ASSIGNMENT-2

Subject: Data Analytics

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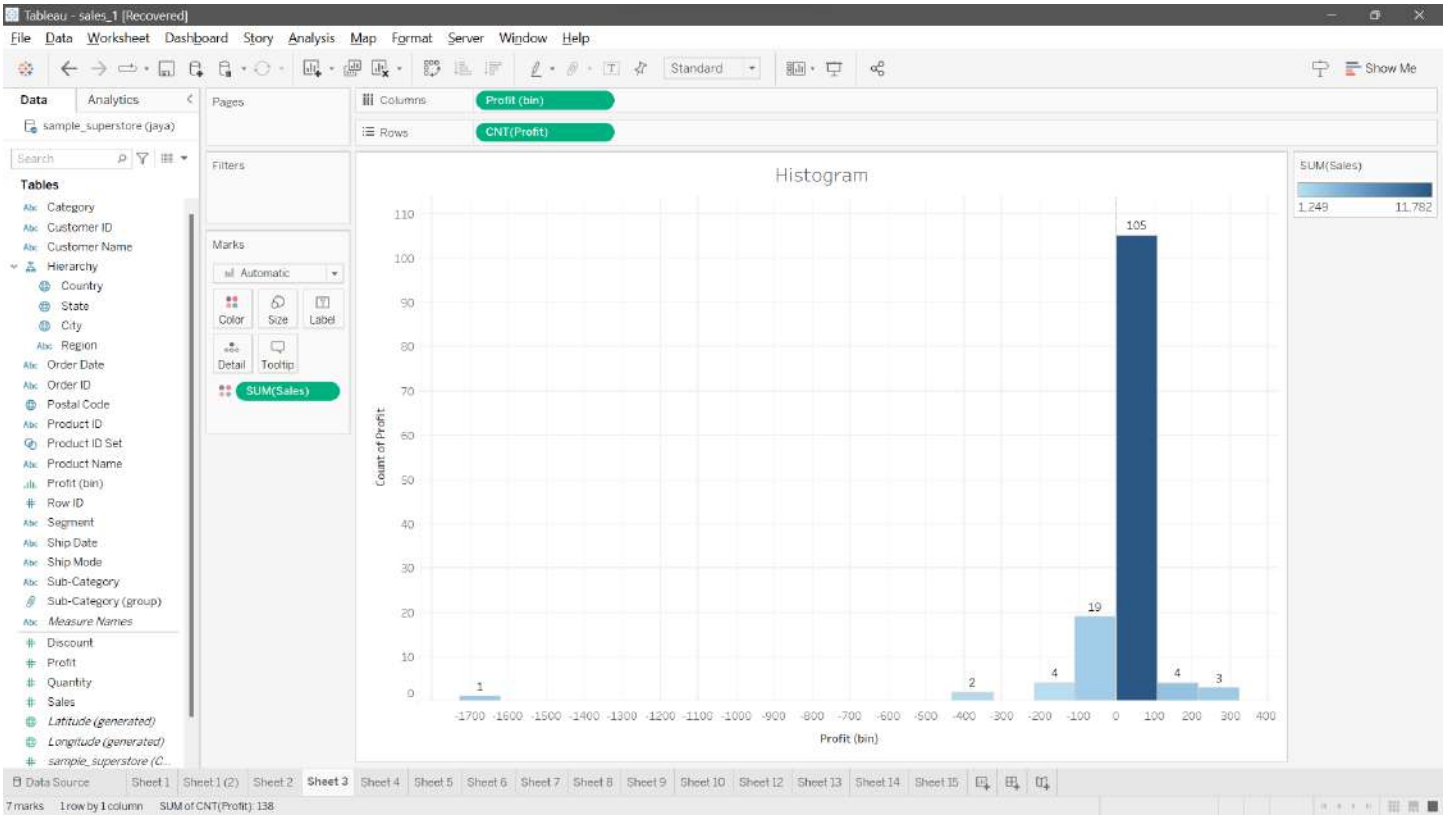
Registration Number: 20BEC0169

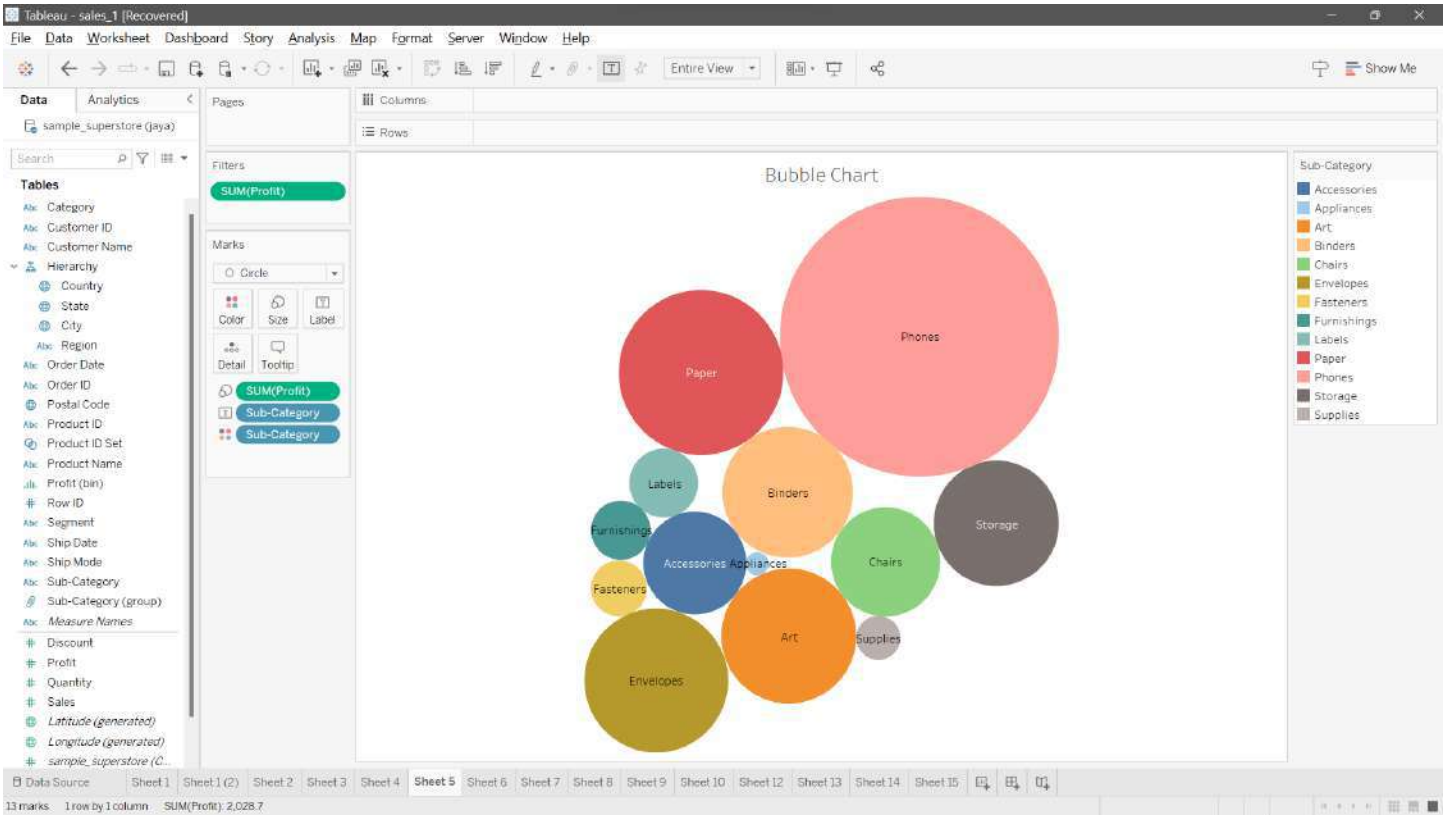
Histogram in Tableau:

A histogram in Tableau is a graphical representation of the distribution of a continuous numerical variable. It consists of a series of bars that represent the frequency or count of data points falling within specific intervals or bins. The width of each bar corresponds to the range of values covered by that bin, and the height represents the frequency or count of data points within that bin. Histograms are commonly used to visualize the shape, central tendency, and variability of a dataset. They provide insights into the distribution pattern, such as whether it is symmetric, skewed, or bimodal. Histograms help to identify the concentration of data points in certain ranges and detect any outliers or unusual patterns. In Tableau, you can customize the number of bins, range, and appearance of the histogram to effectively visualize and analyze your data.



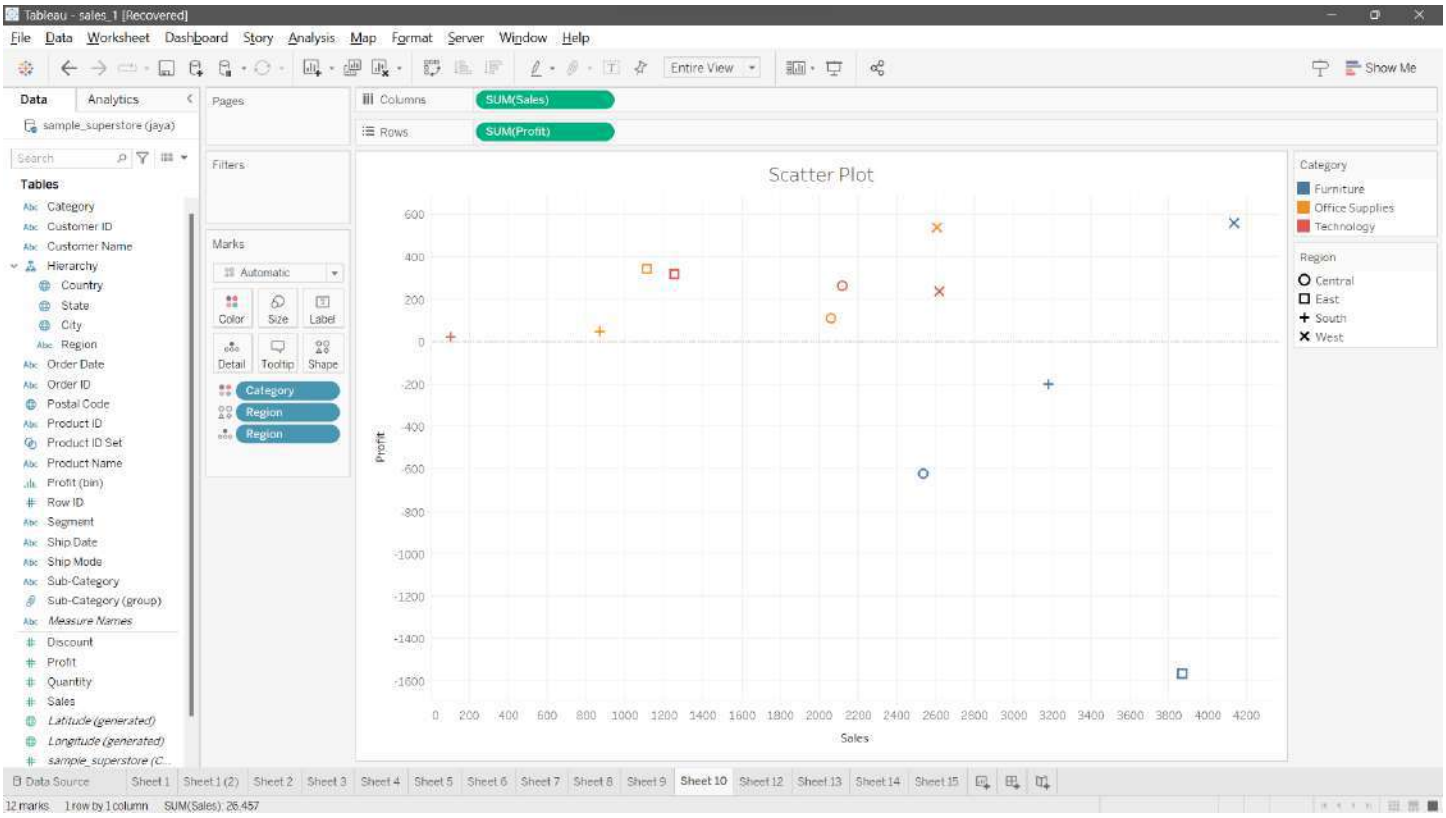
Bubble Chart:

A bubble chart in Tableau is a visual representation that displays three variables: two numerical variables on the X and Y axes, and a third variable represented by the size of the bubbles. The position of each bubble corresponds to the values of the X and Y variables, while the size of the bubble represents the magnitude of the third variable. Bubble charts are effective for showing relationships between variables, comparing data points, and identifying patterns or outliers.



