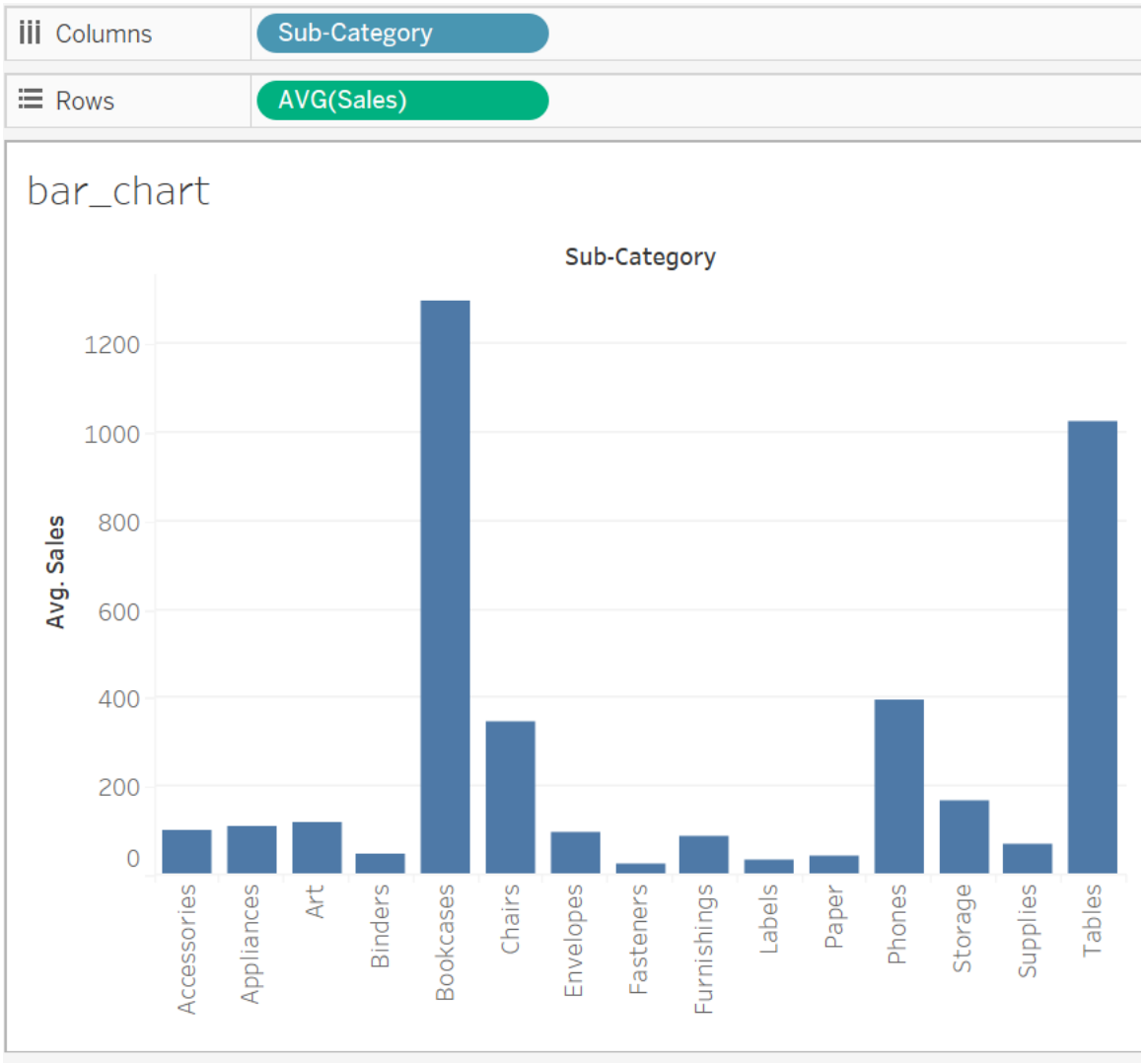
M VINEELA REDDY 20BCT0257

ASSIGNMENT – 2

1) Create any 7 data visualizations/charts and perform the following

i. ● **Bar chart :** Bar charts enable us to compare numerical values like integers and percentages. They use the length of each bar to represent the value of each variable. For example, bar charts show variations in categories or subcategories scaling width or height across simple, spaced bars, or rectangles.

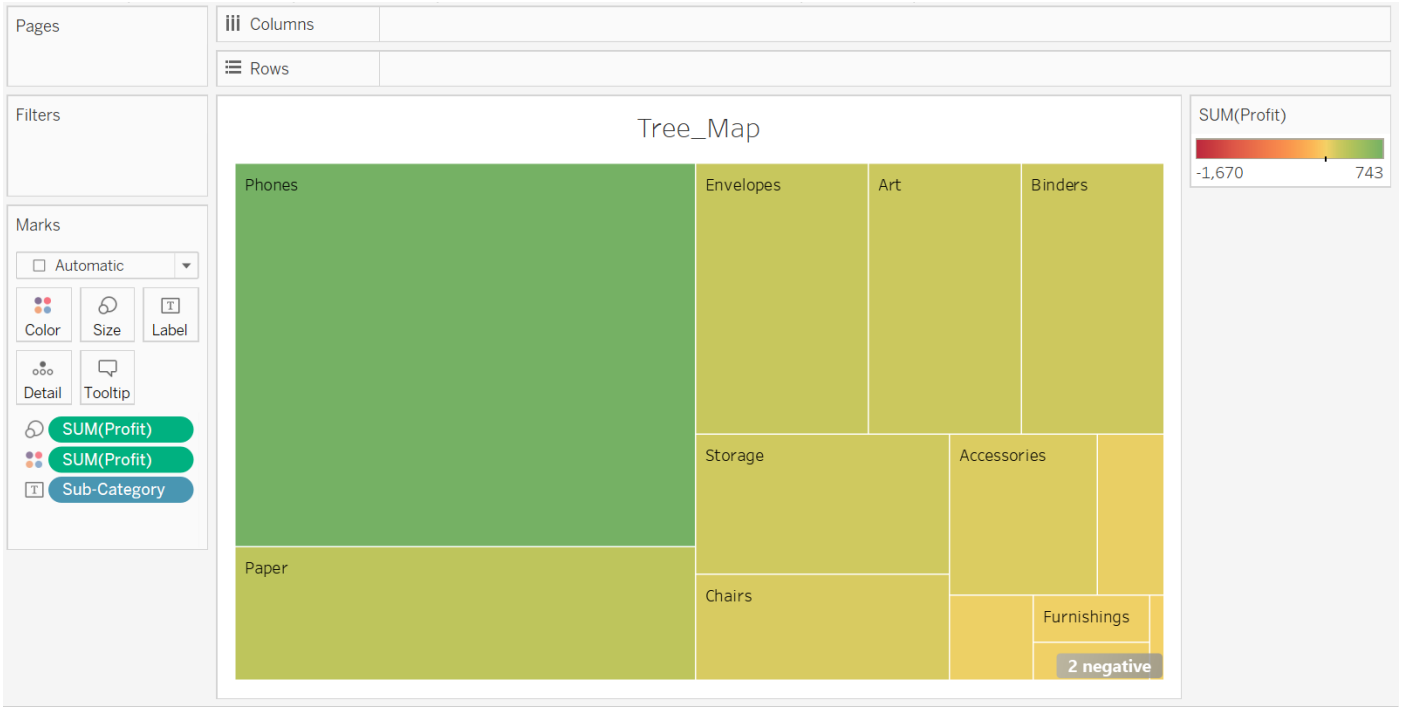


From the above Bar chart we can conclude that Bookcases category has the highest average sales and Fasteners has the lowest average sales

ii.

● **Tree map:** The treemap functions as a visualization composed of nested rectangles. These rectangles represent certain categories within a selected dimension and are ordered in a hierarchy, or "tree." Quantities and patterns can be compared and displayed in a limited chart space. Treemaps represent part to whole relationships.

From the below tree Map we can see the profit and loss based on the scale and the colour .



iii.

