i). Create a chart showing total sales (TotalPrice) by product category.

(j). Customize colors, refine the title, and add data labels for exact sales amounts.

Sales Percentage by Category:

(k). Create a chart showing the percentage share of sales (Price) for each product

category.

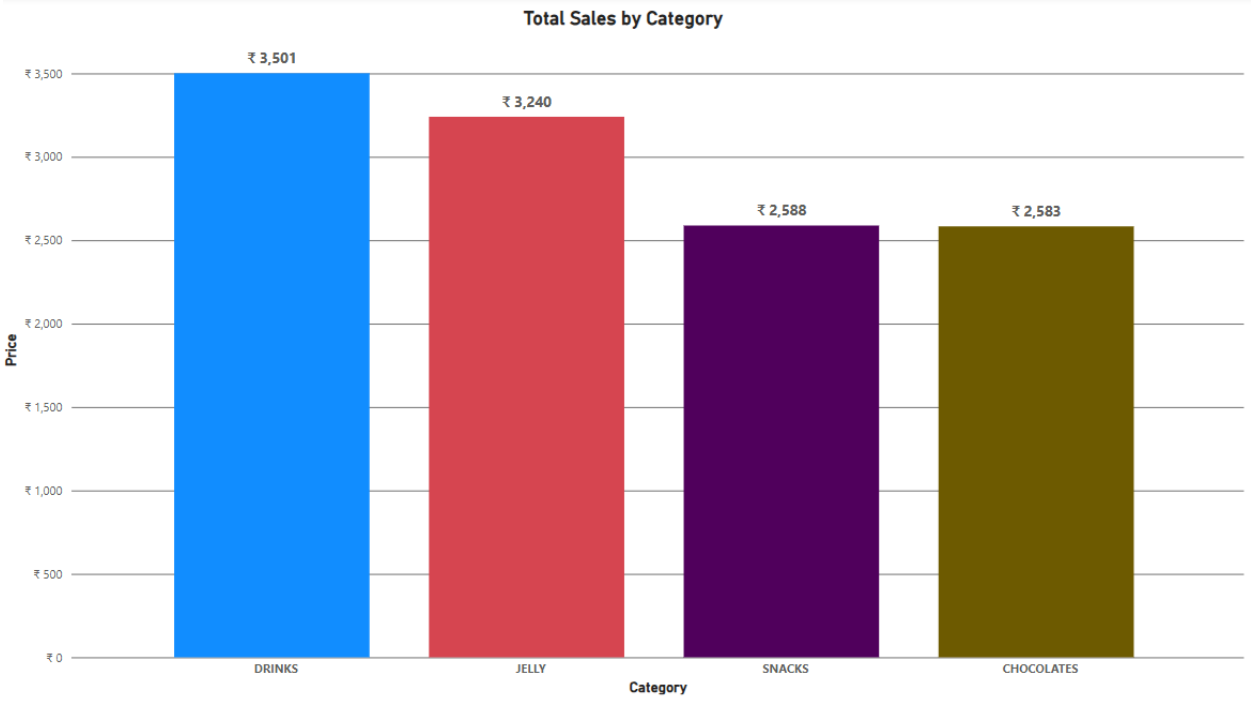
(I). Keep the chart compact and easy to understand.

Explication: (i)

1. Click on report view in Power BI Desktop.
2. Click on the sales table in the fields pane.
3. Right click on sales table→ select new measure and used this formula TotalSales = SUMX(Sales, Sales[Quantity] * RELATED(Product[Price])). Formula of Totalsales = Numberofitemssold X Salesprice.

Explication: (j)

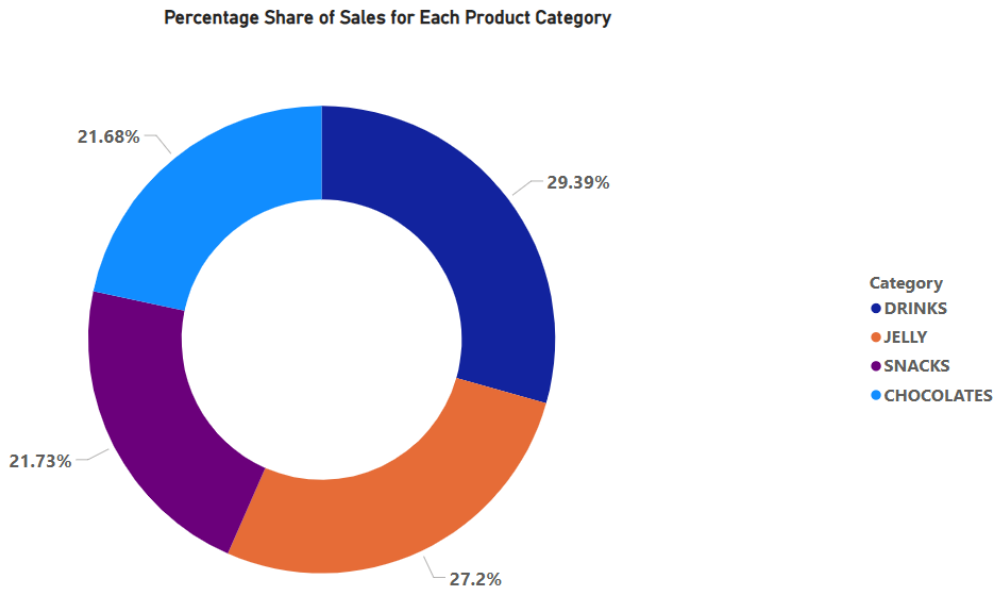
4. For Visualizations, selected Clustered Column Chart.
5. Drag Category from the Product table into the X-Axis field.
6. Drag the newly created TotalSales measure into the Y-Axis field from sales table.
7. Click on add to your visual→size and style→Columns→Customize the colors
8. click on Format →Select Title → Text
9. click on format → Data Labels→ on



Explication: (k)

1. click to Report View in Power BI.
2. Select Donut Chart from the visualizations panel.
3. Assign Data Fields Drag Product[Category] into the Legend field.

4. Drag TotalSales into the Values field.
5. Click on the chart, then go to the Format Pane (Paint Roller Icon).
6. click on the detail labels →Label contents→Percent of total
7. Now, our Donut Chart are displaying the percentage share of sales for each product category.



Assignment completed by Ravi Kant