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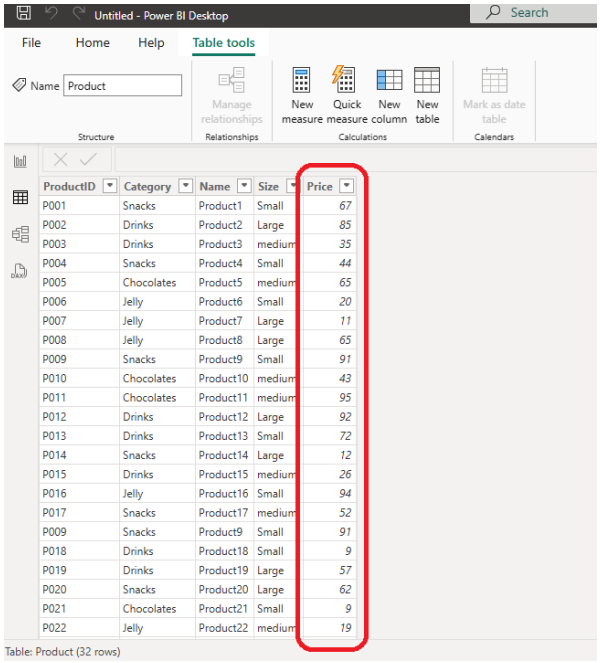
TASK 1:

1. Round the 'Price' column in the Product dataset to the nearest integer for simplicity.

OUTPUT:



ProductID	Category	Name	Size	Price
P001	Snacks	Product1	Small	67
P002	Drinks	Product2	Large	85
P003	Drinks	Product3	medium	35
P004	Snacks	Product4	Small	44
P005	Chocolates	Product5	medium	65
P006	Jelly	Product6	Small	20
P007	Jelly	Product7	Large	11
P008	Jelly	Product8	Large	65
P009	Snacks	Product9	Small	91
P010	Chocolates	Product10	medium	43
P011	Chocolates	Product11	medium	95
P012	Drinks	Product12	Large	92
P013	Drinks	Product13	Small	72
P014	Snacks	Product14	Large	12
P015	Drinks	Product15	medium	26
P016	Jelly	Product16	Small	94
P017	Snacks	Product17	medium	52
P009	Snacks	Product9	Small	91
P018	Drinks	Product18	Small	9
P019	Drinks	Product19	Large	57
P020	Snacks	Product20	Large	62
P021	Chocolates	Product21	Small	9
P022	Jelly	Product22	medium	19

Table: Product (32 rows)

STEPS:

- Open Power BI -> Import Product Excel file -> Go to **Transform Data** (Power Query Editor)
- Select the **Price** column in product table -> Right-click -> Transform -> **Round** -> **Round.**
- Close and Apply.

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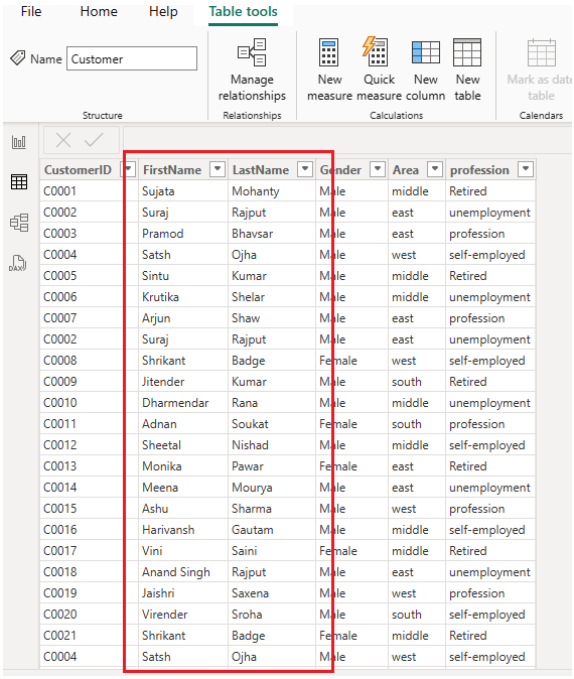
2. Split the 'Customer' column in the Customer table into two columns: 'FirstName' and 'LastName'.

