Batch: A3 **Roll No.: 16014022050**

Experiment 04

Title: Introduction to various charts

Objective:

1. To learn how to use various charts for visualizing preprocessed data

- **Pie chart**
- **Donut chart**
- **Lollypop chart**
- **Boxplot**
- **Bubble chart**
- **Bump Chart**
- **Funnel chart**
- **Water Chart**
- **Bar chart /column chart / Stacked chart**
- **Area Chart**
- **Pareto chart**
- **Tree maps**
- **Scatter plot**
- **Gantt chart**
- **Word map**

2. To learn following concepts

- **Parameters**
- **Combine, Sets**
- **Label, Title and caption**
- **Working with metadata**
- **Working with filter**
- **Font, Size, colour, and Border,**
- **Calculated field, Number function, string function**
- **Conditional formatting, logical function**
- **Exporting the charts**

3. To learn interpretation of each charts/plots

Course Outcome:

CO1: Learn how to locate and download datasets, extract insights from that data and present their findings in a variety of different formats.

CO3: Apply data visualization best practices

Books/ Journals/ Websites referred:

https://www.tableau.com/
https://www.tableau.com/data-insights/reference-library/visual-analytics/charts
https://www.kaggle.com/datasets

Resources used:

Tableau and google

Theory (About various charts explored):

Pie chart

A common, but limited, visualization used to show how a few dimensions compare to one another and the whole.

Scatter plot

Used to explore the correlation between two measures with independent axes. Often combined with trendlines.

Bar Chart

Used to categorize elements based on size. Can be ordered or unordered based on the nature of the dimensions.

Line chart

Best used to show trends across time intervals. Multiple lines can be used to compare categories within a dimension.

Tree maps

A tree map breaks the whole into its parts using a quantitative measure to determine the size of each square.

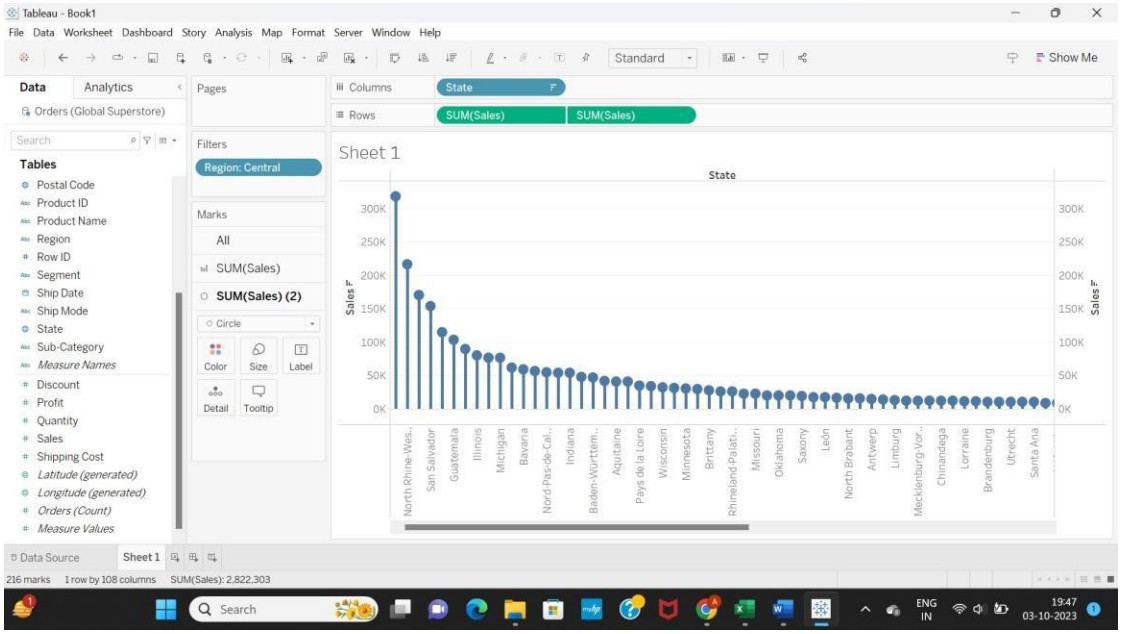
Following points should be written by students

- Different charts explored for data visualization:

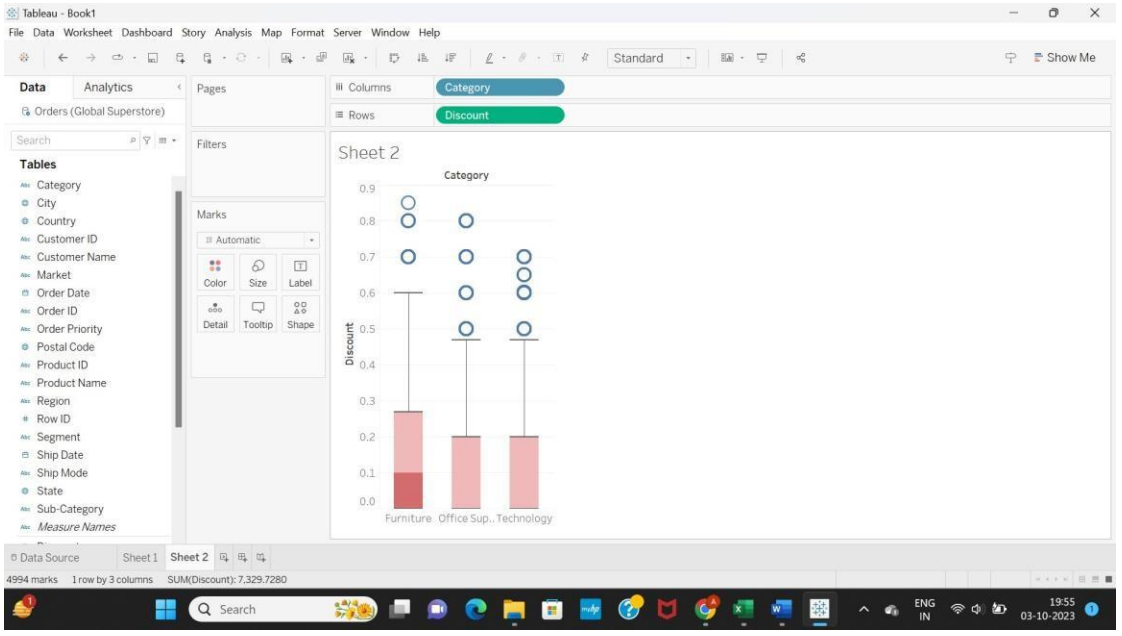
Working: Using tableau software

1. Exported of each chart output with variations explored on your dataset
2. Interpretation (what each chart signifies)

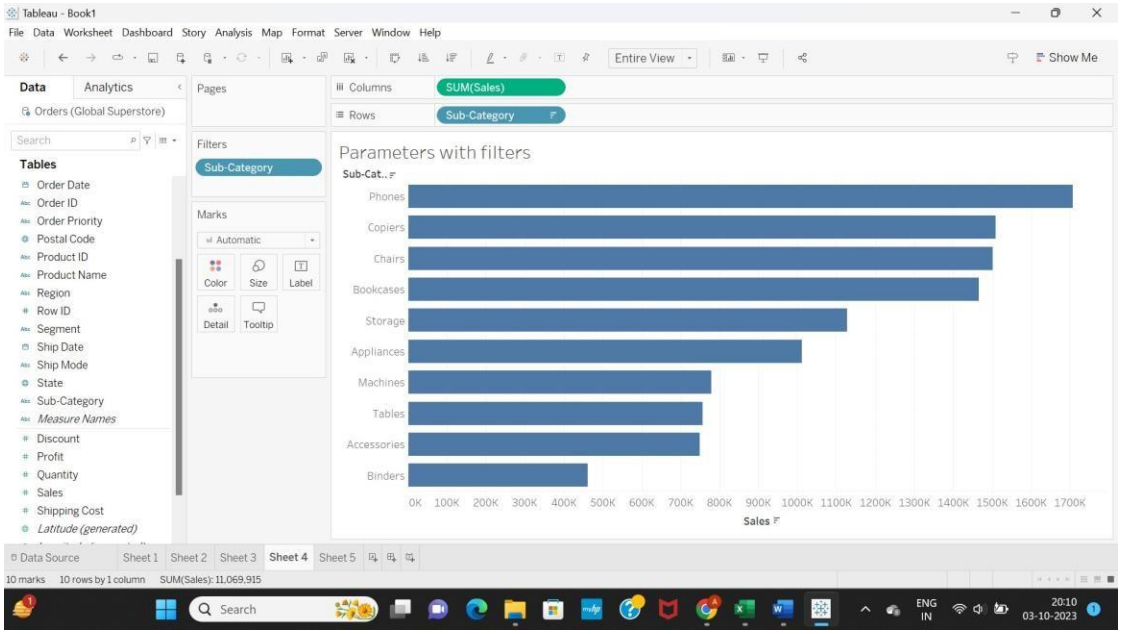
Lollipop graph:



Boxplot:

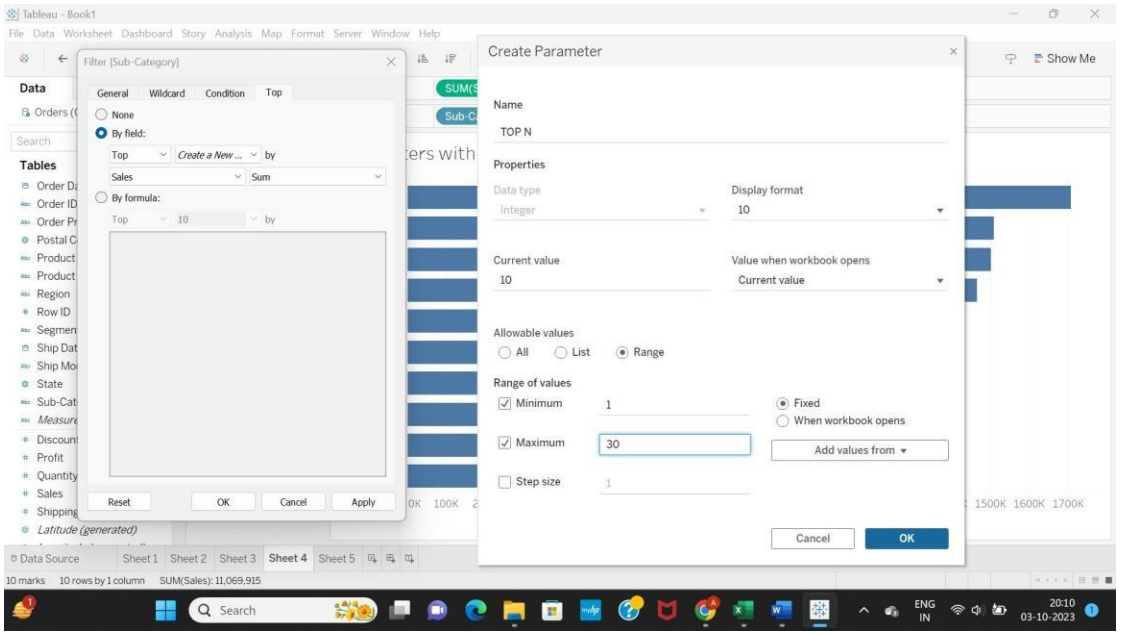


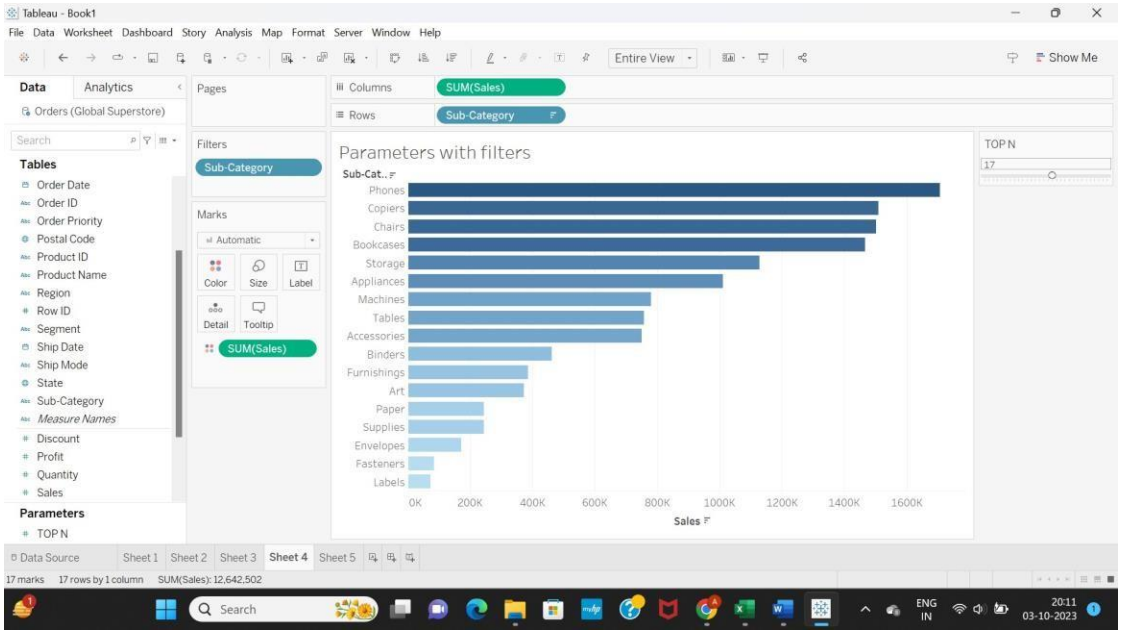
For creating parameters with filters:



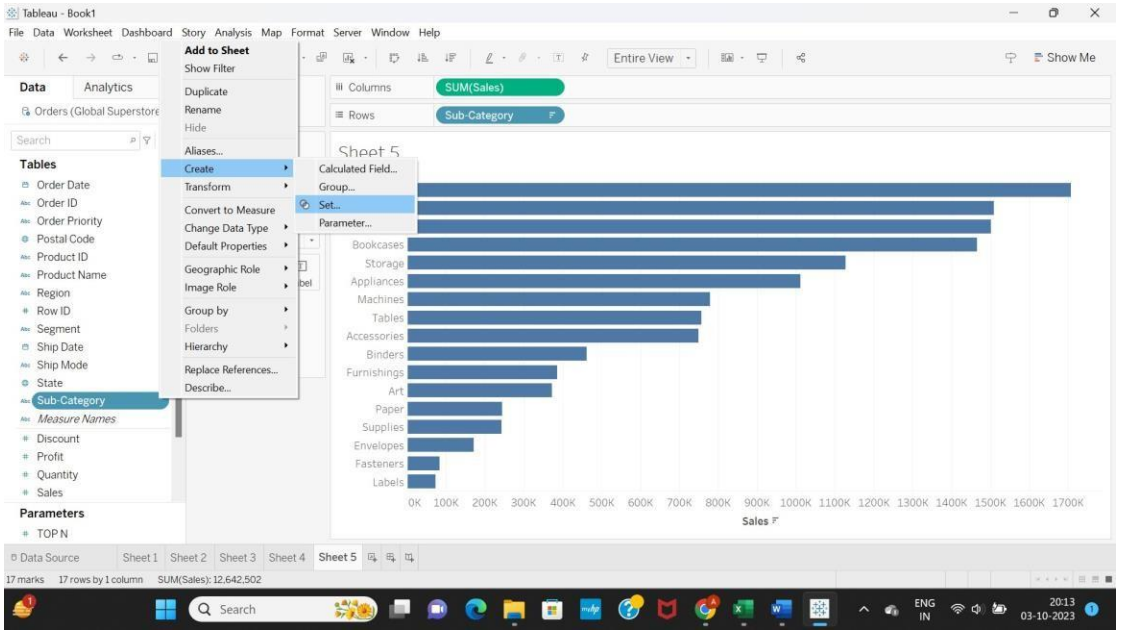
First create a filter to display top 10 elements of sub category.

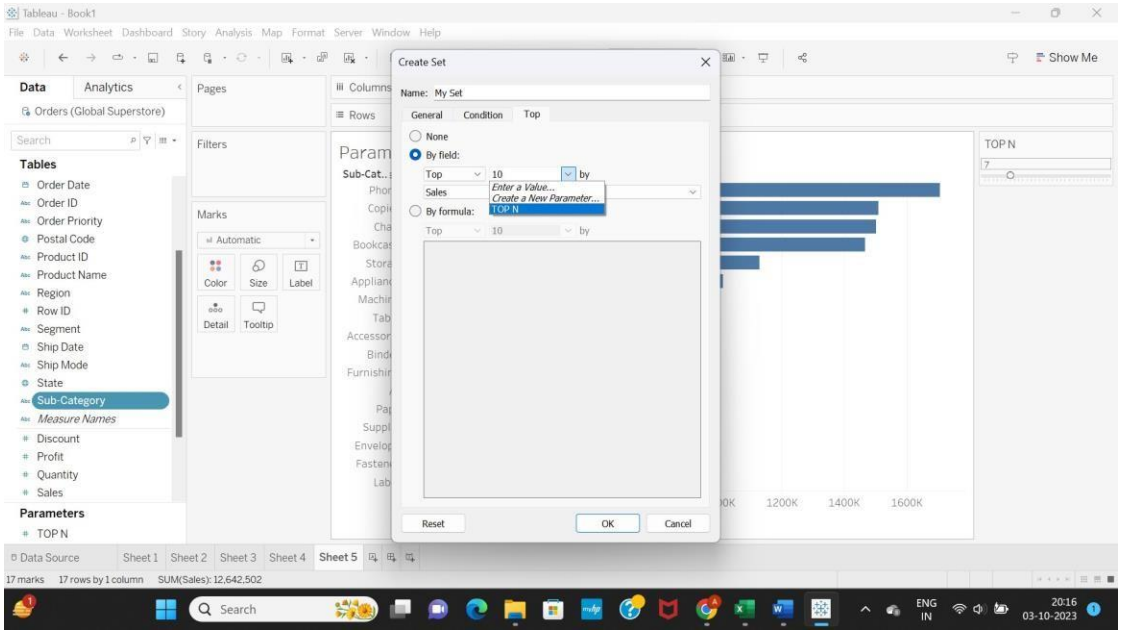
Click on sub category and go to edit filter then in the top category select create parameter instead of 10.