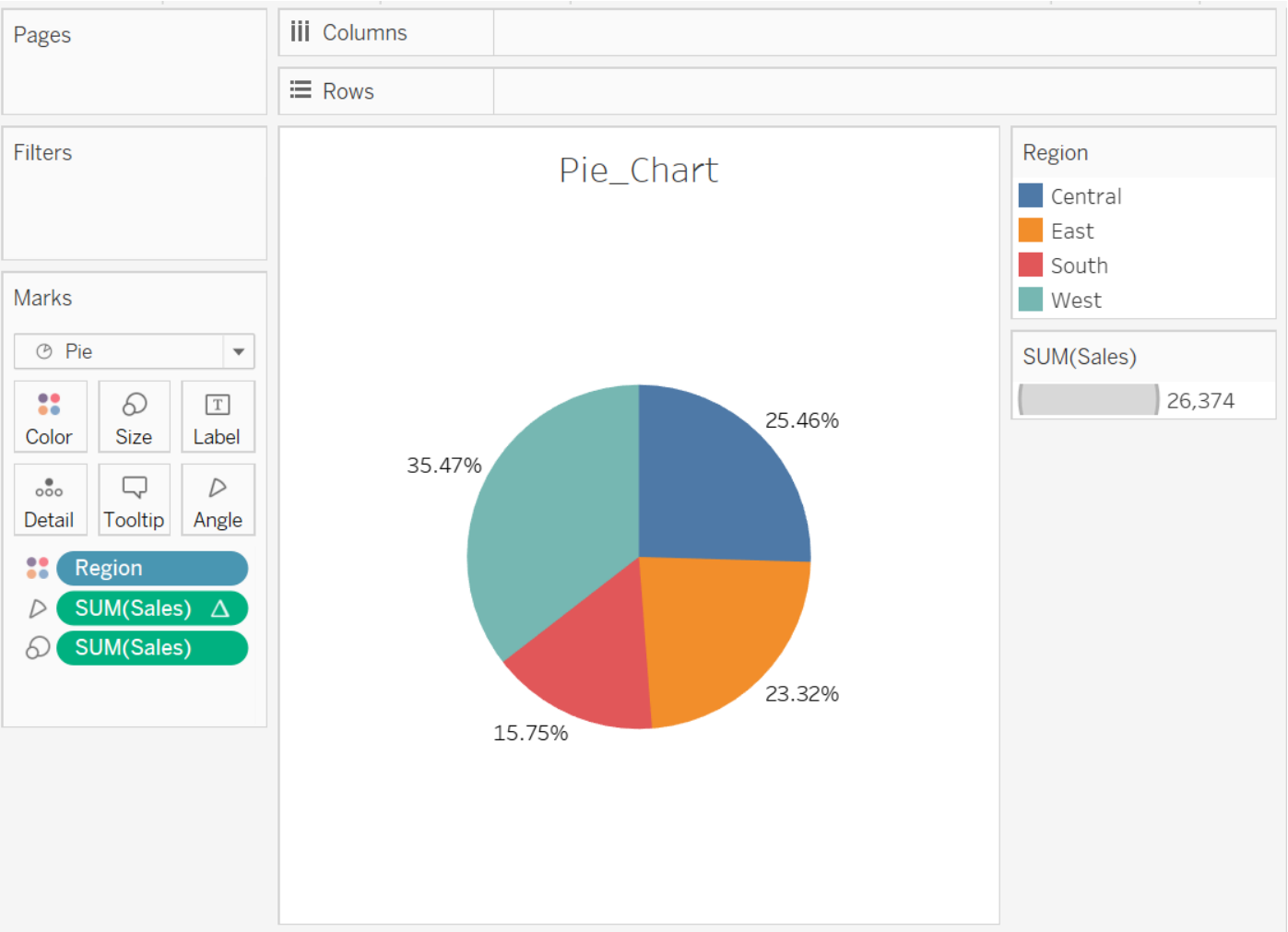
- **Heatmap:** A density heat map is used to analyze the areas in a plot where data points are dense or scattered. Heat maps are specifically used where there is a huge data set with overlapping data values. This helps analysts to see the areas with greater density and discover data trends.

From the above Heat Map we can conclude that Tables have most profit in west region and bookcases have most loss in east region

iv.

- **Pie chart :** A pie chart helps organize and show data as a percentage of a whole.

True to the name, this kind of visualization uses a circle to represent the whole, and slices of that circle, or “pie”, to represent the specific categories that compose the whole. This type of chart helps the user compare the relationship between different dimensions (Ex. categories, products, individuals, countries, etc.) within a specific context. Usually, the chart splits the numerical data (measure) into percentages of the total sum. Each slice represents the proportion of the value, and should be measured accordingly.

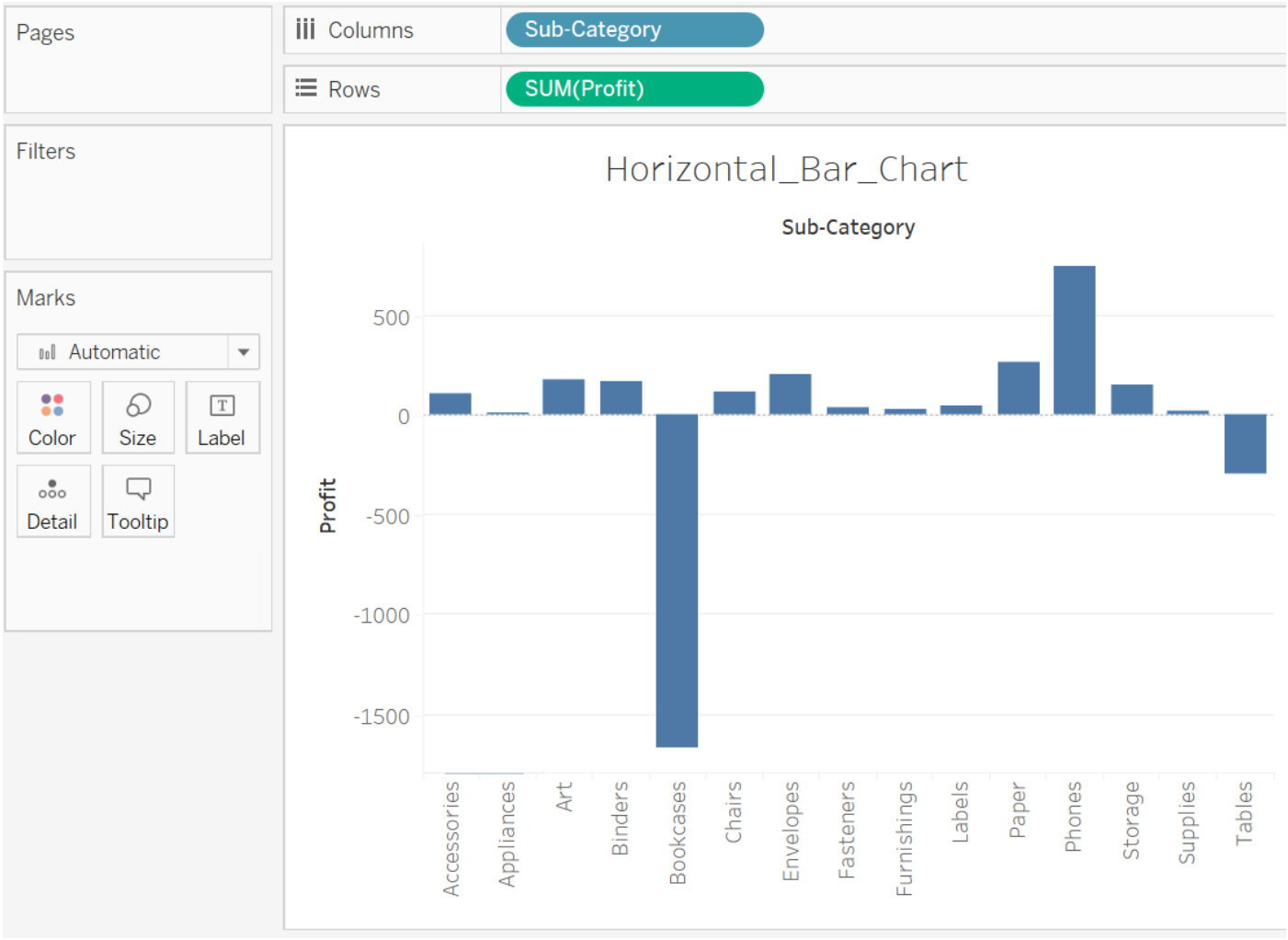


From the above Pie chart we can observe the percentages of each region and we can see that west region has more percentage than others for sales (profit)

v.

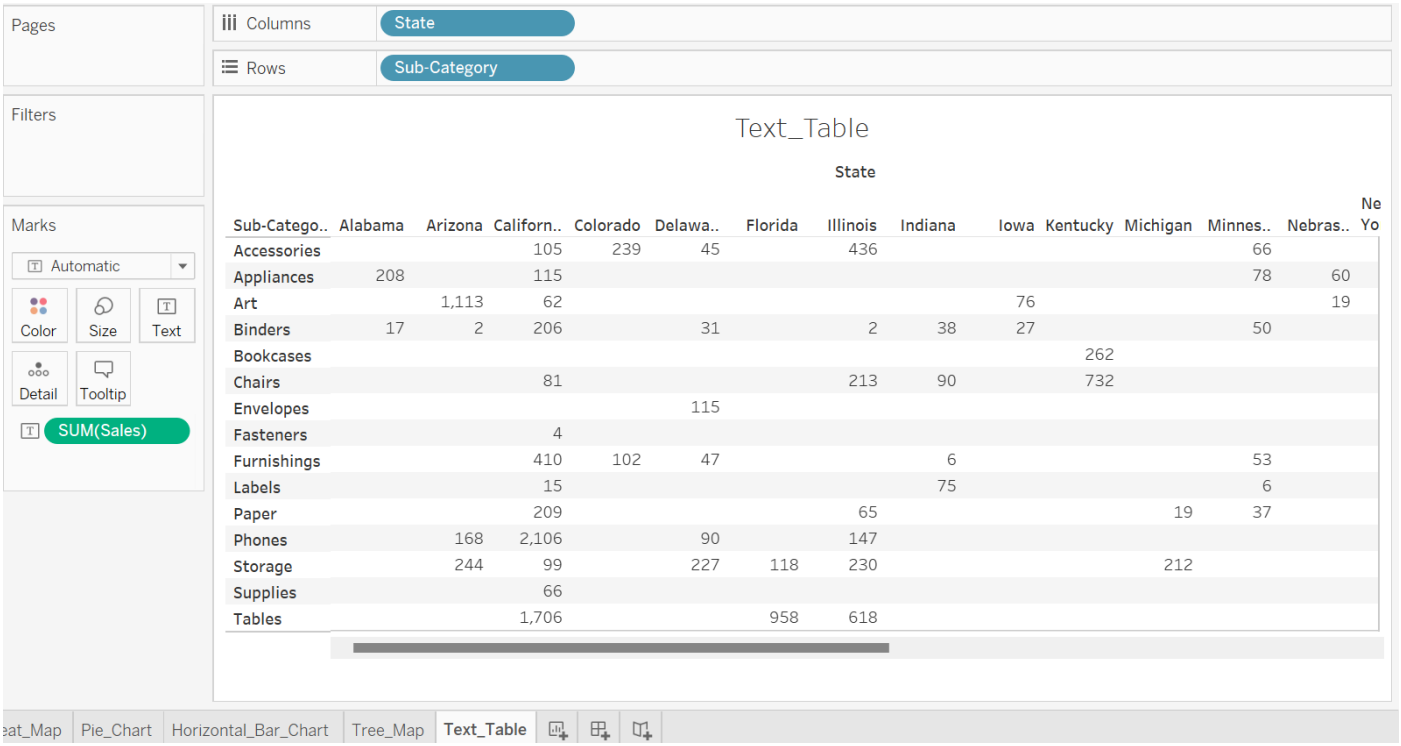
- **Horizontal bar chart:** The chart makes quick work of information consumption for the report viewer. They can immediately see comparative relationships as well as approximate numeric values.