OUTPUT:



CustomerID	FirstName	LastName	Gender	Area	profession
C0001	Sujata	Mohanty	Male	middle	Retired
C0002	Suraj	Rajput	Male	east	unemployment
C0003	Pramod	Bhavsar	Male	east	profession
C0004	Satsh	Ojha	Male	west	self-employed
C0005	Sintu	Kumar	Male	middle	Retired
C0006	Krutika	Shelar	Male	middle	unemployment
C0007	Arjun	Shaw	Male	east	profession
C0002	Suraj	Rajput	Male	east	unemployment
C0008	Shrikant	Badge	Female	west	self-employed
C0009	Jitender	Kumar	Male	south	Retired
C0010	Dharmendar	Rana	Male	middle	unemployment
C0011	Adnan	Soukat	Female	south	profession
C0012	Sheetal	Nishad	Male	middle	self-employed
C0013	Monika	Pawar	Female	east	Retired
C0014	Meena	Mourya	Male	east	unemployment
C0015	Ashu	Sharma	Male	west	profession
C0016	Harivansh	Gautam	Male	middle	self-employed
C0017	Vini	Saini	Female	middle	Retired
C0018	Anand Singh	Rajput	Male	east	unemployment
C0019	Jaishri	Saxena	Male	west	profession
C0020	Virender	Sroha	Male	south	self-employed
C0021	Shrikant	Badge	Female	middle	Retired
C0004	Satsh	Ojha	Male	west	self-employed

Steps:

- Open Power BI -> Import Customer Excel file -> Go to **Transform Data** (Power Query Editor)
- Go to transform tab -> Use first row as header.
- Select the **Customer** column -> Go to **Home** tab -> **Split Column** -> **By Delimiter** -> Choose **Space** -> Split at **Right Most Delimiter** -> Click OK. (Choose “split at right most delimiter” to correctly split the columns into first and last name. In the excel sheet CustID – C0018 Anand Singh Rajput is correctly splitted.)
- Rename the Resulting columns to **“FirstName”** and **“LastName”**

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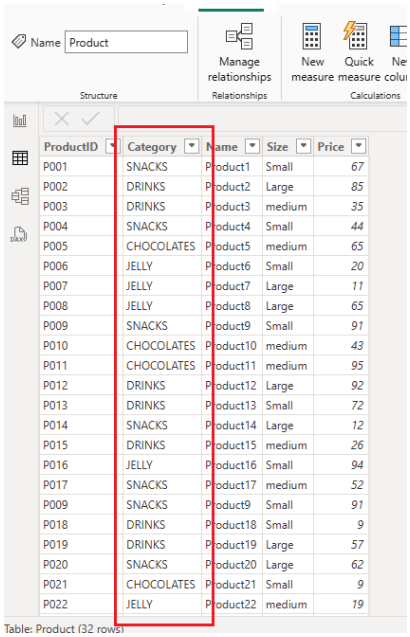
TASK 2:

1. Convert all entries in the 'Category' column in the Product table to uppercase.

OUTPUT:



ProductID	Category	Name	Size	Price
P001	SNACKS	Product1	Small	67
P002	DRINKS	Product2	Large	85
P003	DRINKS	Product3	medium	35
P004	SNACKS	Product4	Small	44
P005	CHOCOLATES	Product5	medium	65
P006	JELLY	Product6	Small	20
P007	JELLY	Product7	Large	11
P008	JELLY	Product8	Large	65
P009	SNACKS	Product9	Small	91
P010	CHOCOLATES	Product10	medium	43
P011	CHOCOLATES	Product11	medium	95
P012	DRINKS	Product12	Large	92
P013	DRINKS	Product13	Small	72
P014	SNACKS	Product14	Large	12
P015	DRINKS	Product15	medium	26
P016	JELLY	Product16	Small	94
P017	SNACKS	Product17	medium	52
P009	SNACKS	Product9	Small	91
P018	DRINKS	Product18	Small	9
P019	DRINKS	Product19	Large	57
P020	SNACKS	Product20	Large	62
P021	CHOCOLATES	Product21	Small	9
P022	JELLY	Product22	medium	19