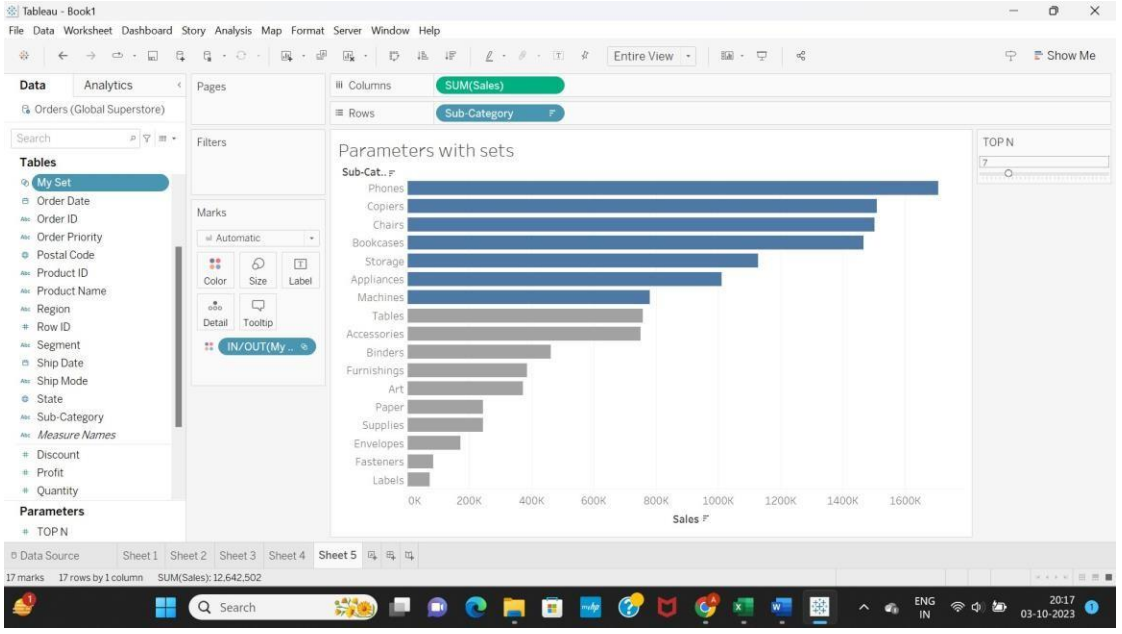




Parameters with set:







Conclusion (Students should write in their own words): understood the concept of parameters and how to create charts.

Through hands-on exploration of a diverse array of visualization tools, including pie, box, and bubble charts, we developed a nuanced understanding of effective data representation, enabling comprehensive insights and analysis. Simultaneously, our grasp of key concepts, such as parameters, filters, and calculated fields, equipped us with the necessary skills to create dynamic visualizations, facilitating informed data interpretation and presentation.

Post Lab Question:

1. **What are different data types supported in Tableau software?**

   Tableau supports 7 types of data types String values, Date values, Date & Time values, Numeric values, Boolean values, Geographical values, Cluster or mixed values.

2. **Which chart is most appropriate for visualizing your preprocessed dataset? Justify**

   If you want to show the relationship between values in your dataset, use a scatter plot, bubble chart, or line charts. If you want to compare values, use a pie chart — for relative comparison — or bar charts — for precise comparison. If you want to compare volumes, use an area chart or a bubble chart.

Date:_____ **Signature of faculty in-c**