From the below horizontal bar chart based on the Sample-superstore , we can see the chart with subcategory and profit.



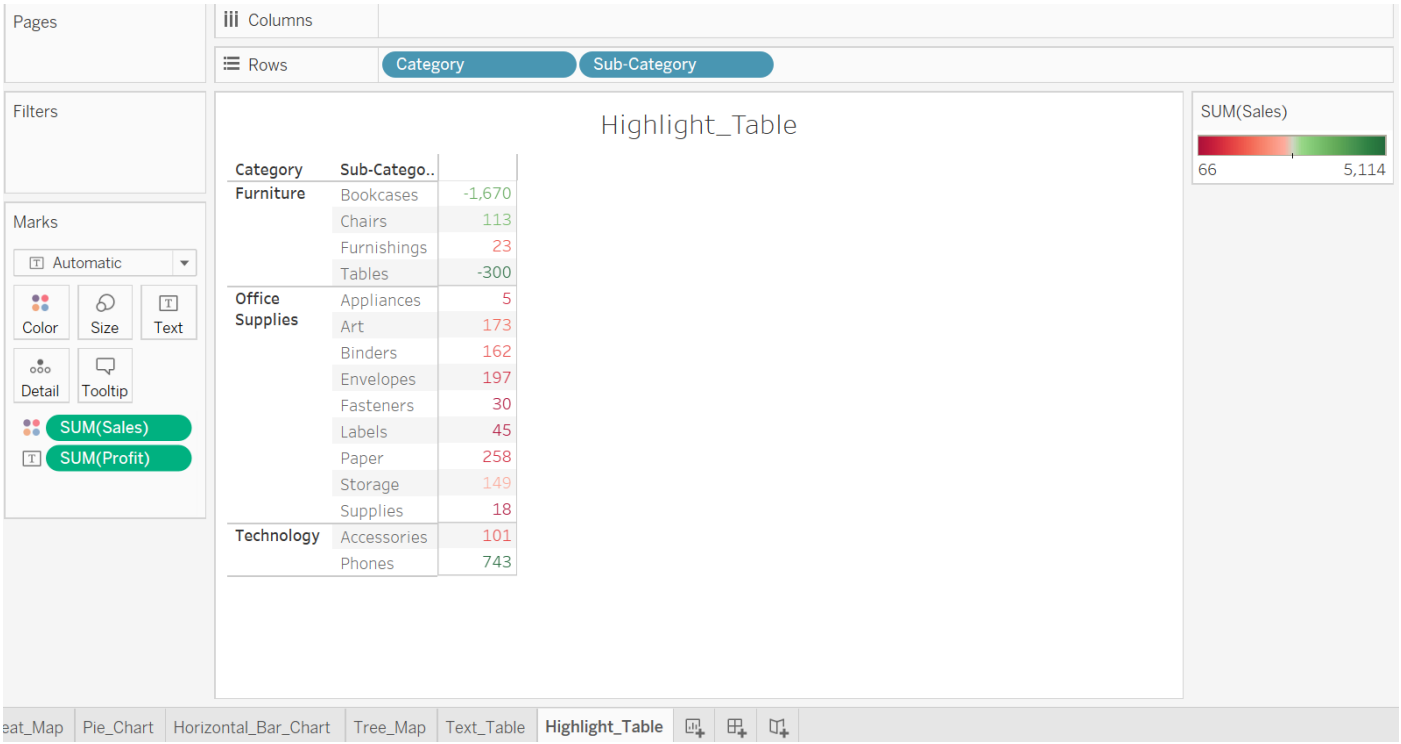
vi.

- **Text Table**: A text table is a series of rows and columns that have headers and numeric values.



vii.

- **Highlight Table:** Highlight table is used to compute categorical data using color.

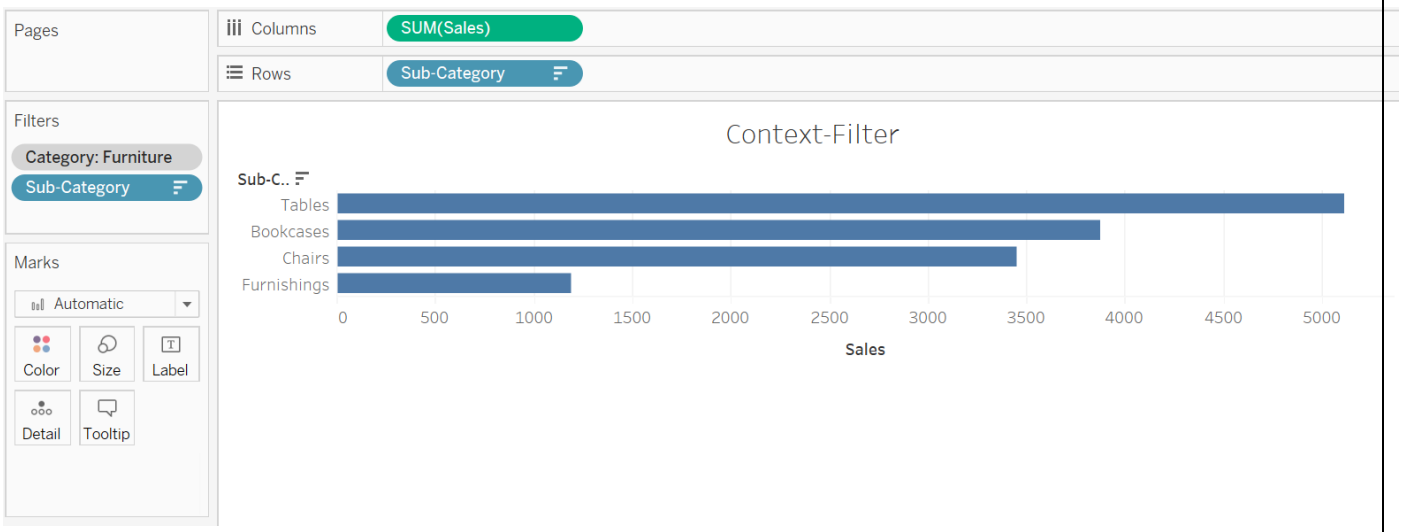


Category	Sub-Catego..	
Furniture	Bookcases	-1,670
	Chairs	113
	Furnishings	23
	Tables	-300
Office Supplies	Appliances	5
	Art	173
	Binders	162
	Envelopes	197
	Fasteners	30
	Labels	45
	Paper	258
	Storage	149
	Supplies	18
Technology	Accessories	101
	Phones	743

2) Apply dimension filter, context and measure filter on any of the three visualizations

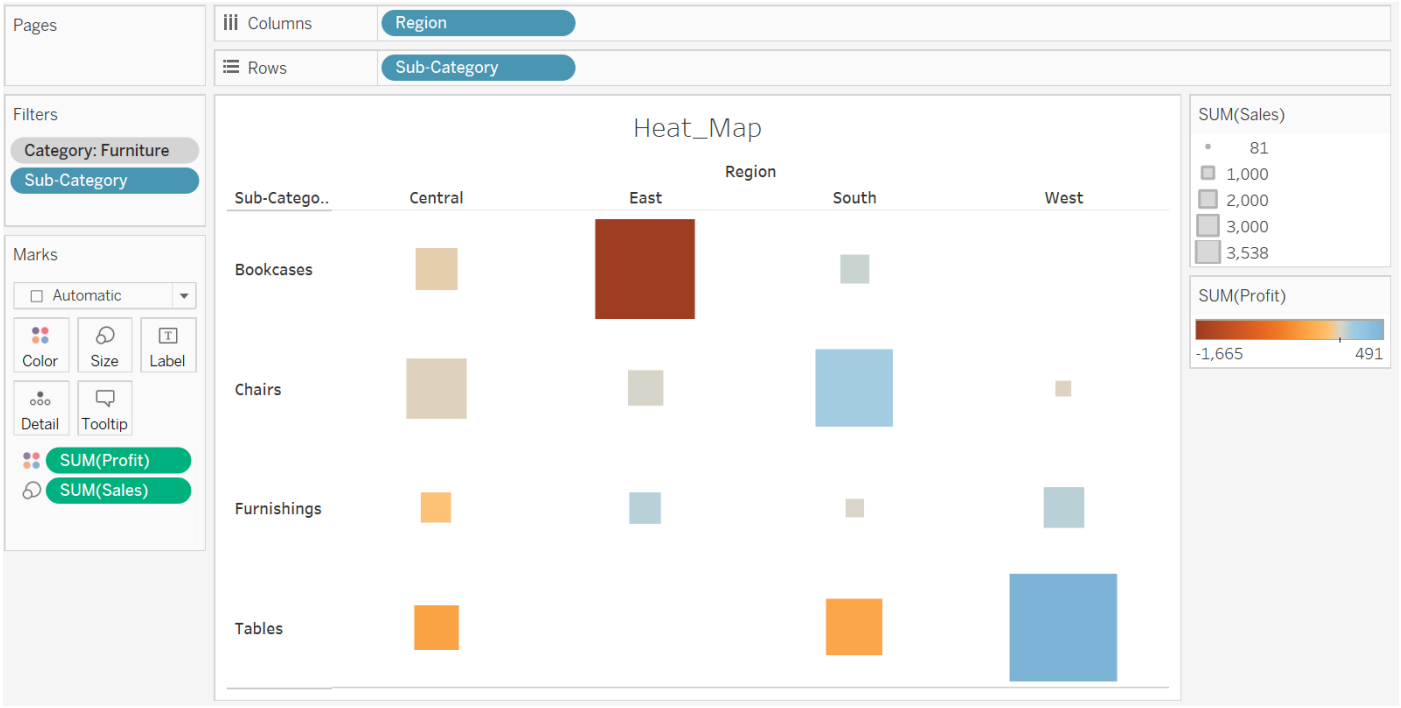
- **Context Filter:**

  i) Context Filter in Bar Chart



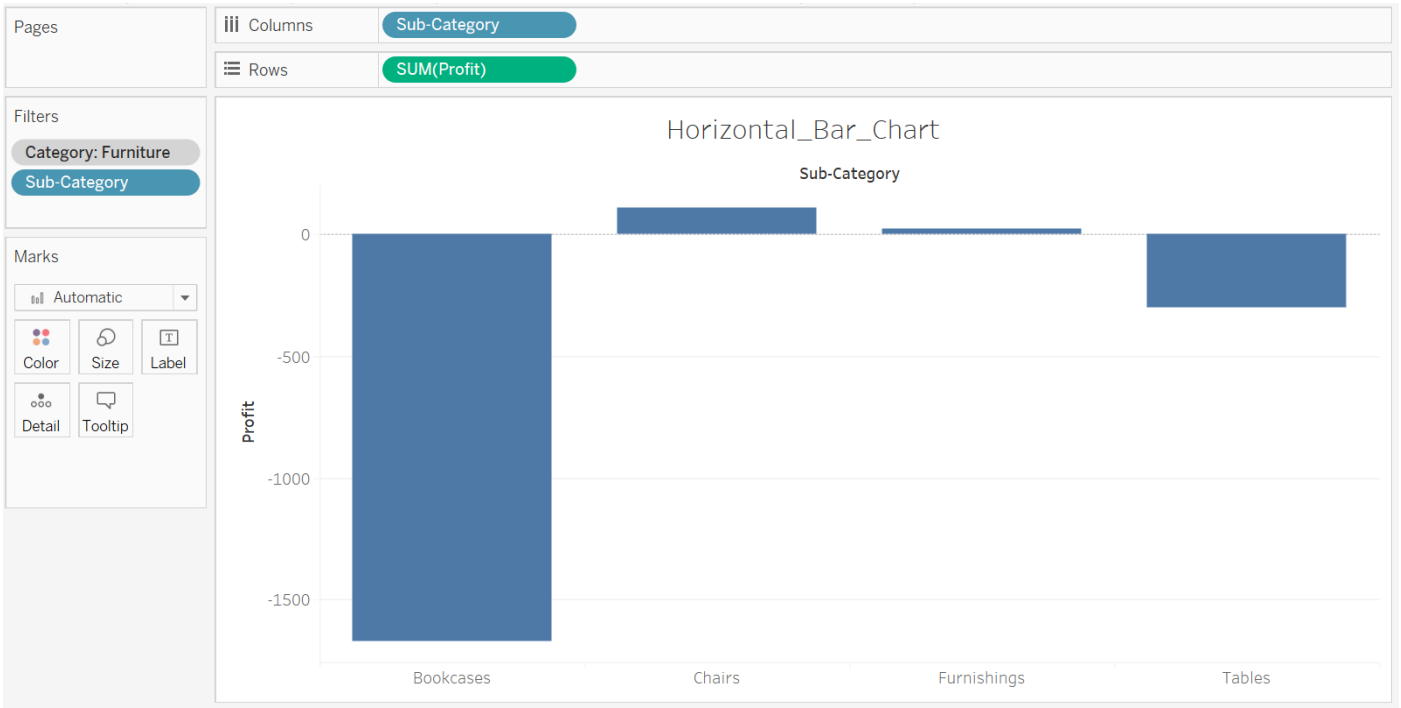
This above figure shows the context filter in bar chart with Category:furniture as the context

ii) Context Filter in Heat Map



This above figure shows the context filter in bar chart with Category:furniture as the context

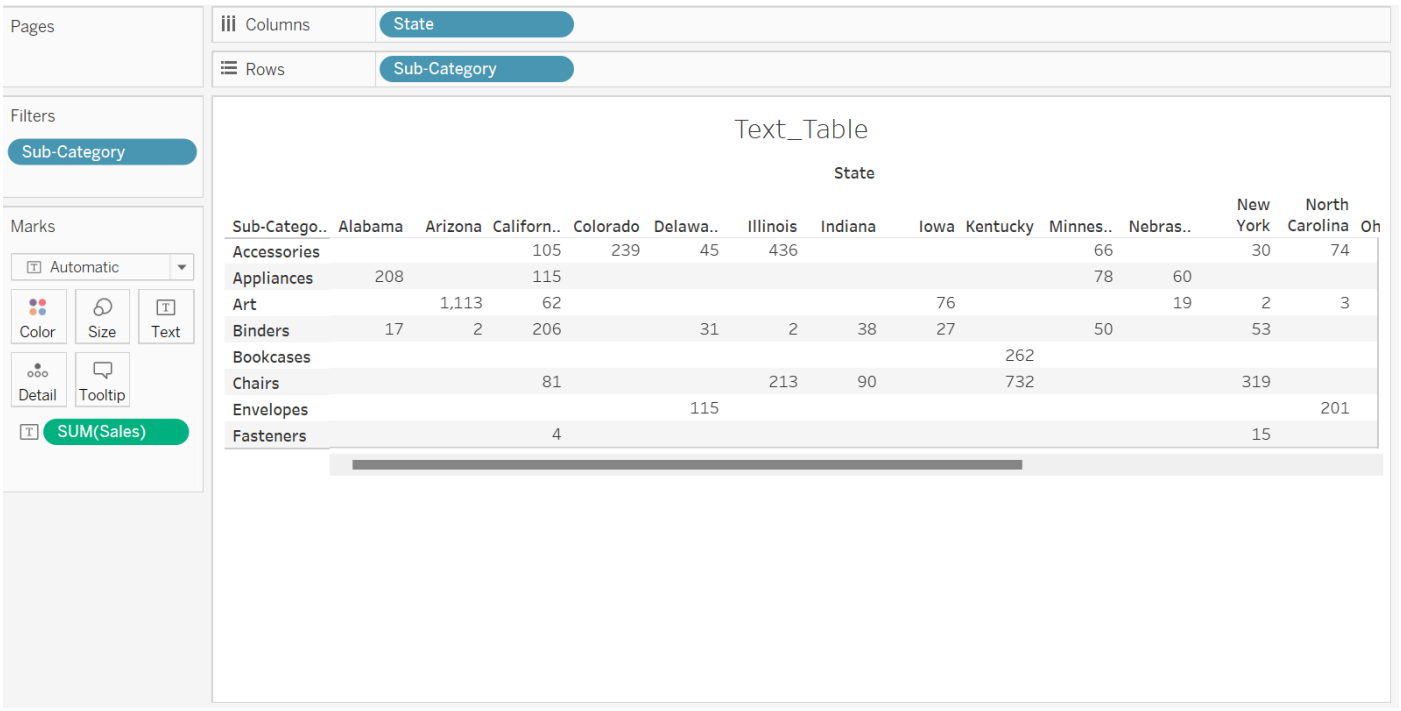
iii) Context Filter in Horizontal Bar chart



This above figure shows the context filter in bar chart with Category:furniture as the context