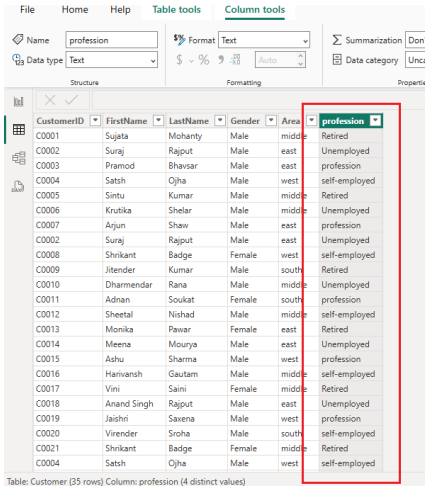
Table: Product (32 rows)

STEPS:

- In **Product** table, select the **Category** column.
- Go to **Transform** tab -> **Format** -> **UPPERCASE**.

2. Replace all occurrences of 'unemployment' with 'Unemployed' in the 'Profession' column of the Customer table.

OUTPUT:



CustomerID	FirstName	LastName	Gender	Area	profession
C0001	Sujata	Mohanty	Male	middle	Retired
C0002	Suraj	Rajput	Male	east	Unemployed
C0003	Pramod	Bhavsar	Male	east	profession
C0004	Satsh	Ojha	Male	west	self-employed
C0005	Sintu	Kumar	Male	middle	Retired
C0006	Krutika	Shelar	Male	middle	Unemployed
C0007	Arjun	Shaw	Male	east	profession
C0002	Suraj	Rajput	Male	east	Unemployed
C0008	Shrikant	Badge	Female	west	self-employed
C0009	Jitender	Kumar	Male	south	Retired
C0010	Dharmendar	Rana	Male	middle	Unemployed
C0011	Adnan	Soukat	Female	south	profession
C0012	Sheetal	Nishad	Male	middle	self-employed
C0013	Monika	Pawar	Female	east	Retired
C0014	Meena	Mourya	Male	east	Unemployed
C0015	Ashu	Sharma	Male	west	profession
C0016	Harivansh	Gautam	Male	middle	self-employed
C0017	Vini	Saini	Female	middle	Retired
C0018	Anand Singh	Rajput	Male	east	Unemployed
C0019	Jaishri	Saxena	Male	west	profession
C0020	Virender	Sroha	Male	south	self-employed
C0021	Shrikant	Badge	Female	middle	Retired
C0004	Satsh	Ojha	Male	west	self-employed

Table: Customer (35 rows) Column: profession (4 distinct values)

STEPS:

- In Customer table, select **Profession** column.
- Go to **Transform** tab -> **Replace Values** -> Value to Find: unemployment -> Replace With: Unemployed.

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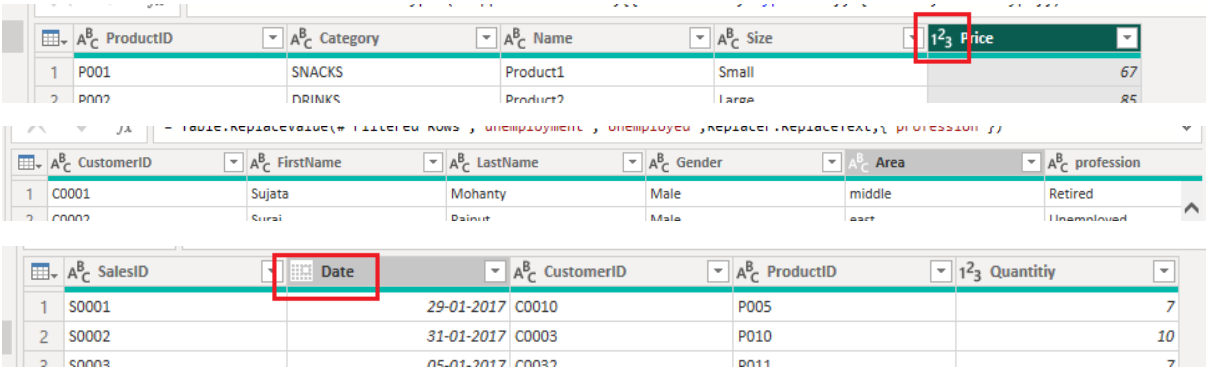
TASK 3:

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

OUTPUT:



	ProductID	Category	Name	Size	Price
1	P001	SNACKS	Product1	Small	67
2	P002	DRINKS	Product2	Large	85

	CustomerID	FirstName	LastName	Gender	Area	profession
1	C0001	Sujata	Mohanty	Male	middle	Retired
2	C0002	Suraj	Rajput	Male	east	Unemployed

	SalesID	Date	CustomerID	ProductID	Quantitiy
1	S0001	29-01-2017	C0010	P005	7
2	S0002	31-01-2017	C0003	P010	10
3	S0003	05-01-2017	C0032	P011	7

STEPS:

In Product Table

- Click on left most of header in **“price”** column -> select whole number (because we rounded it earlier)

In Customer Table

- Format is proper no need for changes

In Sales Table

- Click on left most of header in **“Date”** column -> select Date

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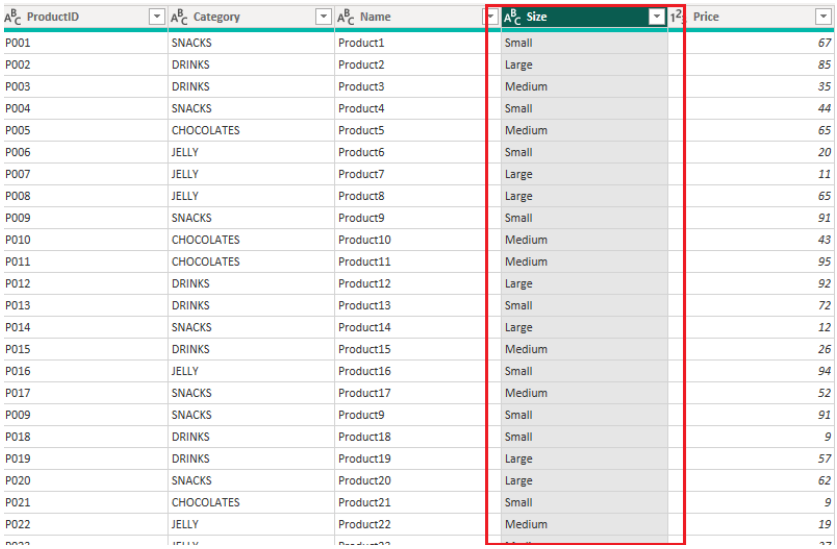
2. Identify and replace any inconsistent values in the 'Size' column of the Product dataset to ensure uniformity (e.g., replace "medium" with "Medium").

OUTPUT:



ProductID	Category	Name	Size	Price
P001	SNACKS	Product1	Small	67
P002	DRINKS	Product2	Large	85
P003	DRINKS	Product3	Medium	35
P004	SNACKS	Product4	Small	44
P005	CHOCOLATES	Product5	Medium	65
P006	JELLY	Product6	Small	20
P007	JELLY	Product7	Large	11
P008	JELLY	Product8	Large	65
P009	SNACKS	Product9	Small	91
P010	CHOCOLATES	Product10	Medium	43
P011	CHOCOLATES	Product11	Medium	95
P012	DRINKS	Product12	Large	92
P013	DRINKS	Product13	Small	72
P014	SNACKS	Product14	Large	12
P015	DRINKS	Product15	Medium	26
P016	JELLY	Product16	Small	94
P017	SNACKS	Product17	Medium	52
P009	SNACKS	Product9	Small	91
P018	DRINKS	Product18	Small	9
P019	DRINKS	Product19	Large	57
P020	SNACKS	Product20	Large	62
P021	CHOCOLATES	Product21	Small	9
P022	JELLY	Product22	Medium	19

STEPS:

- In **Product** table, go to **Size** column.
- Use **Replace Values** -> Replace **“medium”** with **“Medium”**