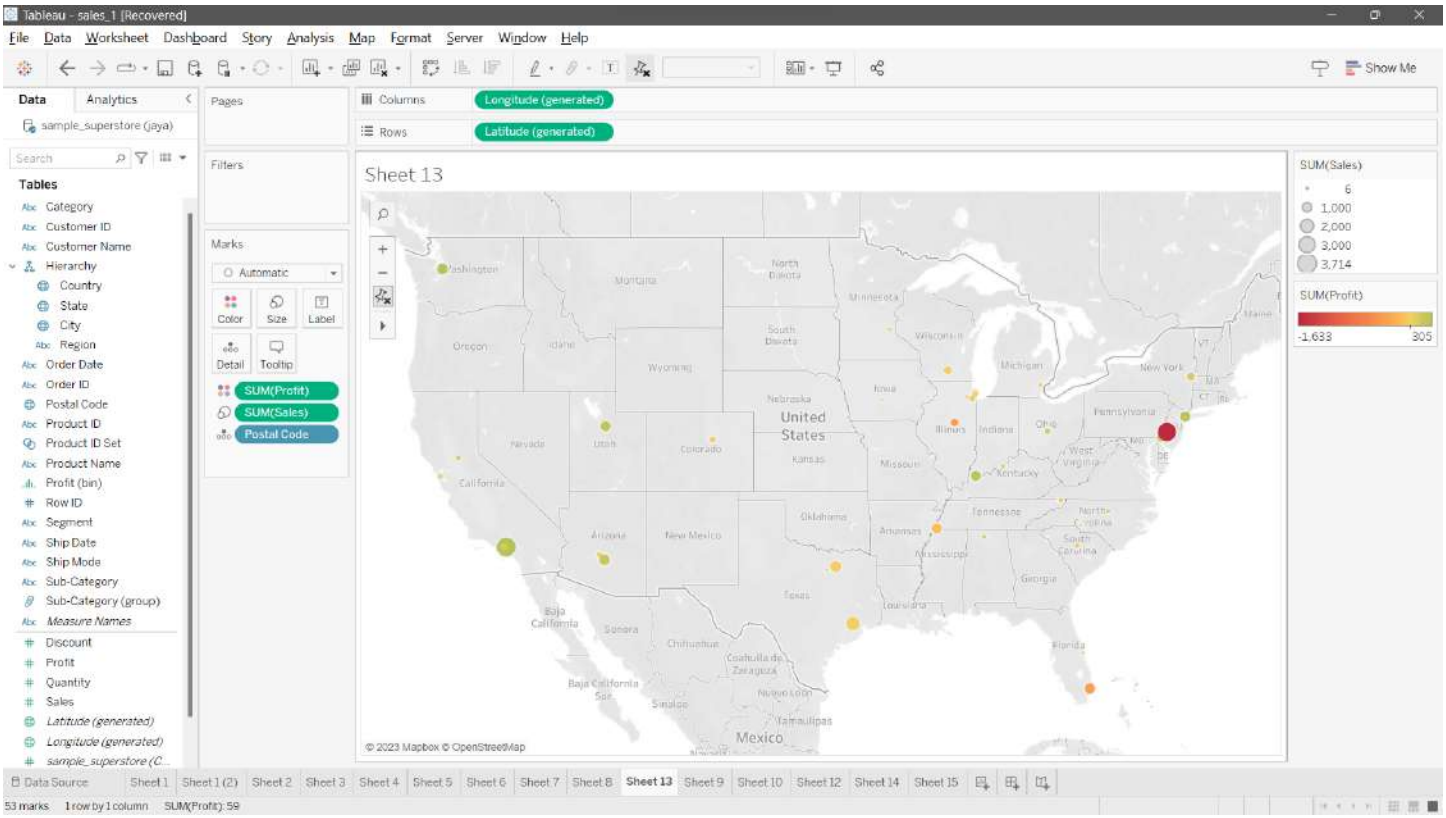
Scatter plot:

A scatter plot in Tableau is a graphical representation of two numerical variables displayed as a series of points on a Cartesian coordinate system. Each point on the scatter plot represents the values of the two variables for a specific data point. The X-axis typically represents one variable, while the Y-axis represents the other variable. Scatter plots are used to visualize the relationship and correlation between the two variables. They can help identify trends, patterns, clusters, or outliers within the data. Scatter plots are particularly useful for exploring and understanding the relationship between continuous variables and can provide insights into the strength and direction of the correlation. In Tableau, scatter plots can be customized with additional features like color or size encoding for a third variable, trend lines, or tooltips to enhance data exploration and analysis.



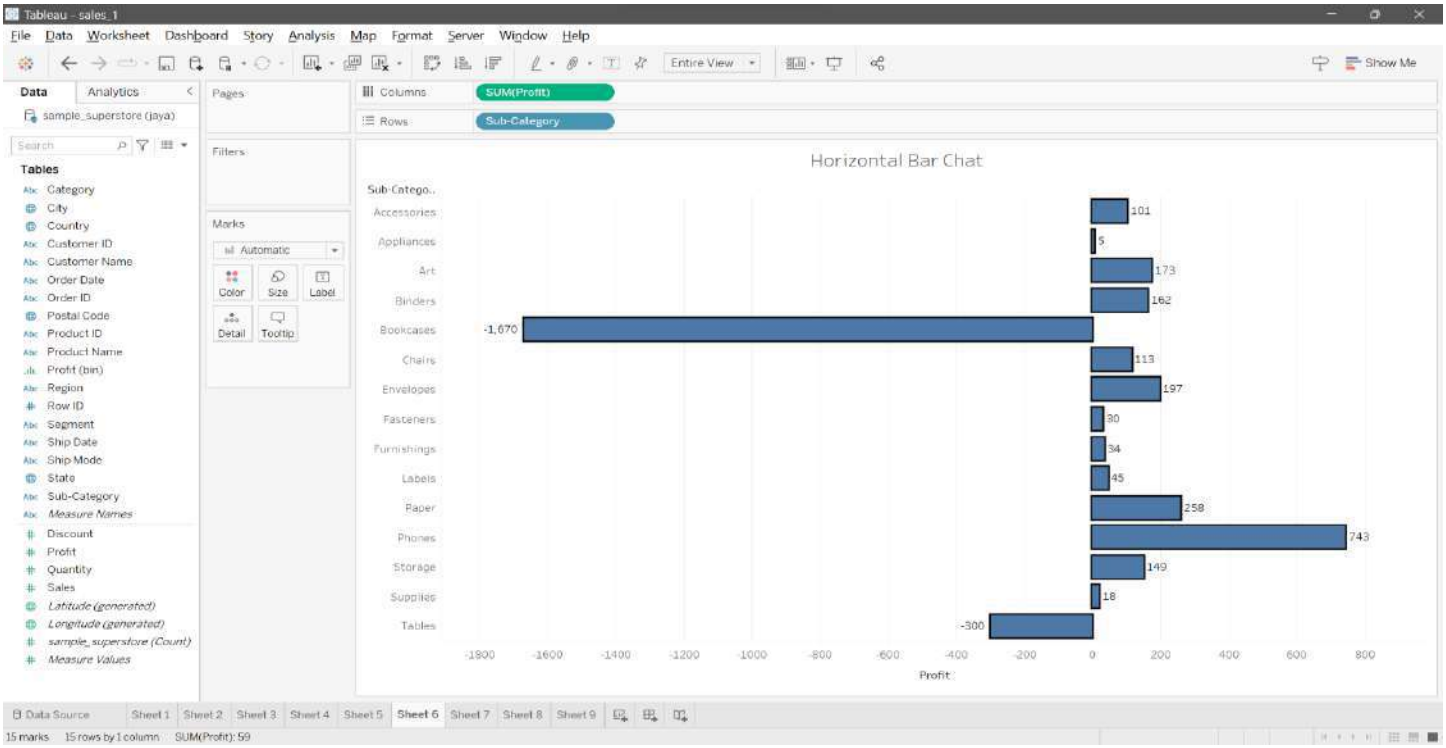
Maps:

Maps in Tableau are visual representations of data that utilize geographic information to display data points on a map. They allow users to plot data based on geographical locations, such as latitude and longitude coordinates, postal codes, or city names. With Tableau's mapping capabilities, you can easily visualize and analyze data in a spatial context. Maps in Tableau enable you to explore geographic patterns, identify regional variations, and gain insights into data relationships across different locations. By customizing color and size encoding, you can further enhance the visual representation and communicate additional dimensions of the data on the map.



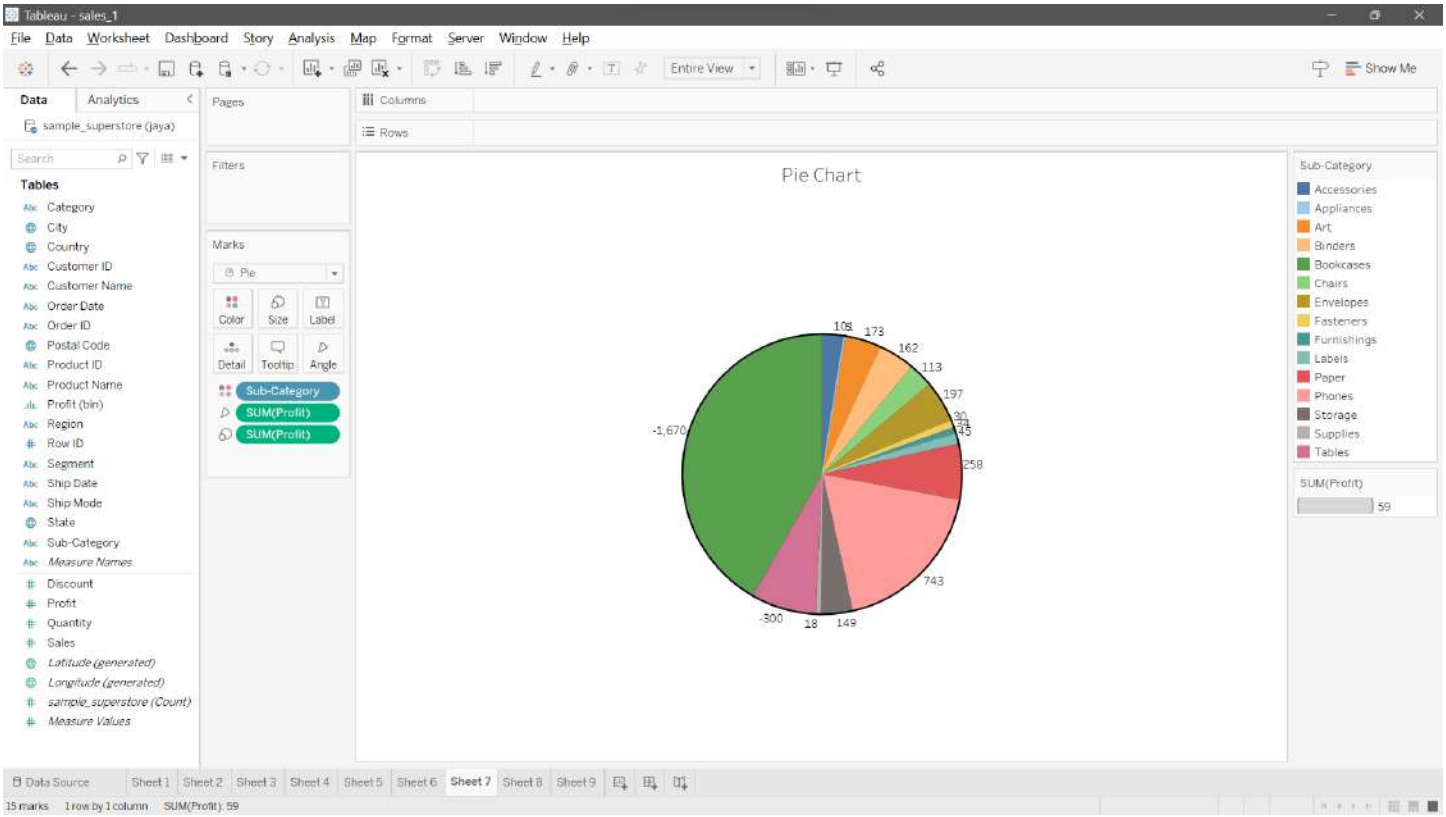
Horizontal Bar Chat:

A horizontal bar chart in Tableau is a graphical representation of data where rectangular bars are displayed horizontally along the y-axis. Each bar represents a category or dimension, and its length corresponds to the magnitude or value of a specific variable. The horizontal orientation allows for easy comparison of values across categories, especially when the labels or names of the categories are long or have a significant number of characters. Horizontal bar charts are useful for visually presenting rankings, comparisons, or distributions of data. They provide a clear and intuitive way to identify the largest or smallest values, observe patterns, and analyze relative differences between categories. Tableau offers various customization options for horizontal bar charts, such as adjusting bar colors, adding data labels, and incorporating interactivity to enhance data exploration and presentation.