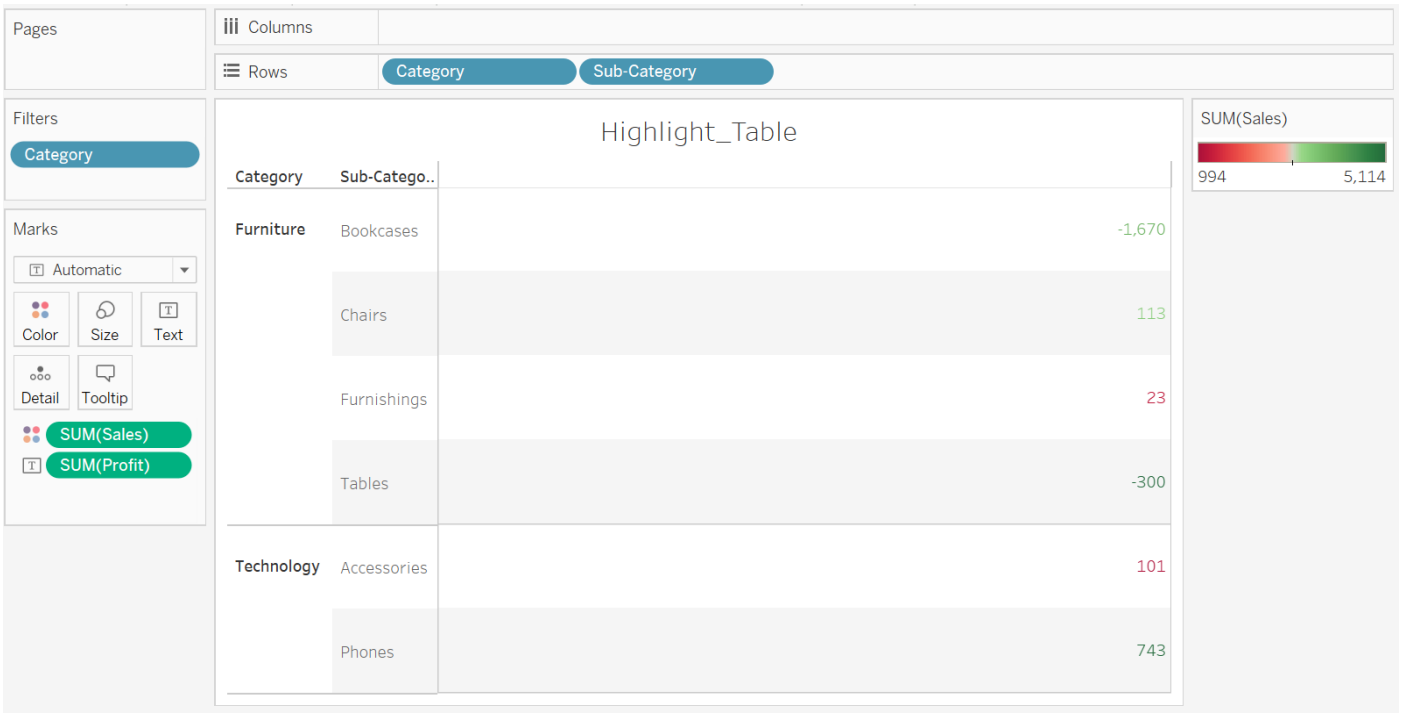
- **Dimension Filter**

  i) Dimension Filter in Text Table



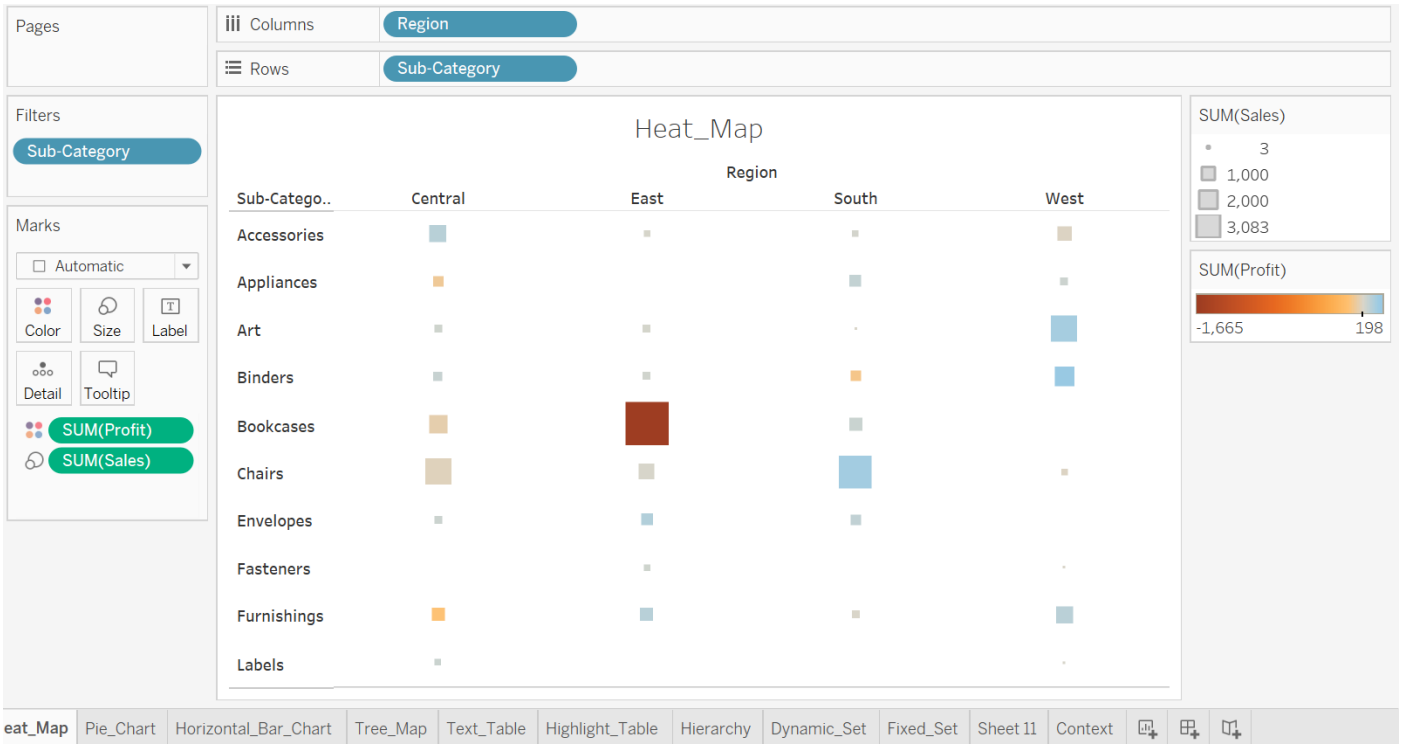
Sub-Catego..	Alabama	Arizona	Californ..	Colorado	Delawa..	Illinois	Indiana	Iowa	Kentucky	Minnes..	Nebras..	New York	North Carolina	Oh
Accessories			105	239	45	436				66		30	74	
Appliances	208		115							78	60			
Art		1,113	62					76			19	2	3	
Binders	17	2	206		31	2	38	27		50		53		
Bookcases									262					
Chairs			81			213	90		732			319		
Envelopes					115								201	
Fasteners			4									15		

  ii) Dimension Filter in Highlight table



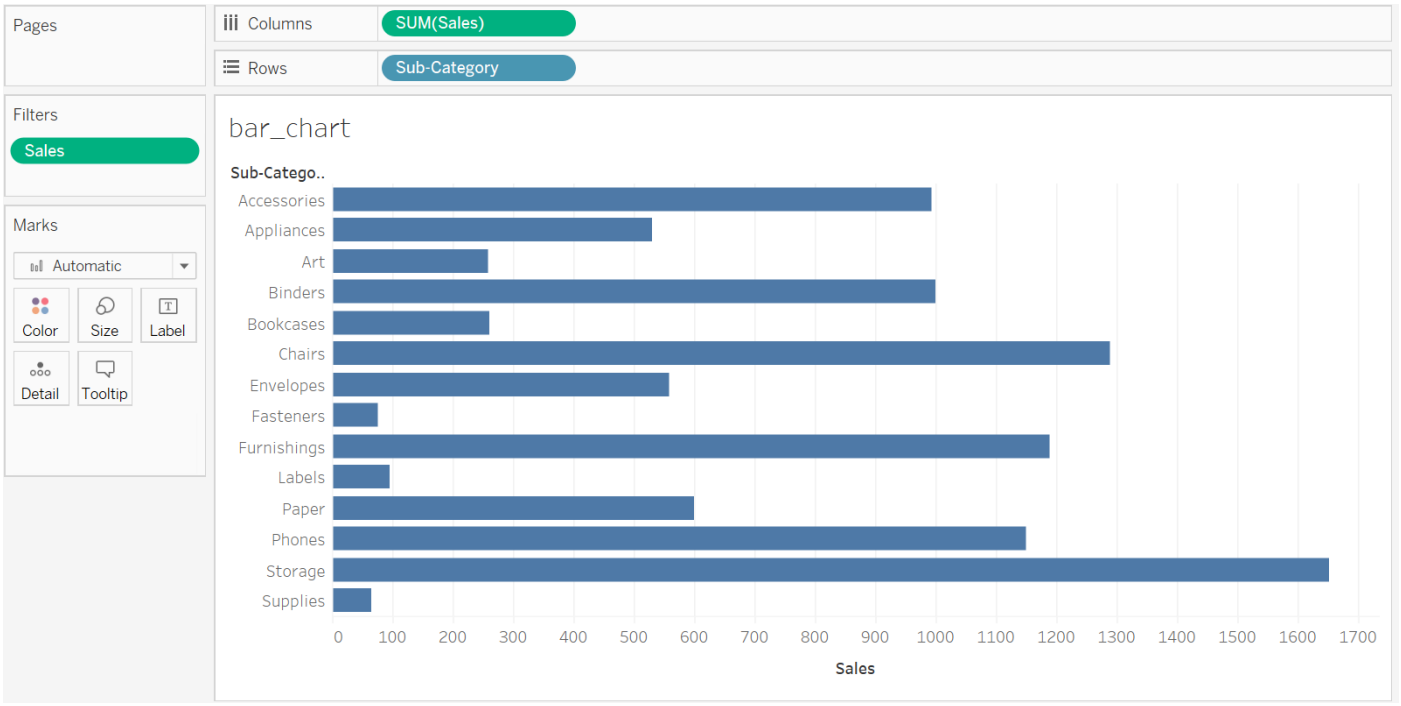
Category	Sub-Catego..	
Furniture	Bookcases	-1,670
	Chairs	113
	Furnishings	23
	Tables	-300
Technology	Accessories	101
	Phones	743

iii)Dimension Filter in Heat Map

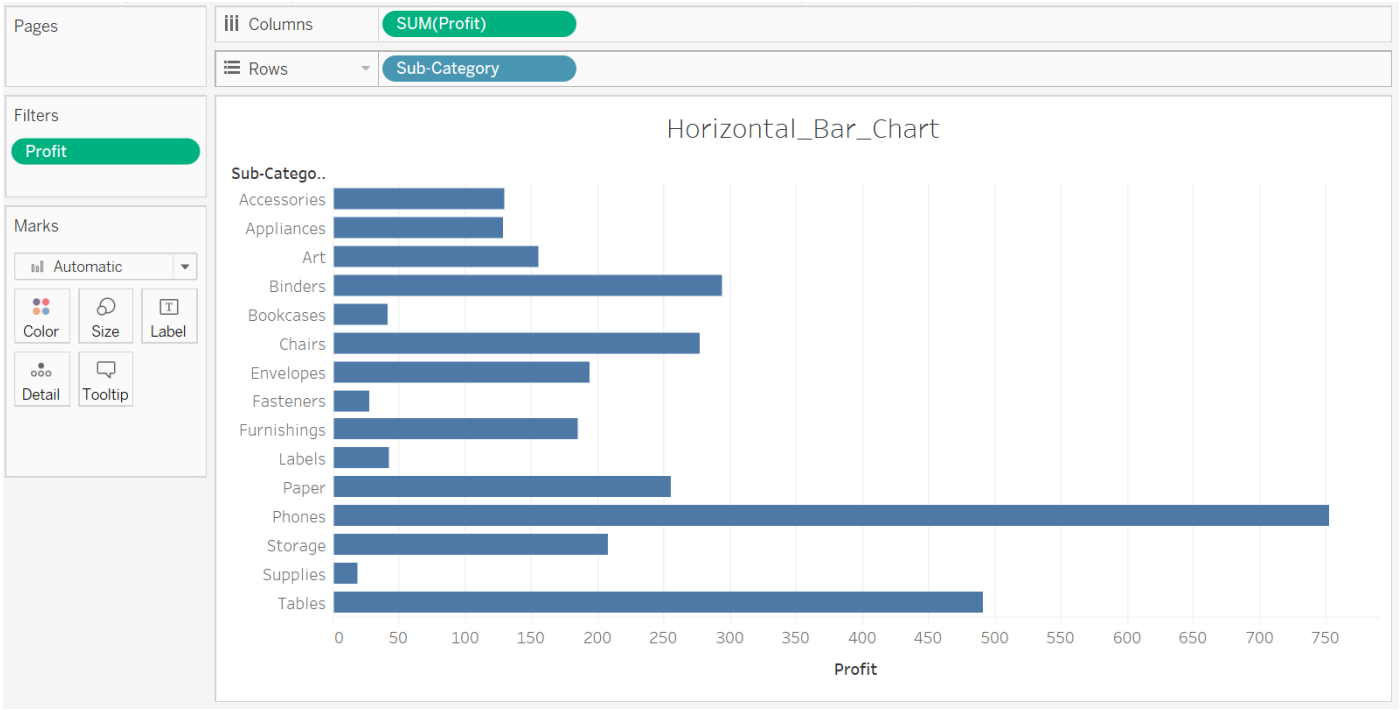


- **Measure Filter**

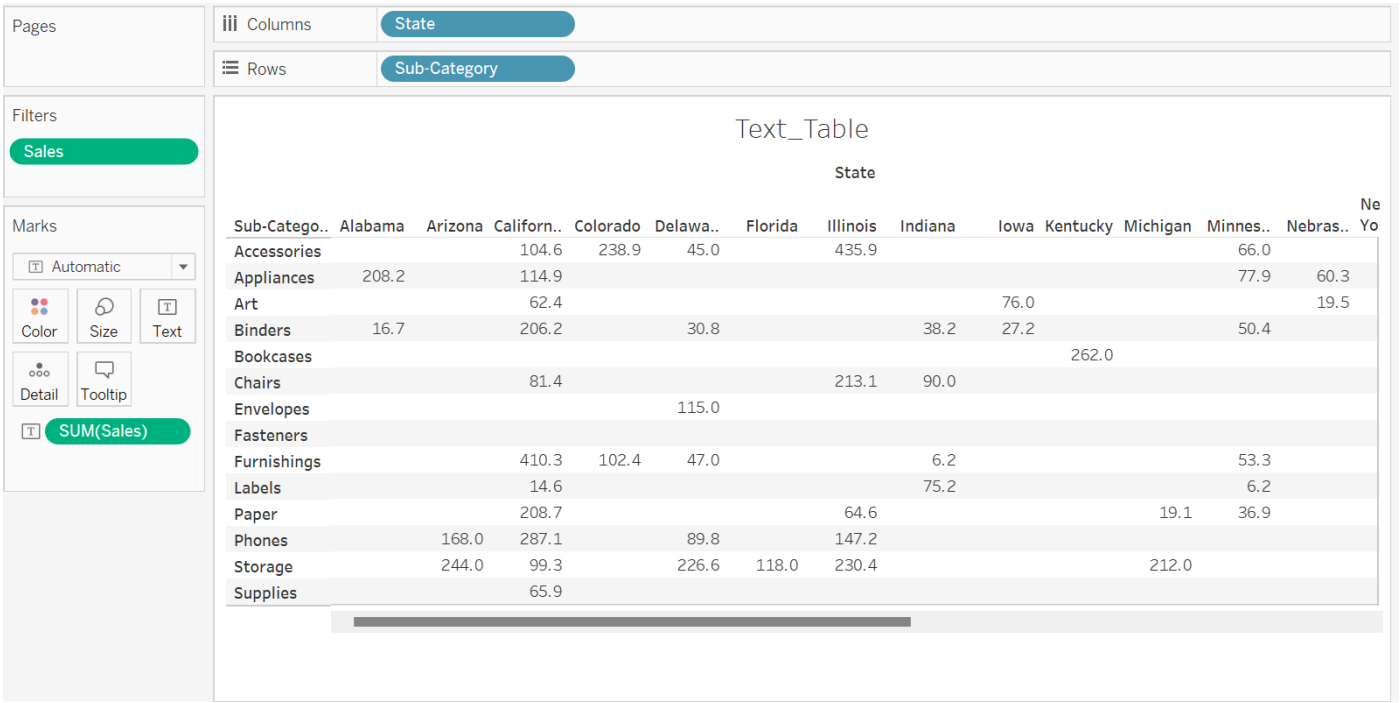
i) Measure Filter in Bar chart



ii) Measure filter in Horizontal Bar chart



iii) Measure filter in Text Table



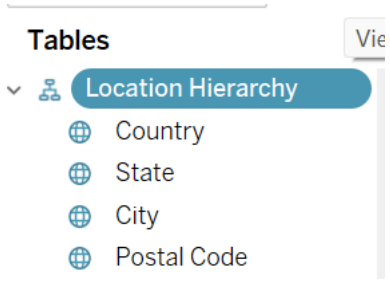
Sub-Catego..	Alabama	Arizona	Californ..	Colorado	Delawa..	Florida	Illinois	Indiana	Iowa	Kentucky	Michigan	Minnes..	Nebras..	Ne Yo
Accessories			104.6	238.9	45.0		435.9					66.0		
Appliances	208.2		114.9									77.9	60.3	
Art			62.4						76.0				19.5	
Binders	16.7		206.2		30.8			38.2	27.2			50.4		
Bookcases										262.0				
Chairs			81.4				213.1	90.0						
Envelopes					115.0									
Fasteners														
Furnishings			410.3	102.4	47.0			6.2				53.3		
Labels			14.6					75.2				6.2		
Paper			208.7				64.6				19.1	36.9		
Phones		168.0	287.1		89.8		147.2							
Storage		244.0	99.3		226.6	118.0	230.4				212.0			
Supplies			65.9											

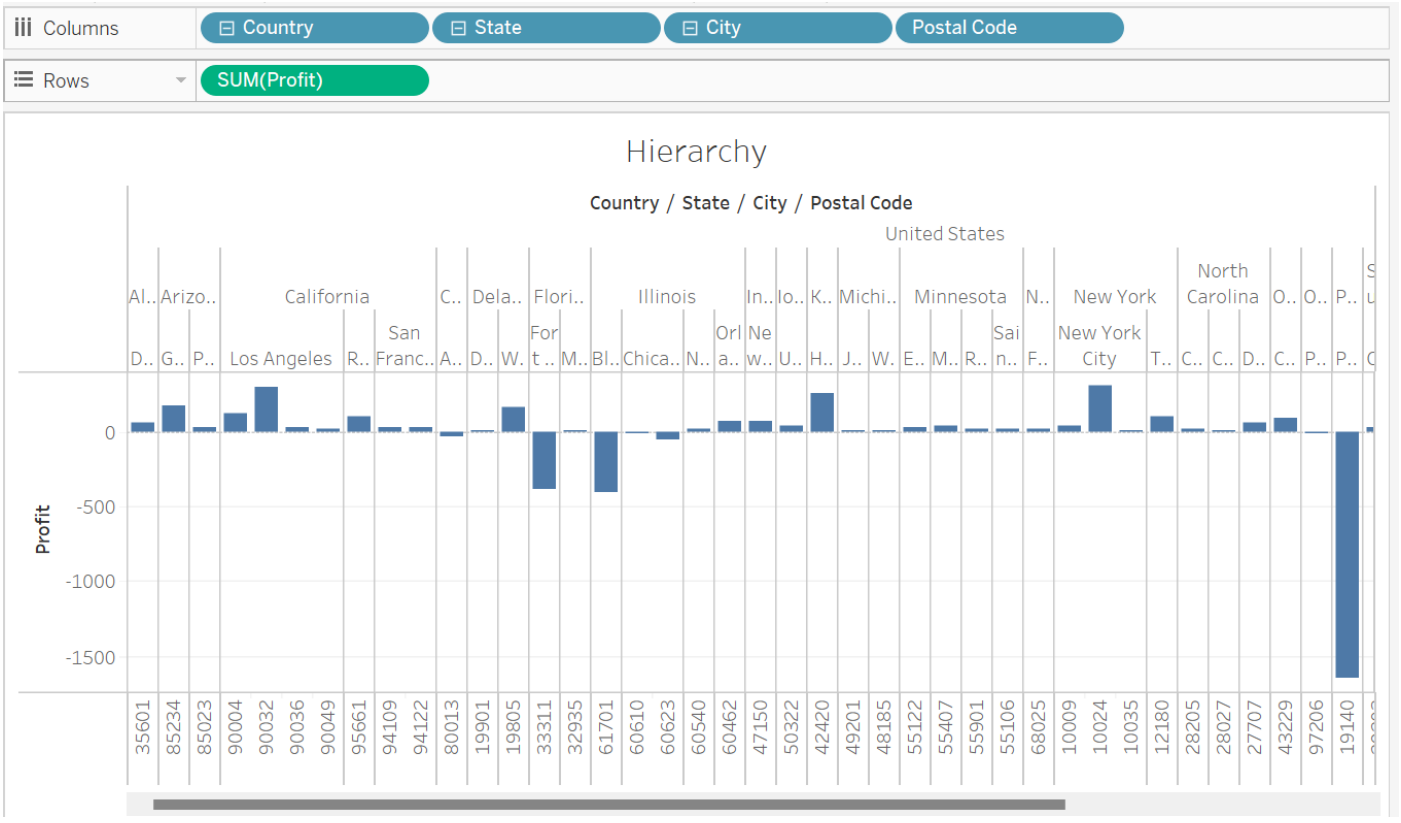
3) Perform the following data manipulations on your dataset

● Create a Hierarchy

Hierarchy helps us to build through capabilities

When we try to drag two locations together tableau will ask us to create a Hierarchy



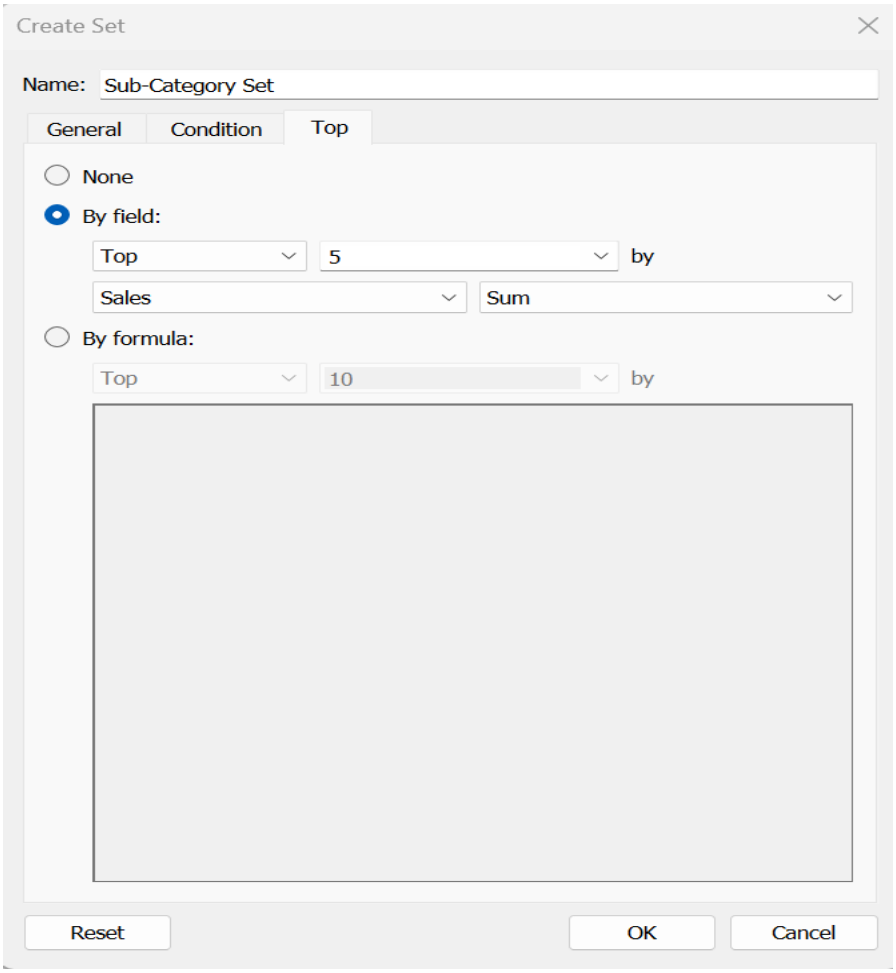


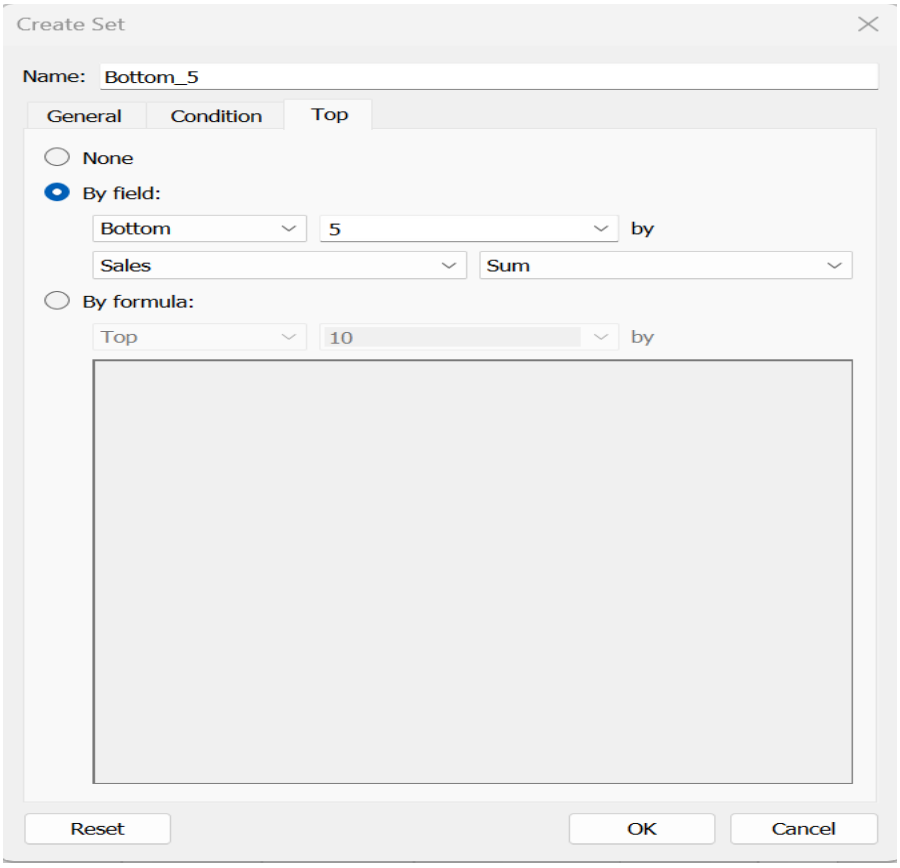
In this above Hierarchy we created a hierarchy using country ,state ,city and postal code and named it as location Hierarchy