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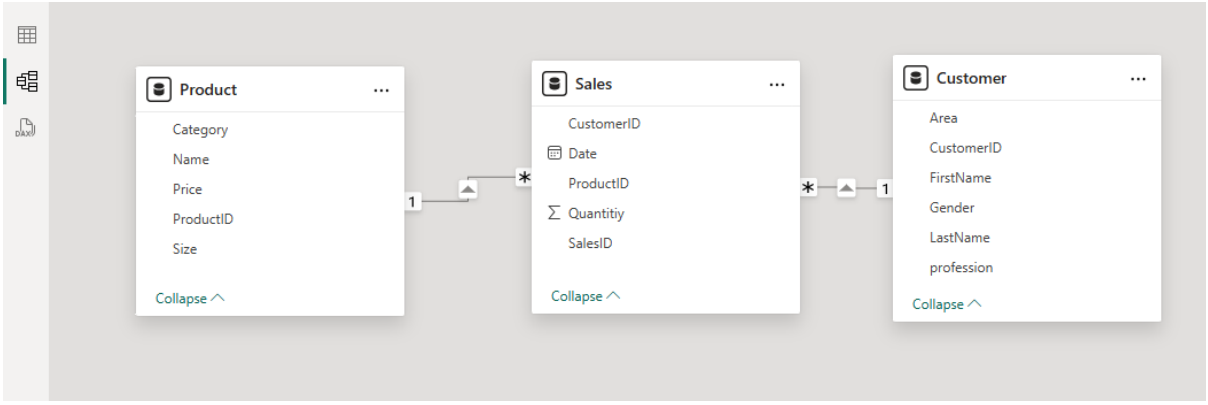
TASK 4:

1. Create relationships between the tables using 'CustomerID' and 'ProductID' as keys

OUTPUT:



STEPS:

1. Go to **Model** view.
2. Drag and connect:

- Customer[CustomerID] -> Sales[CustomerID]
- Product[ProductID] -> Sales[ProductID]

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2. Clean the data by removing any duplicate entries in the Customer and Product tables

OUTPUT:

ProductID	Category	Name	Size	Price
P001	SNACKS	Product1	Small	67
P002	DRINKS	Product2	Large	85
P003	DRINKS	Product3	Medium	35
P004	SNACKS	Product4	Small	44
P005	CHOCOLATES	Product5	Medium	65
P006	JELLY	Product6	Small	20
P007	JELLY	Product7	Large	11
P008	JELLY	Product8	Large	65
P009	SNACKS	Product9	Small	91
P010	CHOCOLATES	Product10	Medium	43
P011	CHOCOLATES	Product11	Medium	95
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P014	SNACKS	Product14	Large	12
P015	DRINKS	Product15	Medium	26
P016	JELLY	Product16	Small	94
P017	SNACKS	Product17	Medium	52
P018	DRINKS	Product18	Small	9
P019	DRINKS	Product19	Large	57
P020	SNACKS	Product20	Large	62
P021	CHOCOLATES	Product21	Small	9
P022	JELLY	Product22	Medium	19
P023	JELLY	Product23	Medium	27

CustomerID	FirstName	LastName	Gender	Area	profession
C0001	Sujata	Mohanty	Male	middle	Retired
C0002	Suraj	Rajput	Male	east	Unemployed
C0003	Pramod	Bhavsar	Male	east	profession
C0004	Satsh	Ojha	Male	west	self-employed
C0005	Sintu	Kumar	Male	middle	Retired
C0006	Krutika	Shelar	Male	middle	Unemployed
C0007	Arjun	Shaw	Male	east	profession
C0008	Shrikant	Badge	Female	west	self-employed
C0009	Jitender	Kumar	Male	south	Retired
C0010	Dharmendar	Rana	Male	middle	Unemployed
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C0012	Sheetal	Nishad	Male	middle	self-employed
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C0014	Meena	Mourya	Male	east	Unemployed
C0015	Ashu	Sharma	Male	west	profession
C0016	Harivansh	Gautam	Male	middle	self-employed
C0017	Vini	Saini	Female	middle	Retired
C0018	Anand Singh	Rajput	Male	east	Unemployed
C0019	Jaishri	Saxena	Male	west	profession
C0020	Virender	Sroha	Male	south	self-employed
C0021	Shrikant	Badge	Female	middle	Retired
C0022	Harivansh	Gautam	Male	south	Unemployed
C0023	Sourav	Maity	Male	middle	profession

STEPS:

Go to Transform data, In **Customer** and **Product** tables:

- Select all columns -> Right-click -> **Remove Duplicates**

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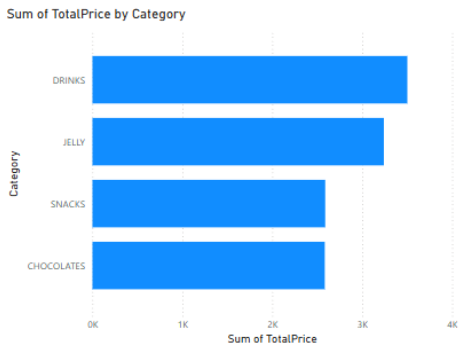
TASK 5:

Sales by Category:

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

OUTPUT:

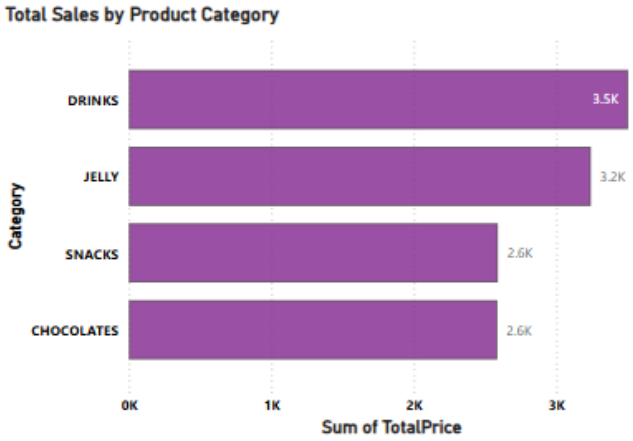


STEPS:

- Go to Model View -> In the Sales table, click "New Column" in the Modeling tab.
- Enter formula to create total price “TotalPrice = Sales[Quantitiy] * RELATED(Product[Price])”
- Switch to report view -> select **stacked bar chart** from Visualizations pane.
- On Y-axis drag the **category** from product table and on X-axis drag the **total price** from sales table.

2. Customize colors, refine the title, and add data labels for exact sales amounts

OUTPUT:



STEPS:

- Click the "Format" tab in the Visualizations pane -> Under "Title", edit to say "Total Sales by Product Category"
- Select / Adjust colors by expanding "Visual Tab"
- Enable "Data labels" from visual Tab

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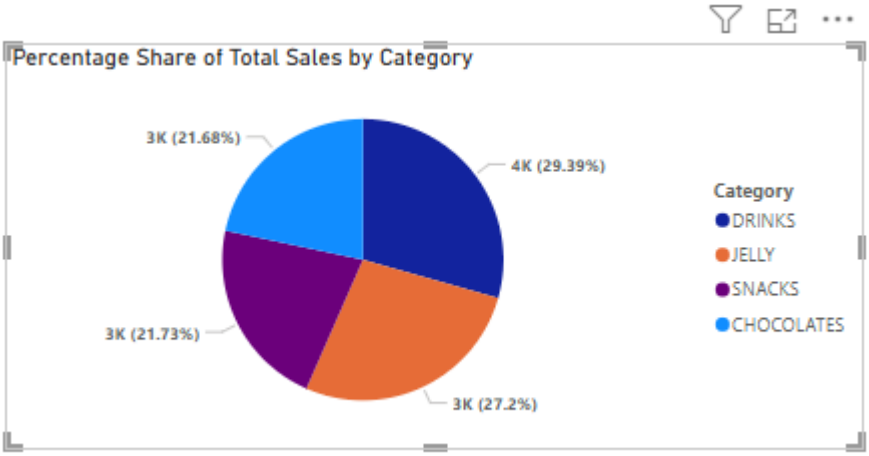
Sales Percentage by Category:

Create a chart showing the percentage share of sales (Price) for each product category. Keep the chart compact and easy to understand.

OUTPUT:



STEPS:

- Click the **Pie Chart** from Visualizations.
- Select Product[Category] and Sales[TotalPrice]
- Enable **"Detail Labels"** → Set to **"Percent of Total"**
- Give a suitable title e.g. "*Percentage Share of Total Sales by Category*"