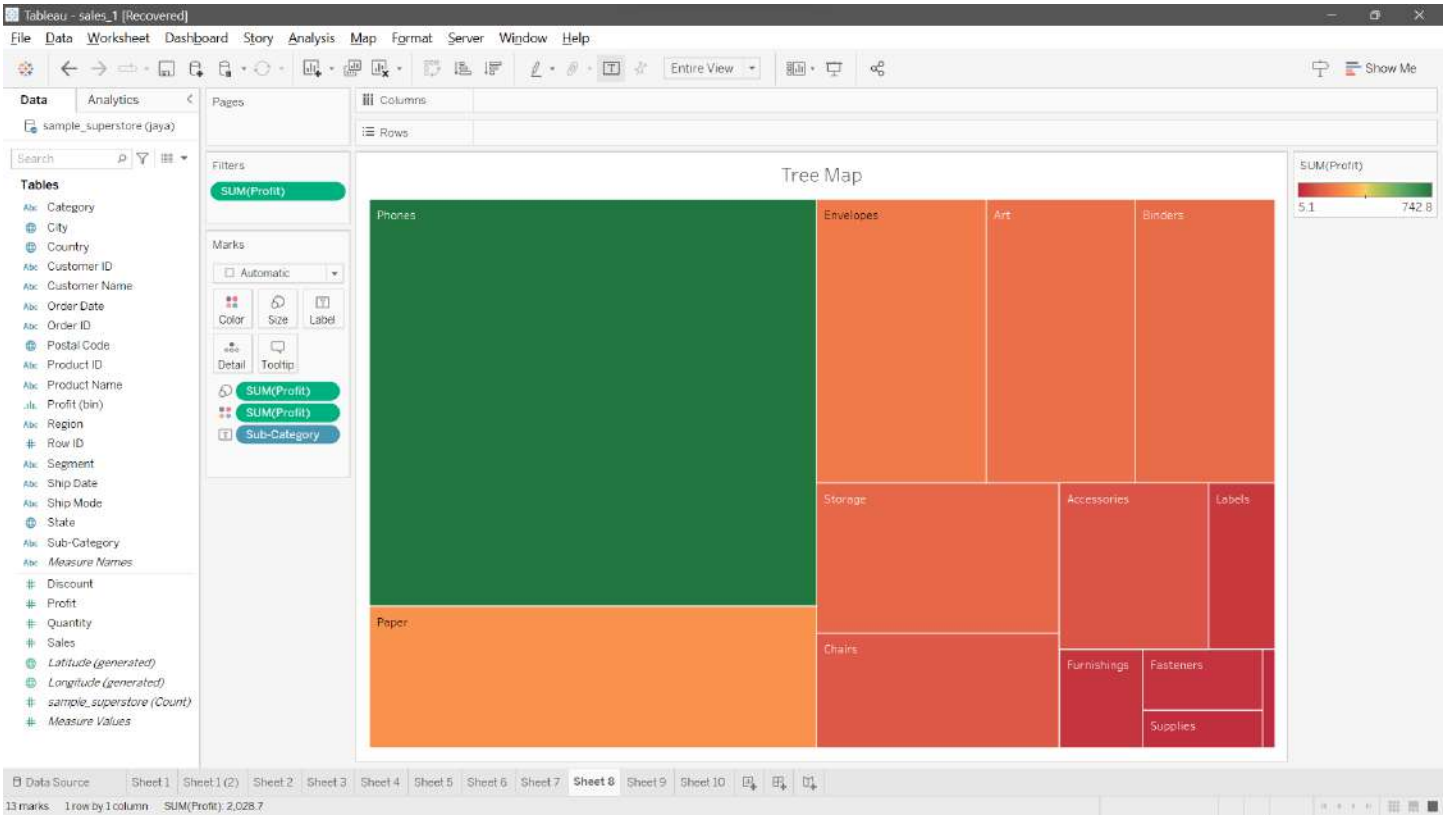
Pie Charts:

Each segment in the pie chart represents a proportion or percentage of the whole. The size of each segment is determined by the value or magnitude of the corresponding category in the data set. Pie charts are commonly used to show the composition or distribution of categorical data and compare the relative sizes of different categories. They provide a visual representation of the proportionate relationship between different parts and can be effective in conveying a quick overview of data distribution. However, it's important to note that pie charts are not ideal for displaying precise values or comparing multiple data sets, as the angles and areas of the segments can be challenging to interpret accurately.



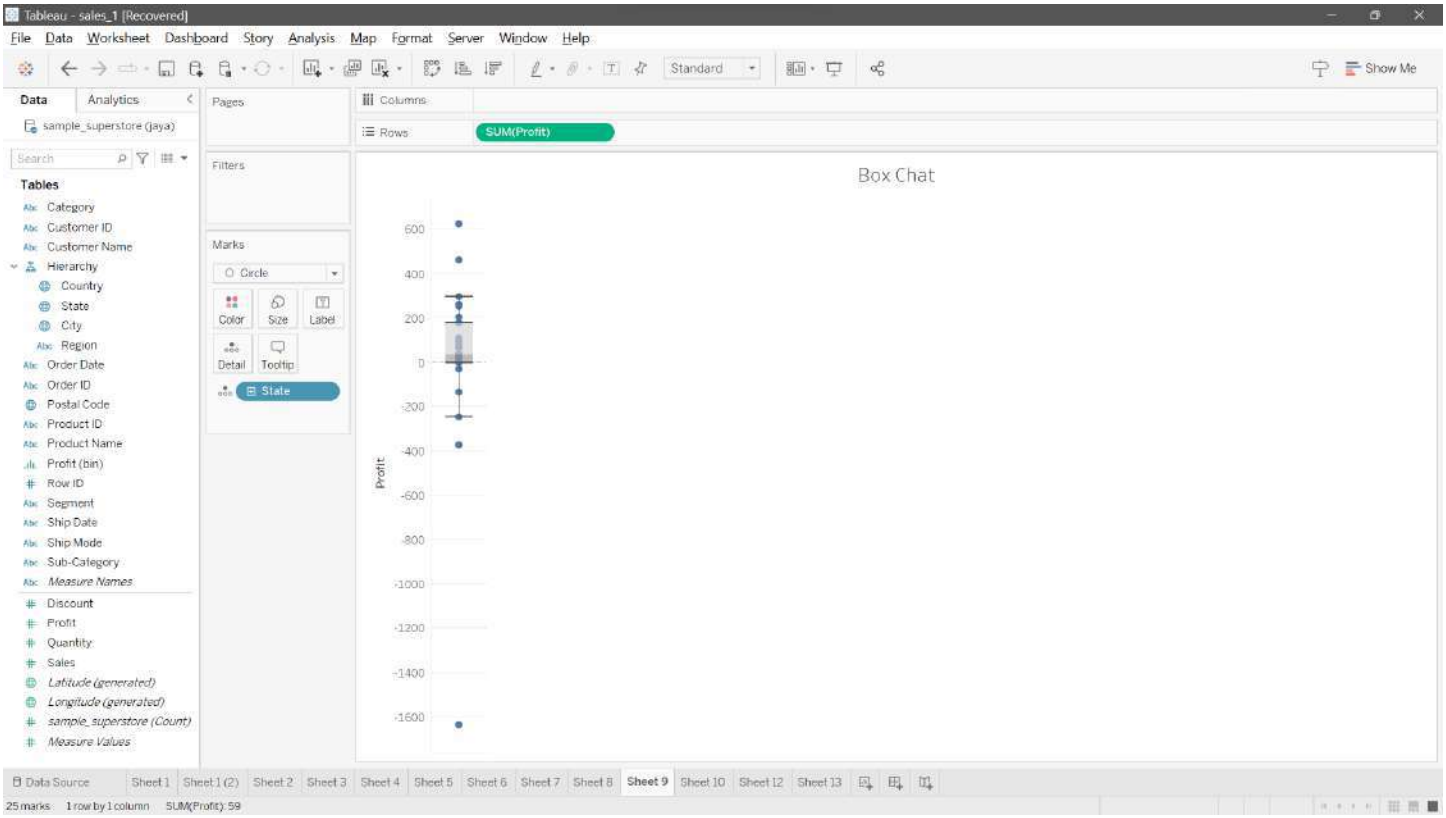
Tree Maps:

A tree map in Tableau is a type of visualization that displays hierarchical data using nested rectangles. It represents the relative sizes of different categories or subcategories based on their values. The size of each rectangle corresponds to the magnitude or weight of the category it represents. The tree map is divided into smaller rectangles, each representing a subcategory, and the colors or shading within the rectangles can be used to encode additional information, such as a specific metric or dimension. Tree maps are useful for visualizing the hierarchical structure of data and identifying patterns, trends, and relationships within complex datasets. They provide a compact and intuitive way to compare the sizes and proportions of different categories, enabling users to quickly identify the most significant contributors within a hierarchy. Tableau offers flexible customization options for tree maps, allowing users to adjust color schemes, labels, and interaction to enhance the visual exploration of data.

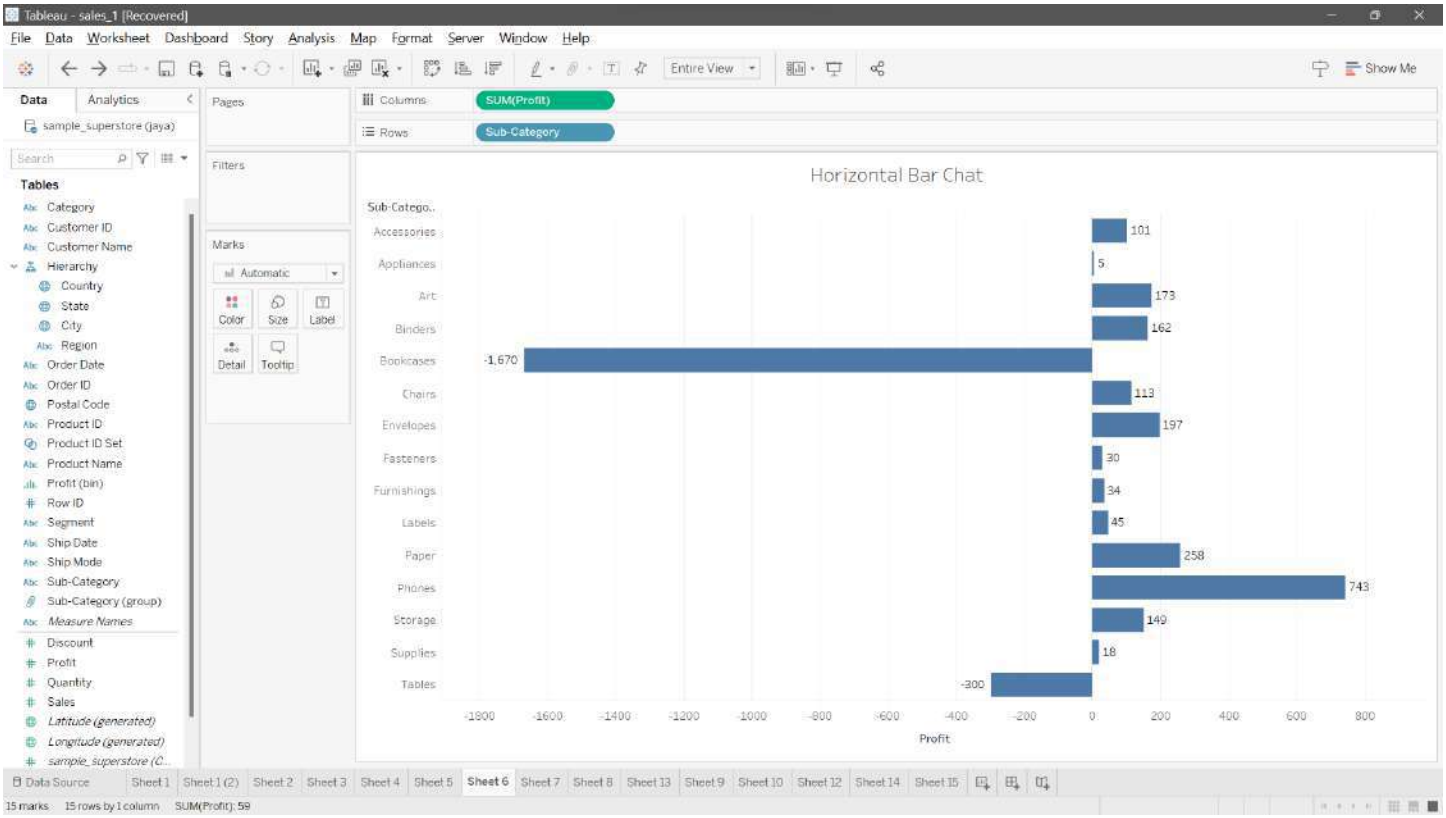


Box Charts:

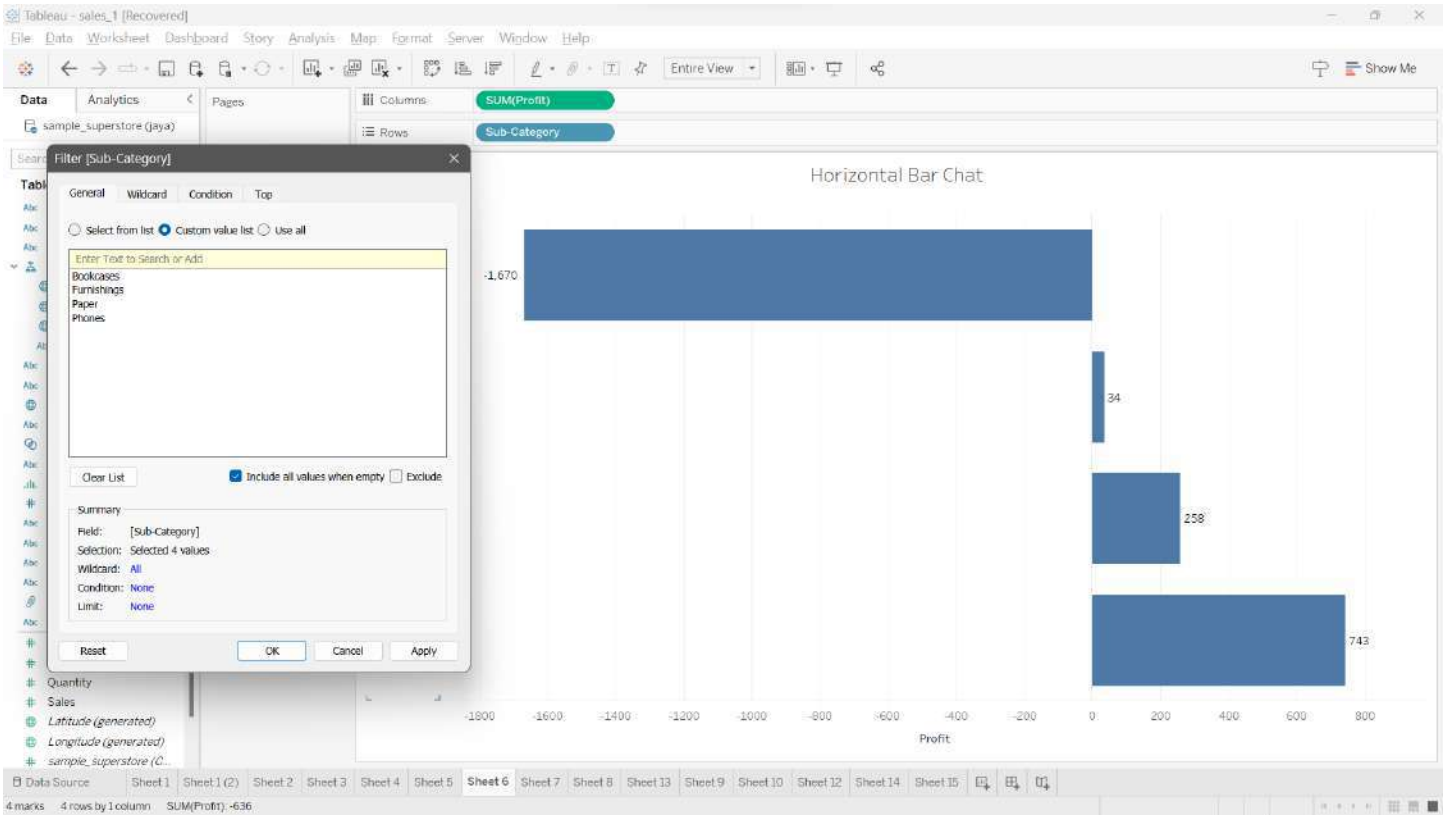
A box plot in Tableau is a visual representation of the distribution of a numerical variable. It consists of a rectangular box that represents the interquartile range (IQR) and a line or dot that represents the median. The whiskers extend from the box to depict the range of the data, excluding outliers. Box plots are useful for identifying the spread, central tendency, and potential outliers within a dataset, providing a concise summary of the data's distribution.



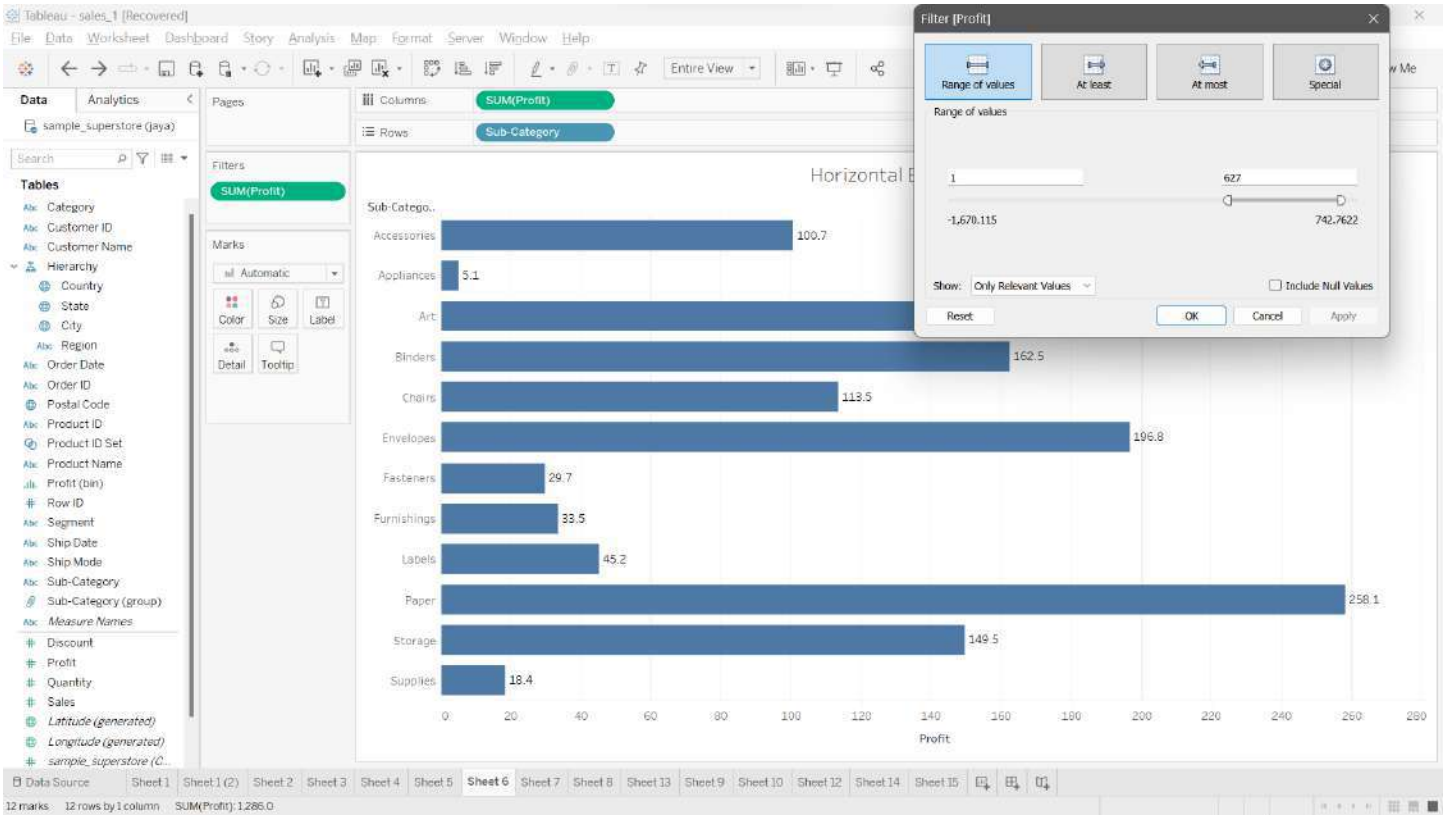
Before applying filter to horizontal bar chart:



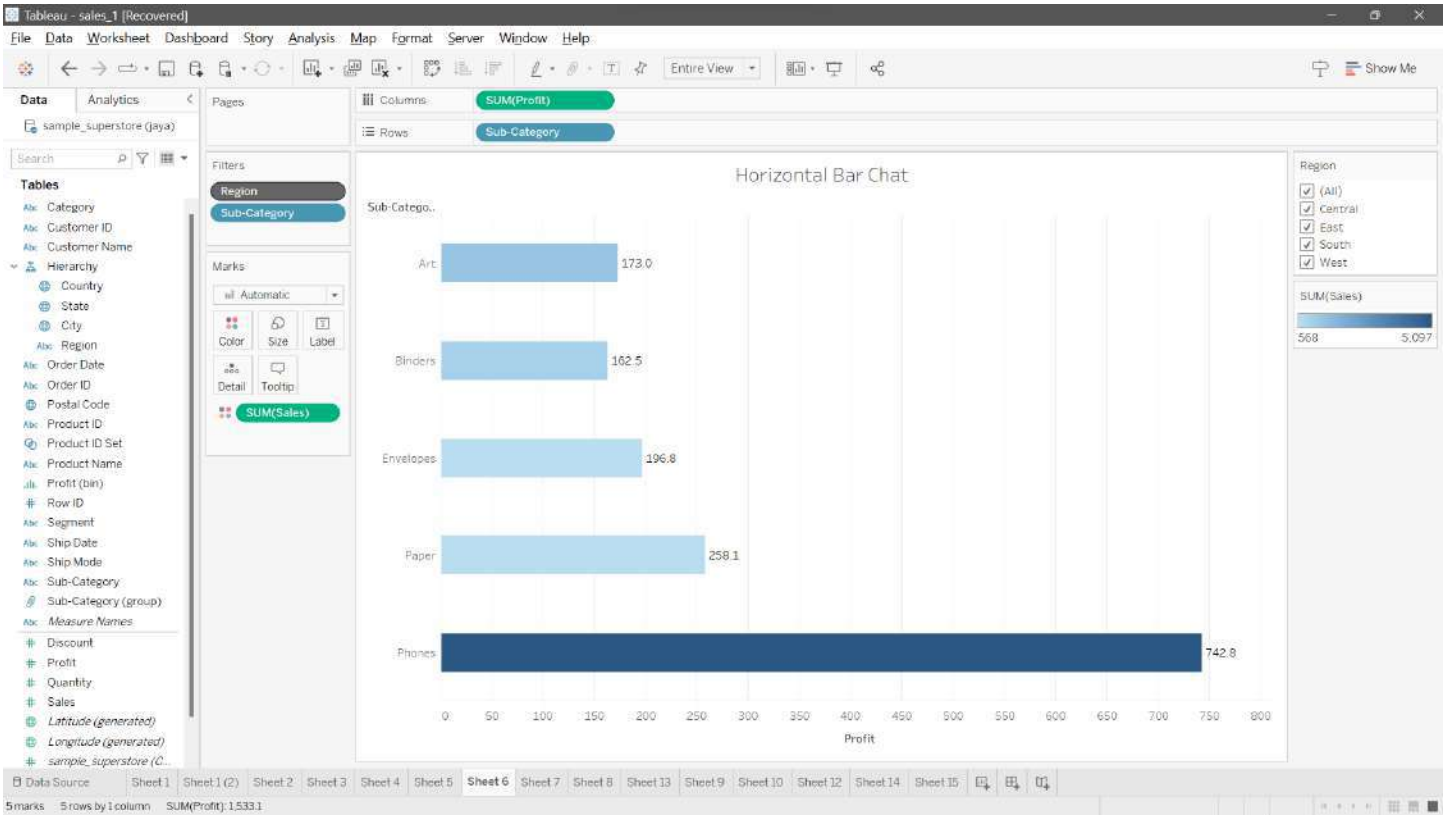
Dimensional filtering for horizontal bar chart:



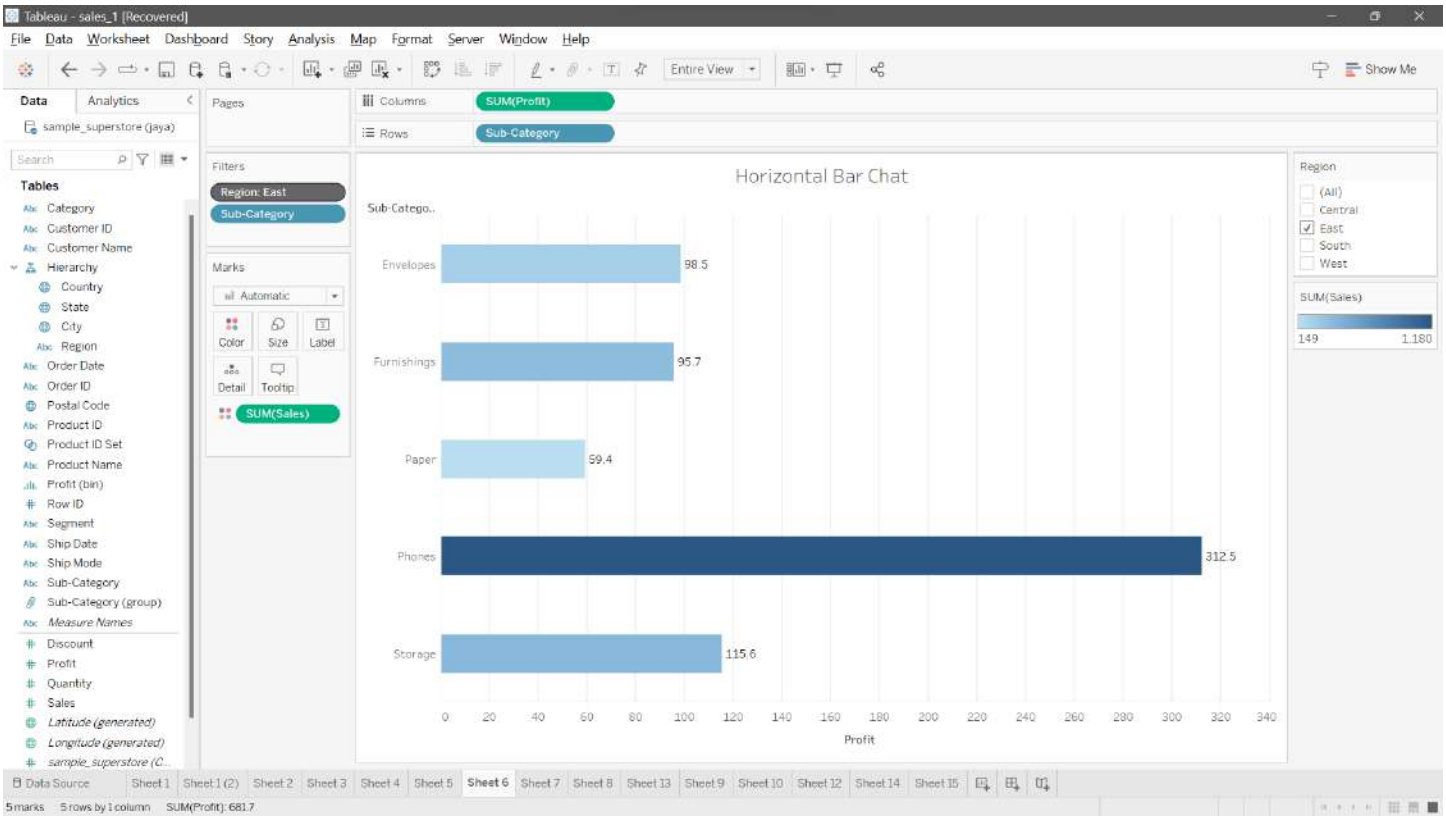
Measure filter to the horizontal bar chart:



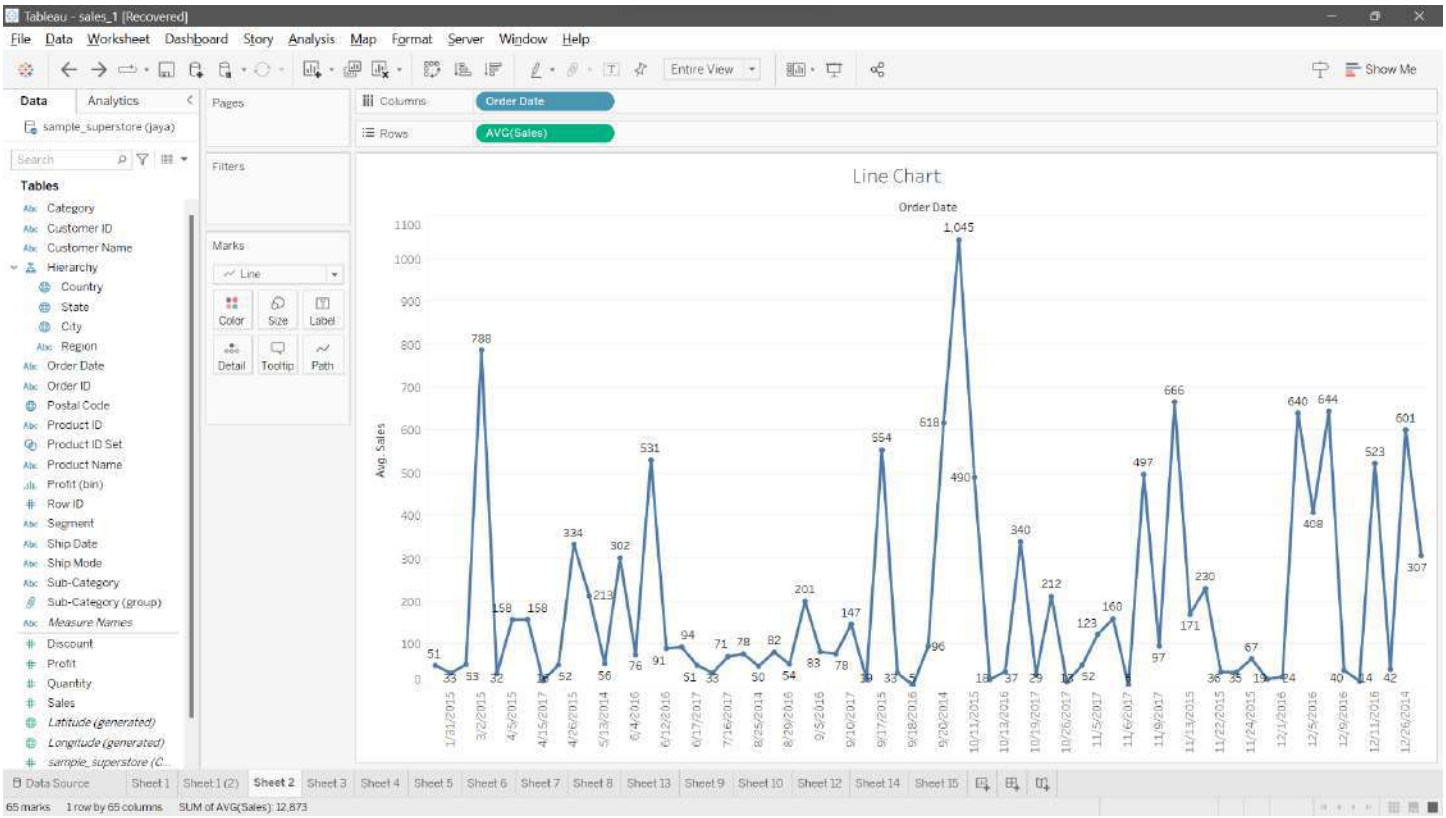
Context filter for horizontal bar chart:



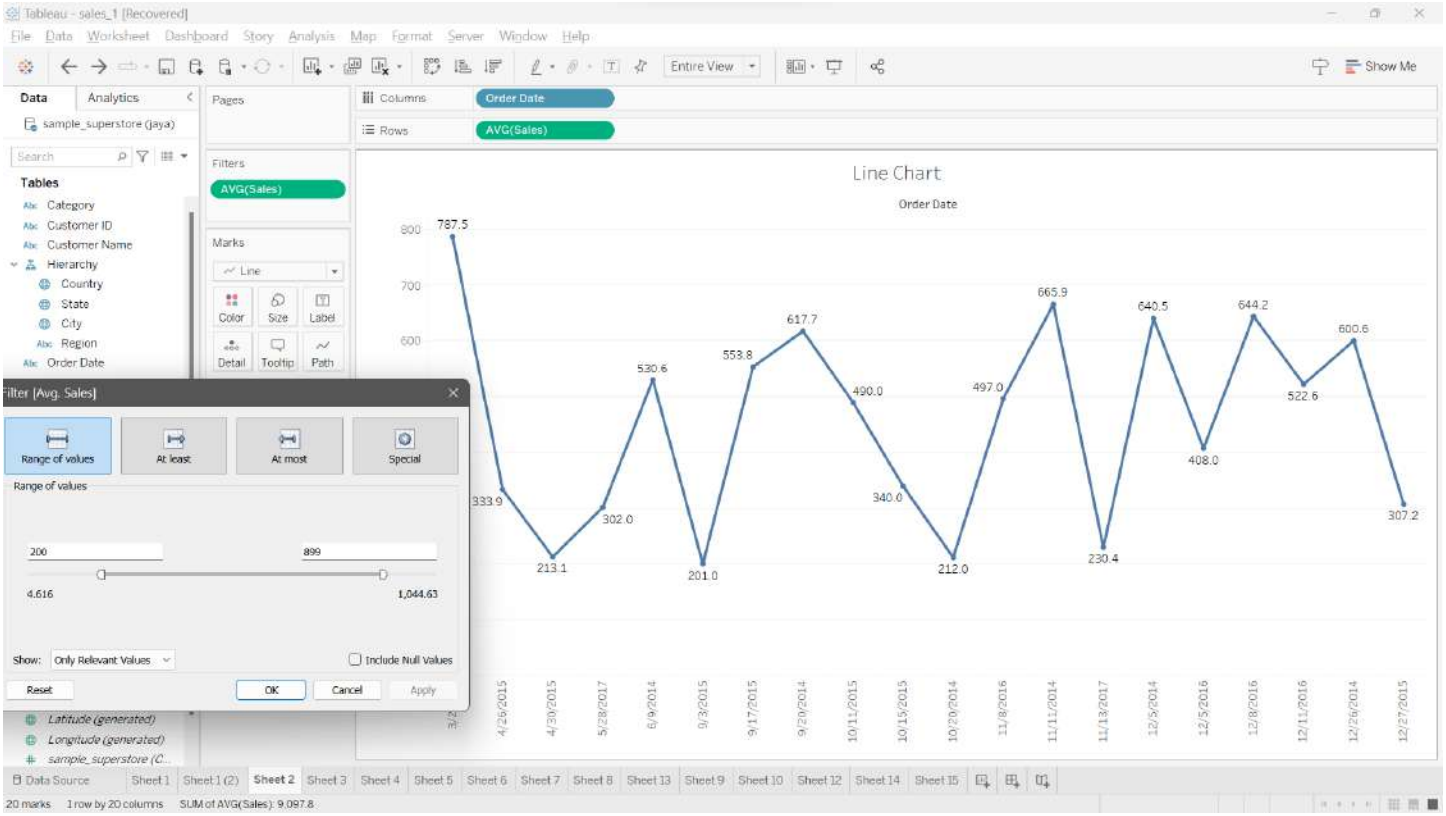
If we select only east region then also it will show top five profits using context filter.