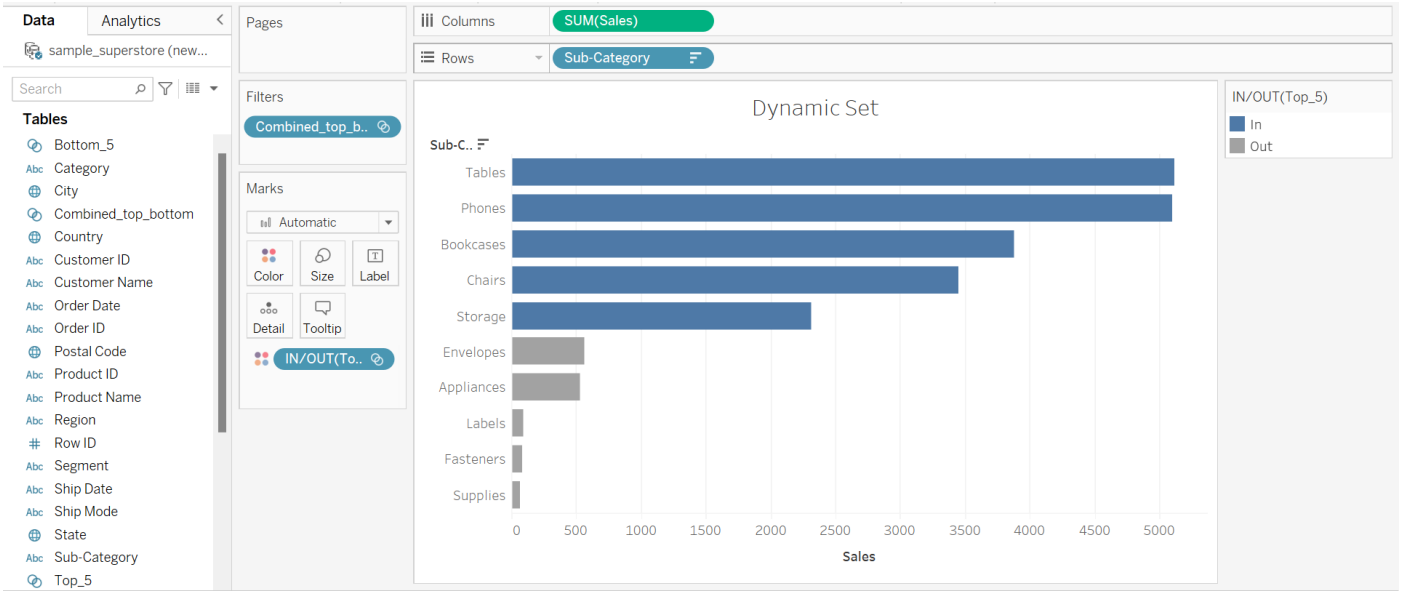
● Create a set

i) Dynamic Set

Sets are custom fields used to hold the subset of data based on given condition



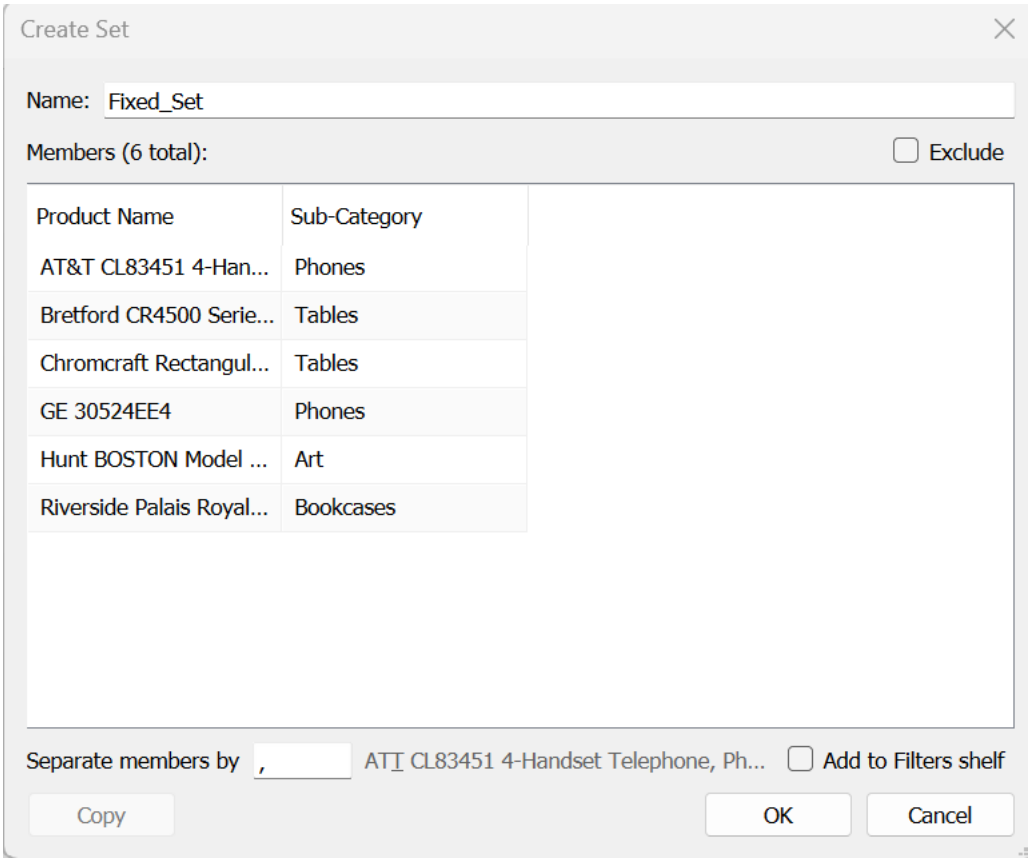


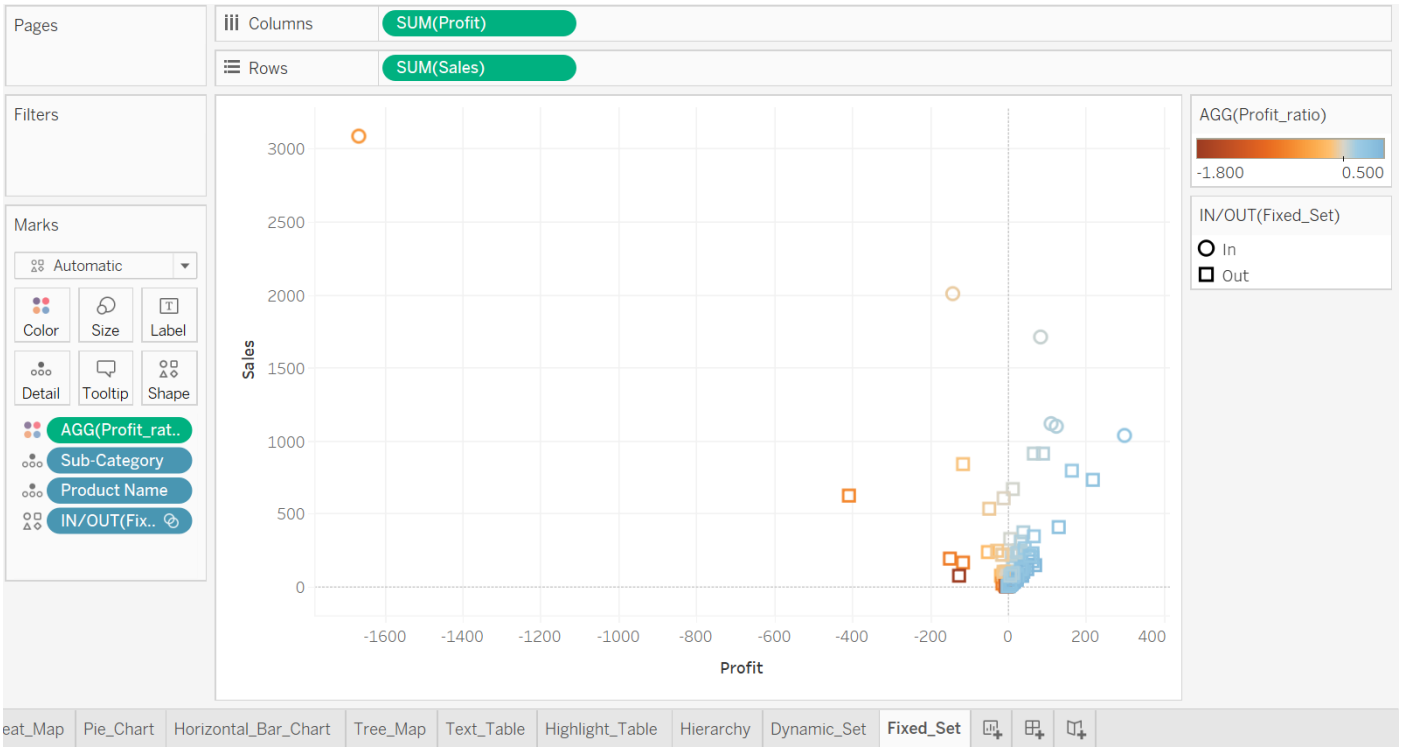


We will create Top_5 and Bottom_5 Sets based on their sales and then we will create a combined set named Combined_Top_Bottom and add it to the filter so that we will be able see the difference in the Bar Chart

ii) Fixed Set

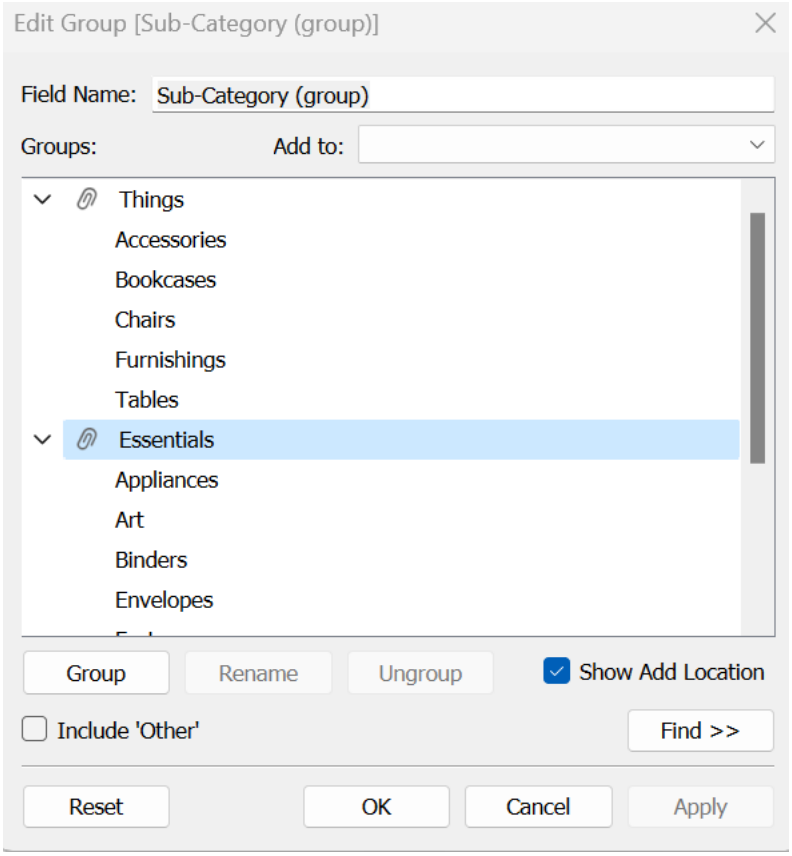
Fixed set provides a powerful and flexible way to analyse data by creating a subset of values that remain constant regardless of other filters or dimensions applied to the visualization.





It enhances the precision, reliability, and depth of our insights, enabling us to make informed decisions based on a well-defined reference point.

- **<u>Create a group</u>**



In conclusion, the group table created based on superstore data provides a comprehensive overview and analysis of the data based on specific groupings. The table effectively organizes the information and enables users to understand patterns, trends, and insights within the dataset.

By grouping the data, we have been able to aggregate and summarize relevant metrics and dimensions, which allows for a more concise and meaningful representation of the data. The table provides a clear structure that facilitates comparisons and highlights relationships between different groups.