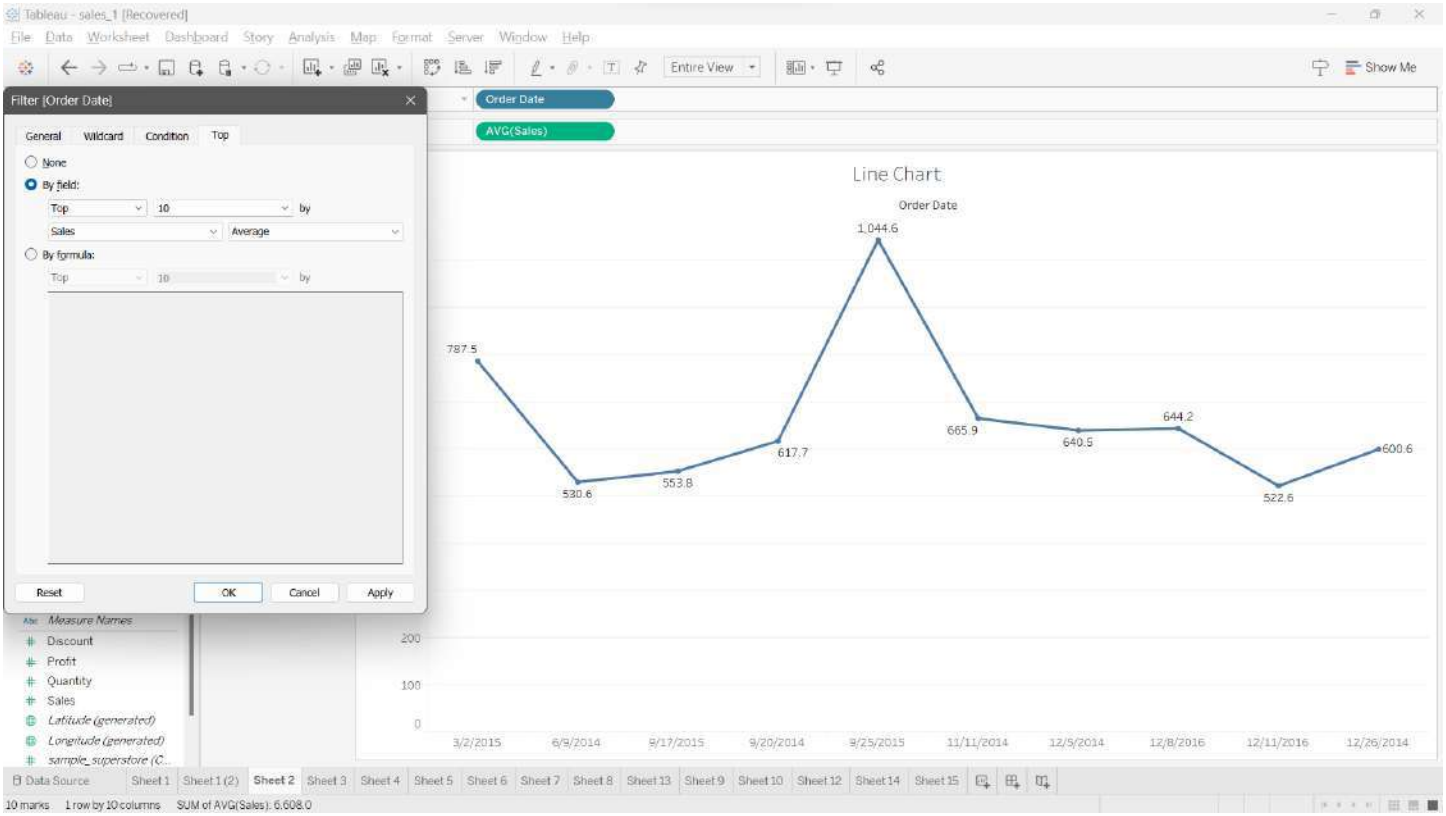
Before applying filter to line chart:



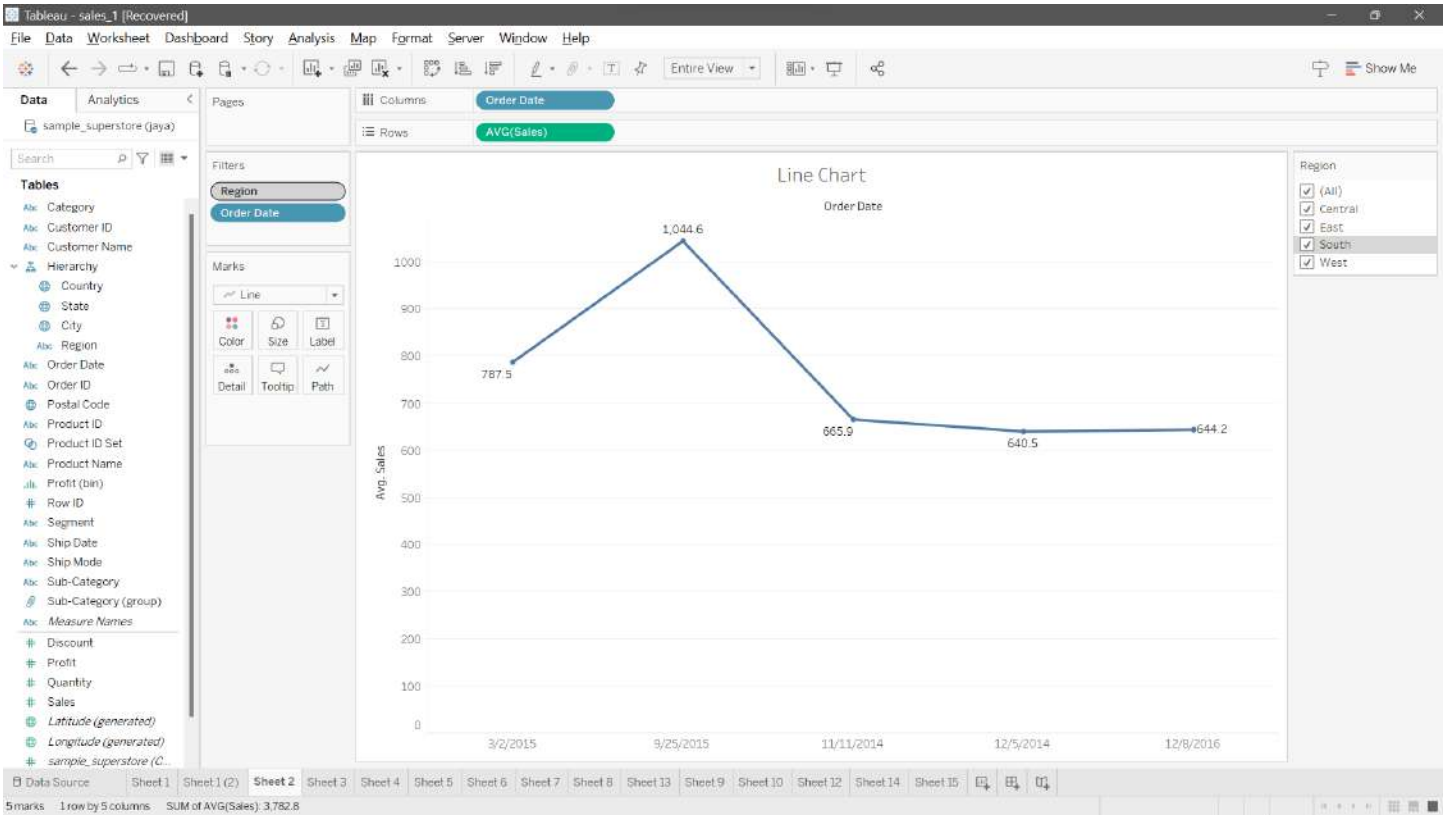
Measure filter of line chart:



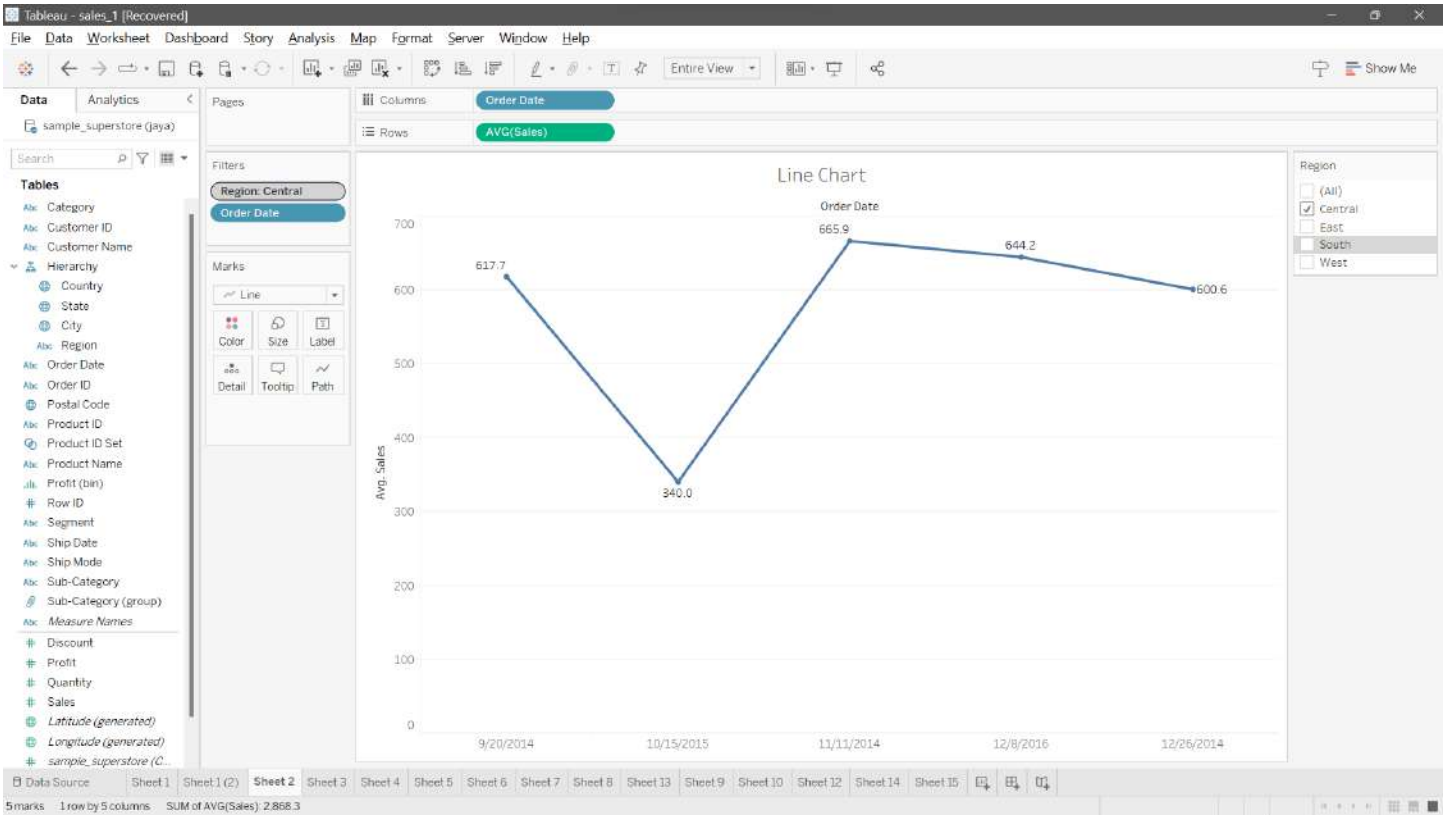
Dimension filter of line chart:



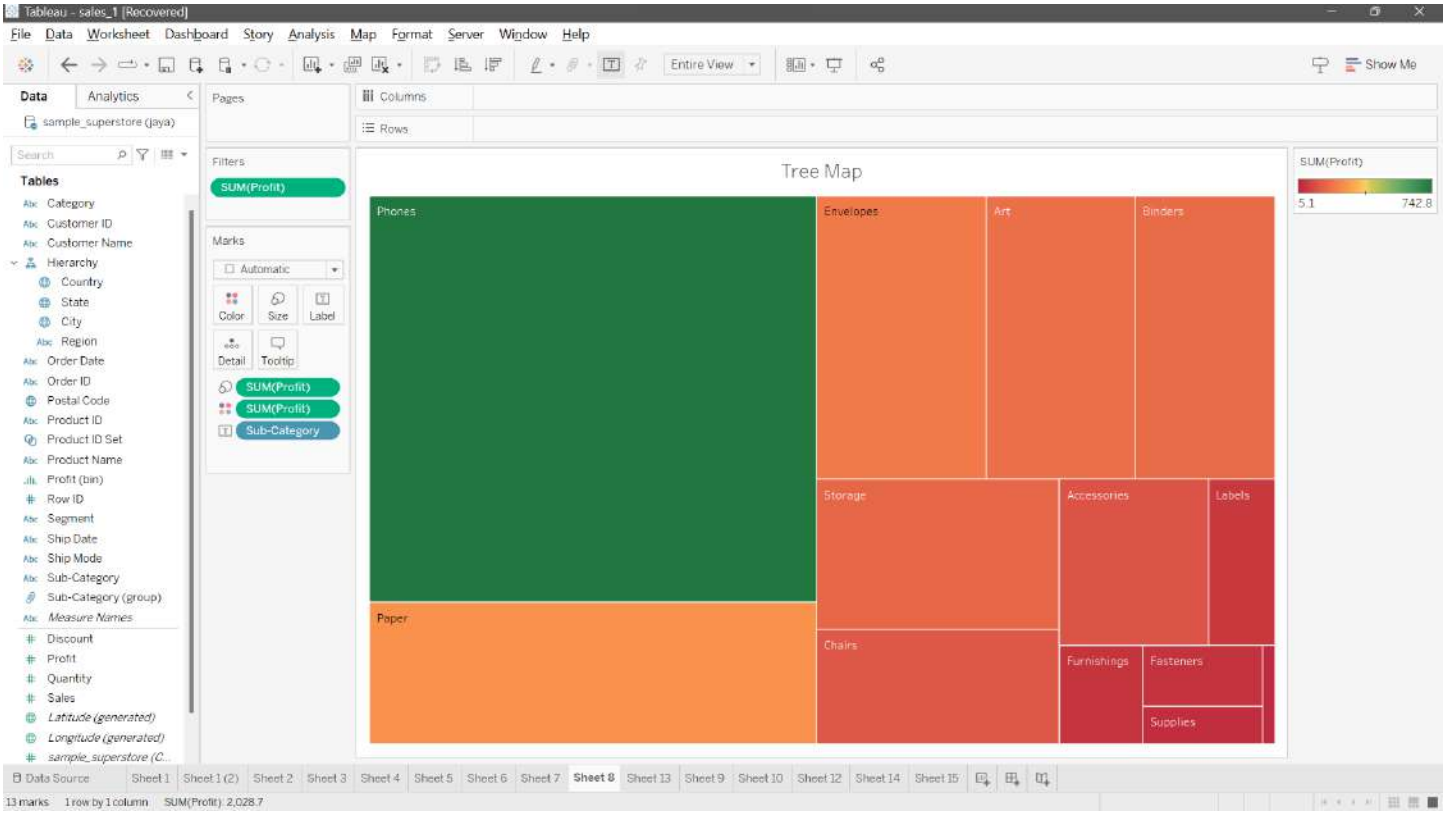
Context filter:



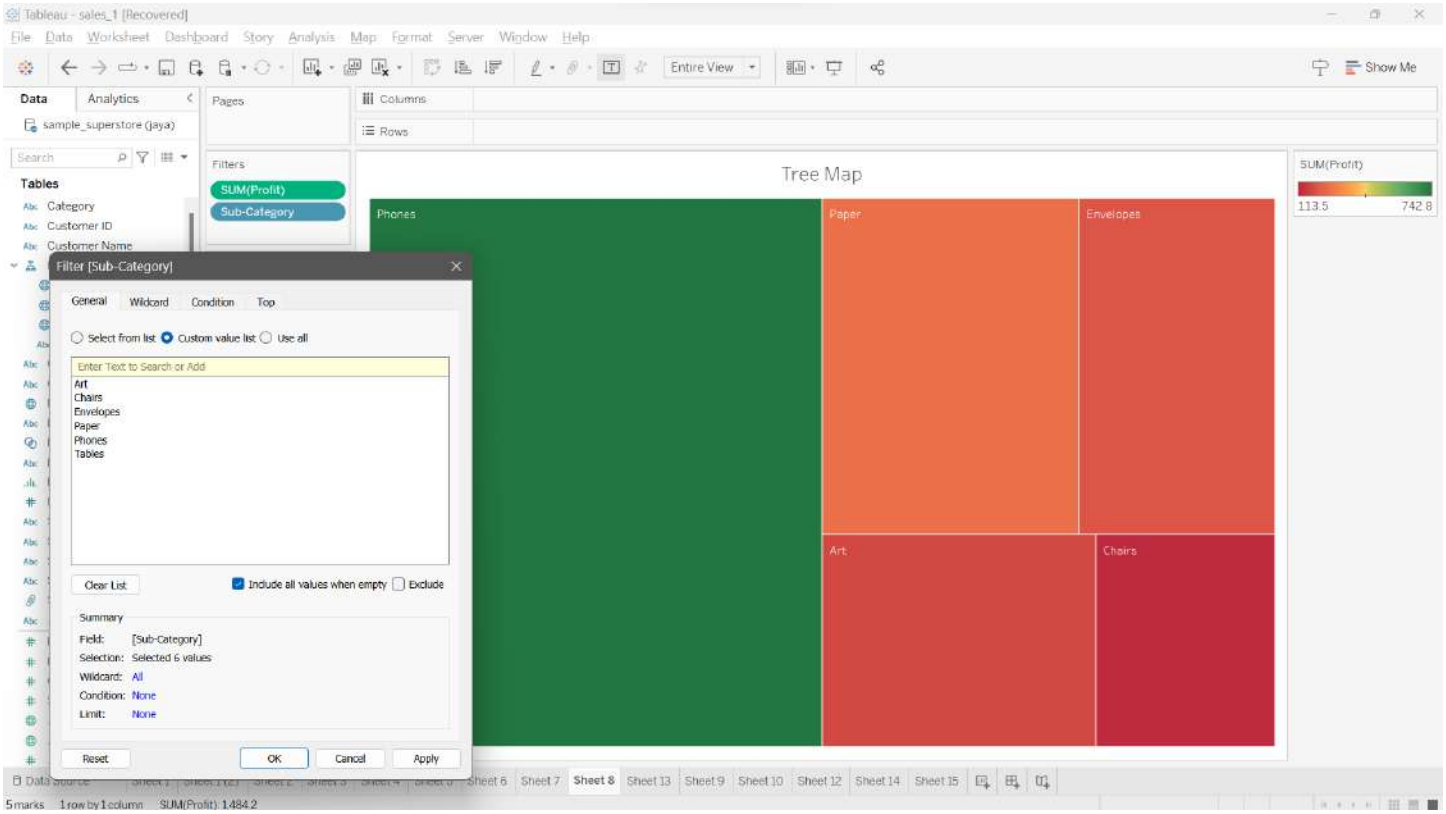
If we select only central region, it gives top 5 sales in the central using context filter



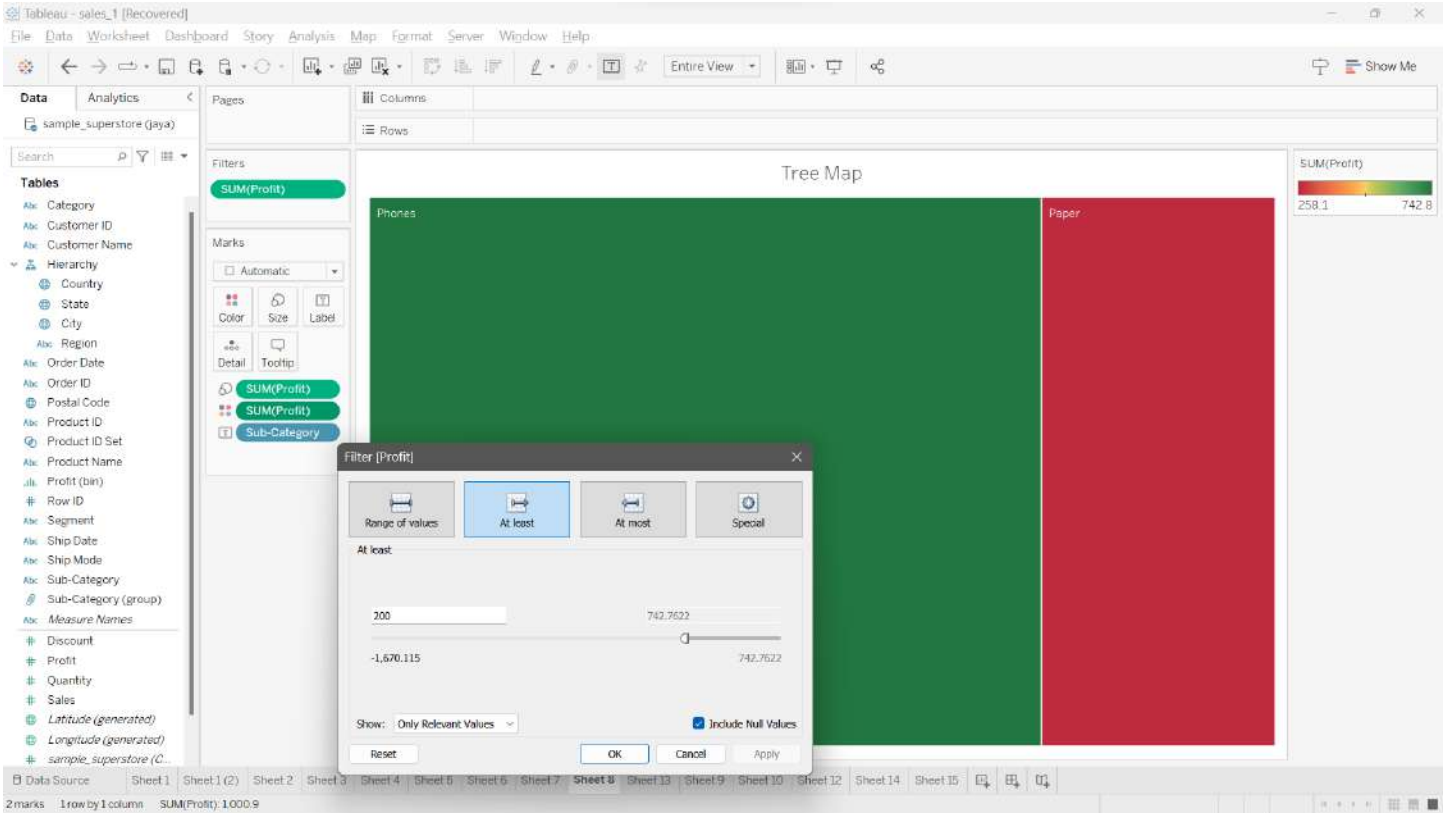
Before applying filter to tree map:



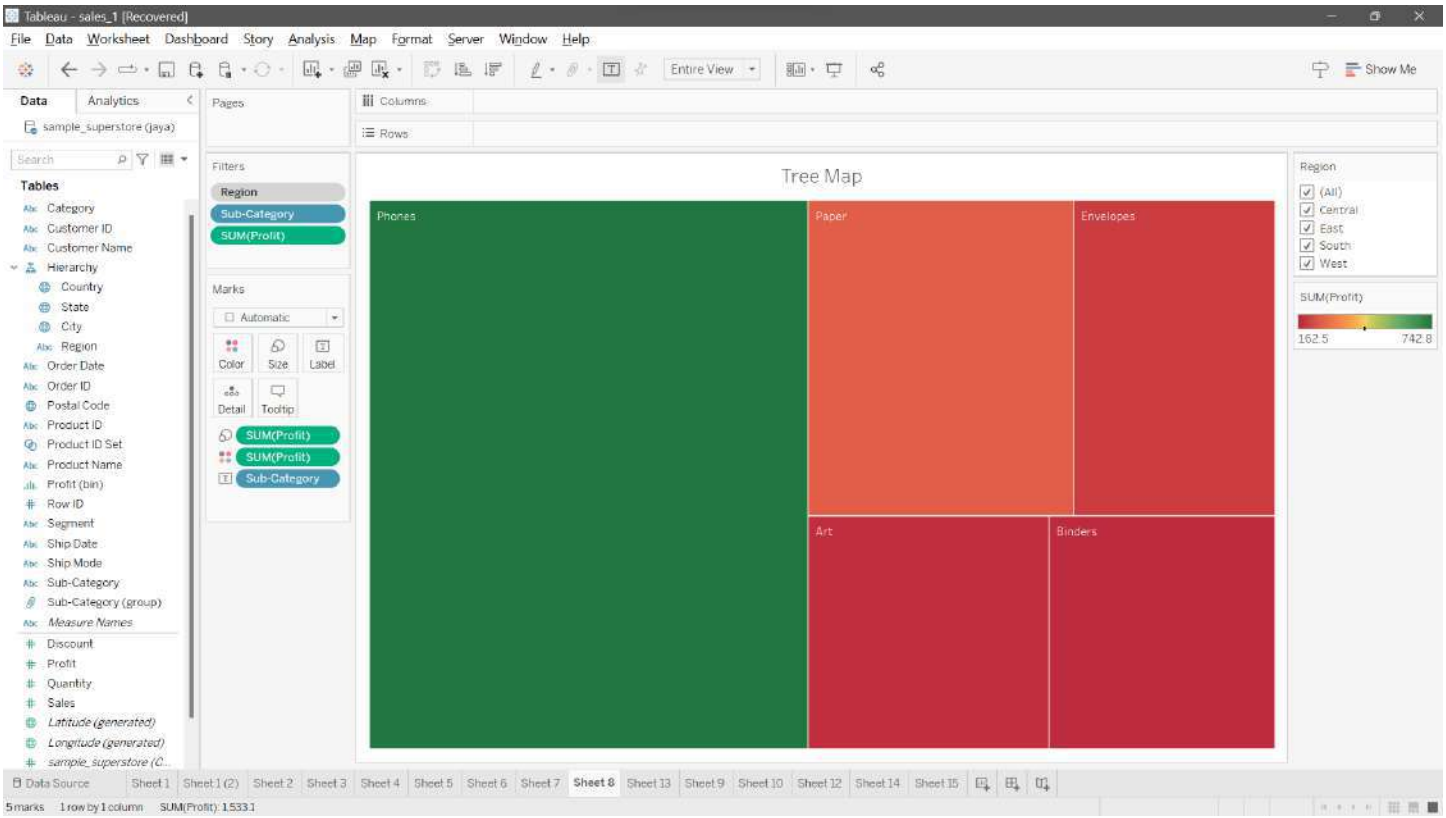
Dimension filter for tree maps:



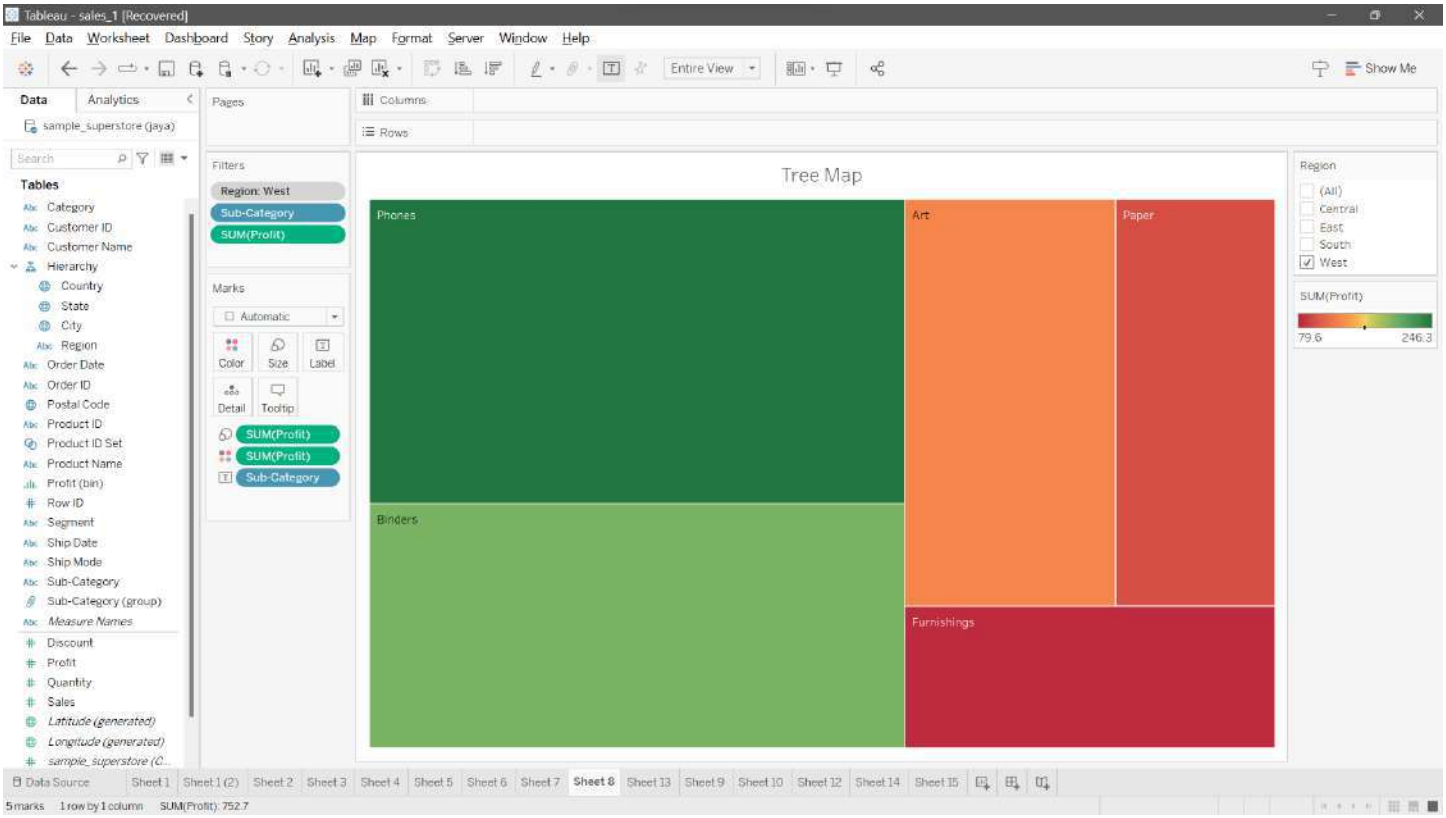
Measure filter for tree maps:



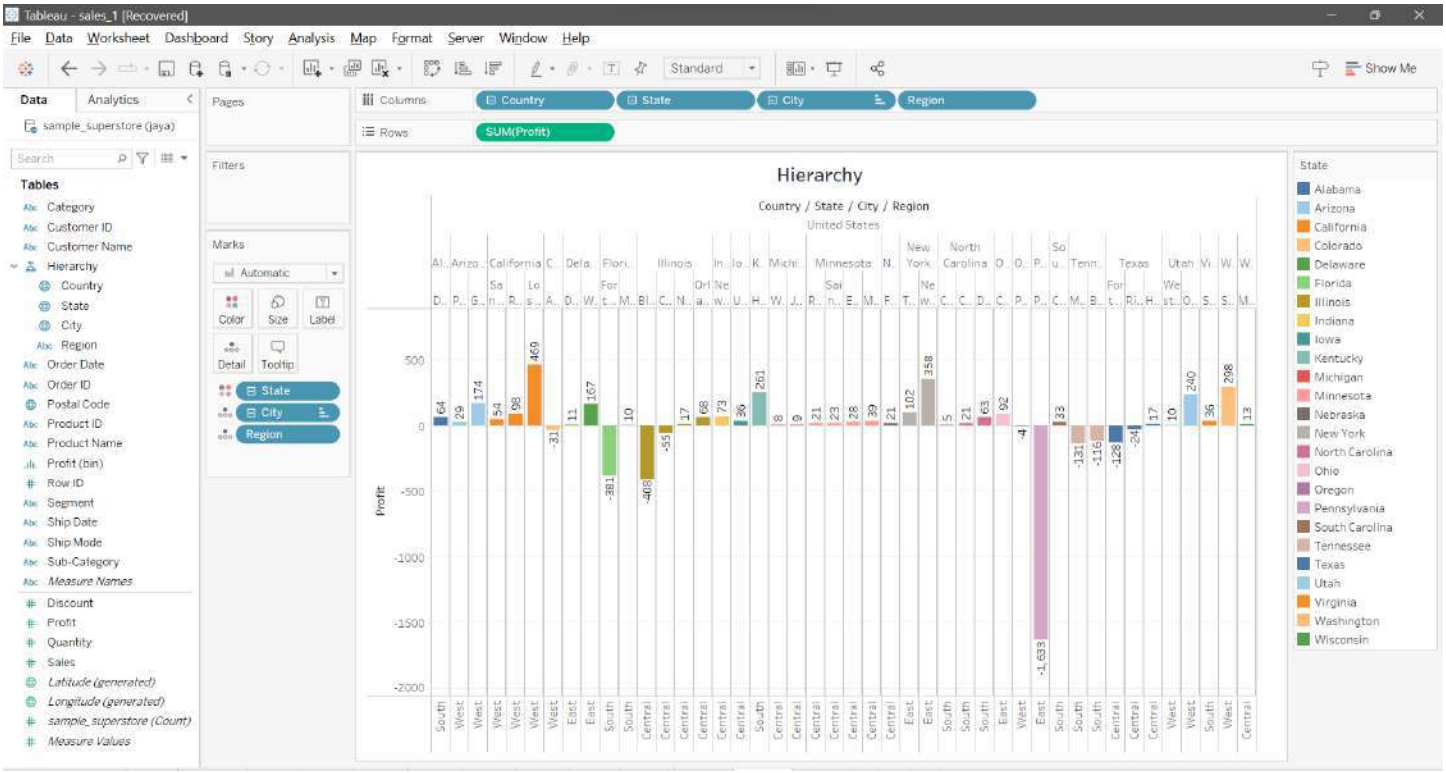
Context filter for tree maps:



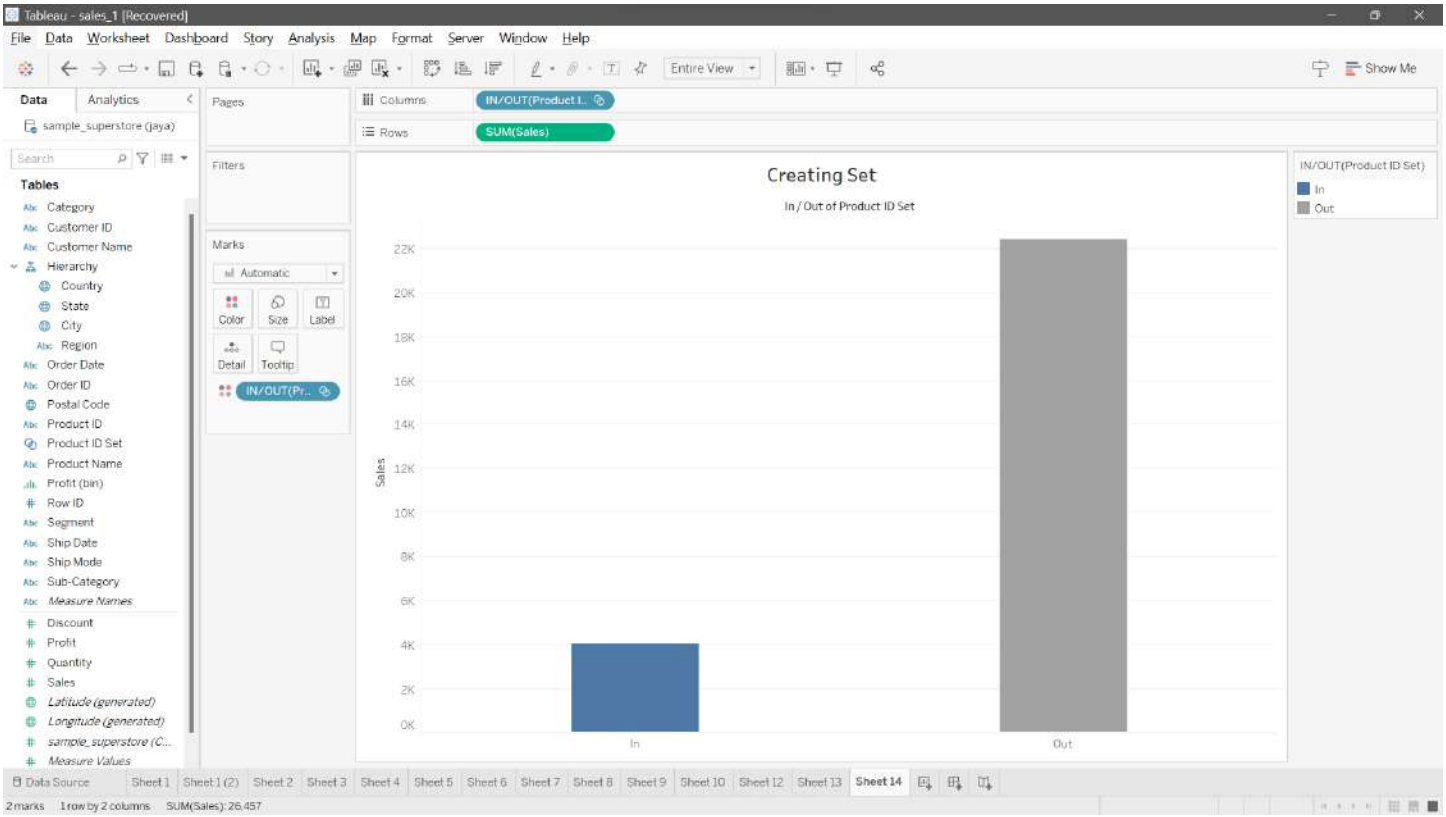
If we select only west it gives top 5 profits in the west using context filter:



Hierarchy:



Creating Set:



Creating groups: