EXPERIMENT-10

Aim: Creating a Hierarchy in Tableau.

Objective: In Tableau, a hierarchy is a structured way to organize dimensions that allows users to drill down into data.

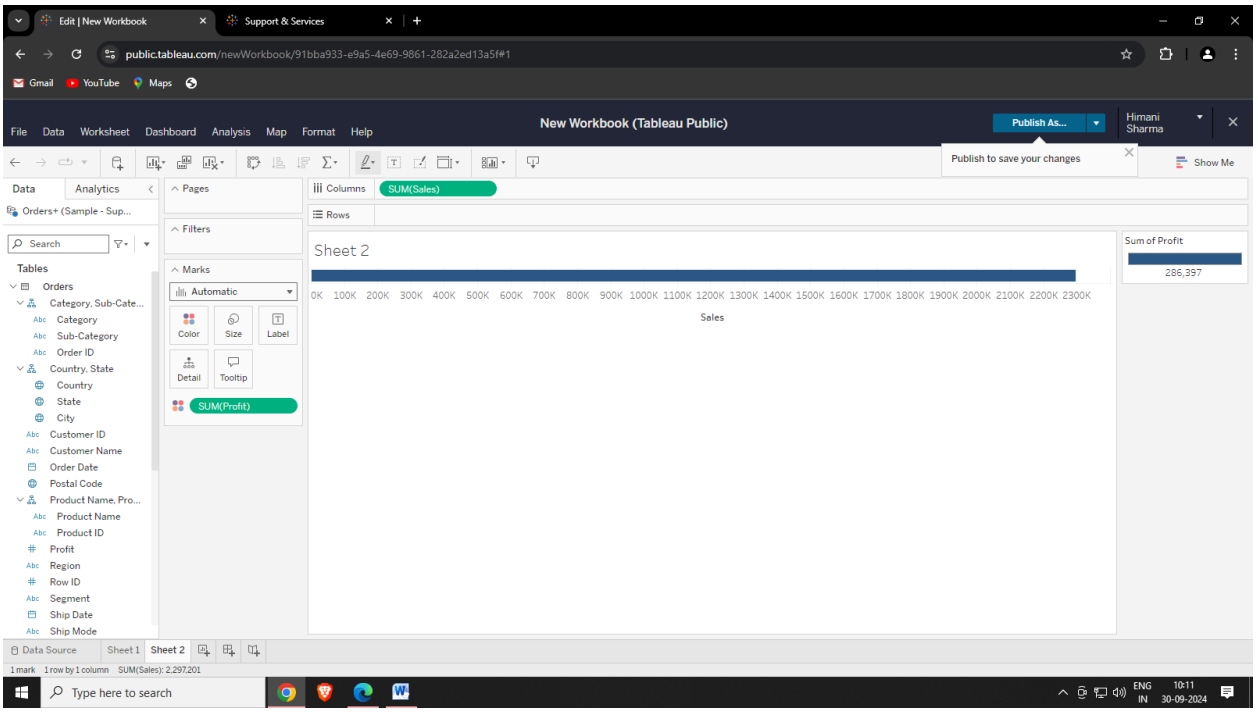
Hierarchies enable users to view data at multiple levels of detail, such as breaking down sales by region, then by country, and finally by city.

This facilitates a more intuitive analysis, allowing for easier navigation and exploration of data. By creating hierarchies, you enhance the interactivity of your dashboards, enabling end-users to gain deeper insights with minimal effort.

STEP-BY-STEP INSTRUCTION:

- Open Tableau
    - Navigate to new worksheet.
- Select fields for Hierarchy such as geographical regions.
    - Country, State, City
- Create the Hierarchy.
    - Drag the Highest level of Hierarchy to the Columns or Rows Shelf.
    - Right - click on the field and select ‘Create Hierarchy’.
    - Name your Hierarchy and drag additional fields by dragging subsequently into Hierarchy.
- Use the Hierarchy in visualization.
- Customize the visualization.
- Save the worksheet.

Output: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Product Name
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SUM(Profit)
Columns
SUM(Sales)
Rows
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Sum of Profit
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Data Source
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1 mark 1 row by 1 column SUM(Sales): 2,297,201
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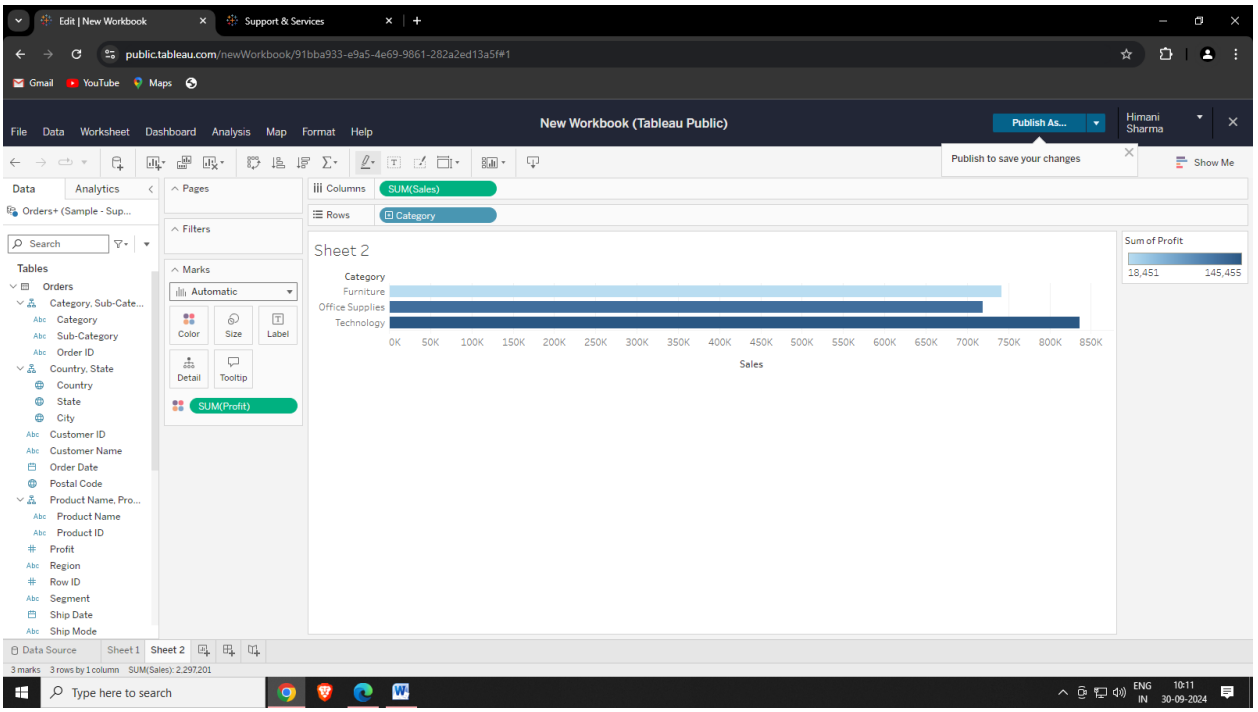
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Profit
Region
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Sales
Sum of Profit
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Data Source
Sheet 1
Sheet 2
3 marks 3 rows by 1 column SUM(Sales): 2,297,201
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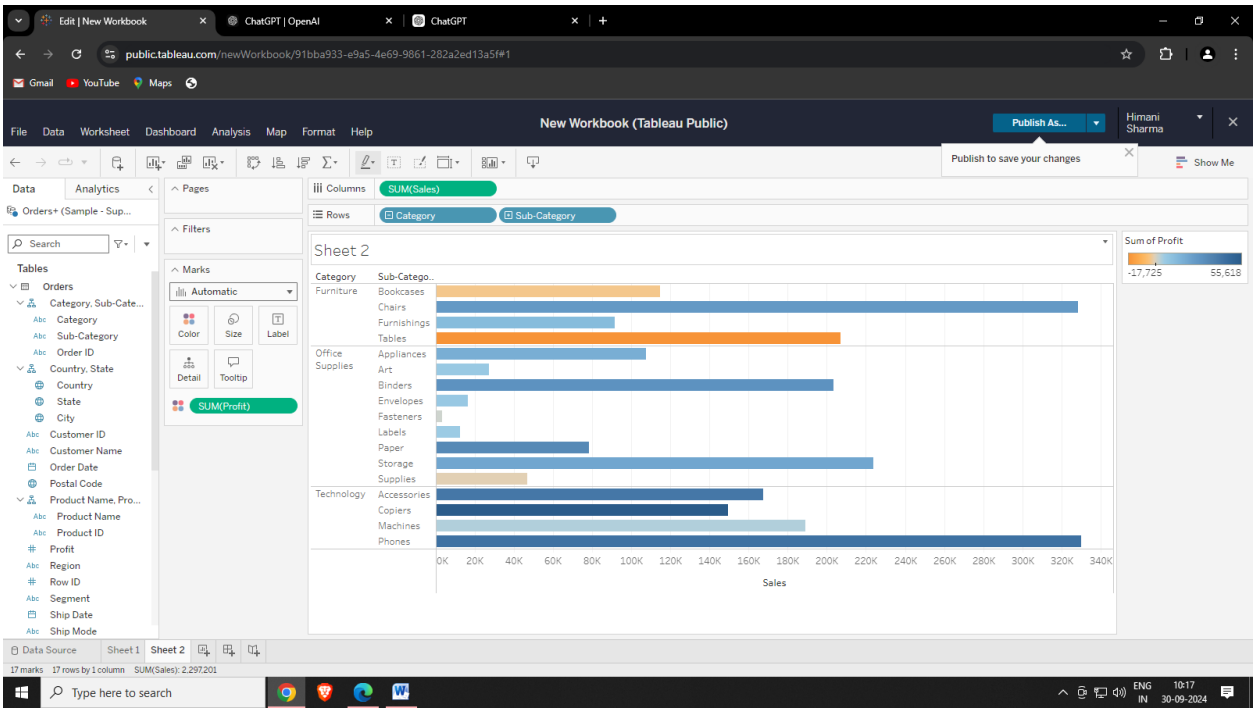
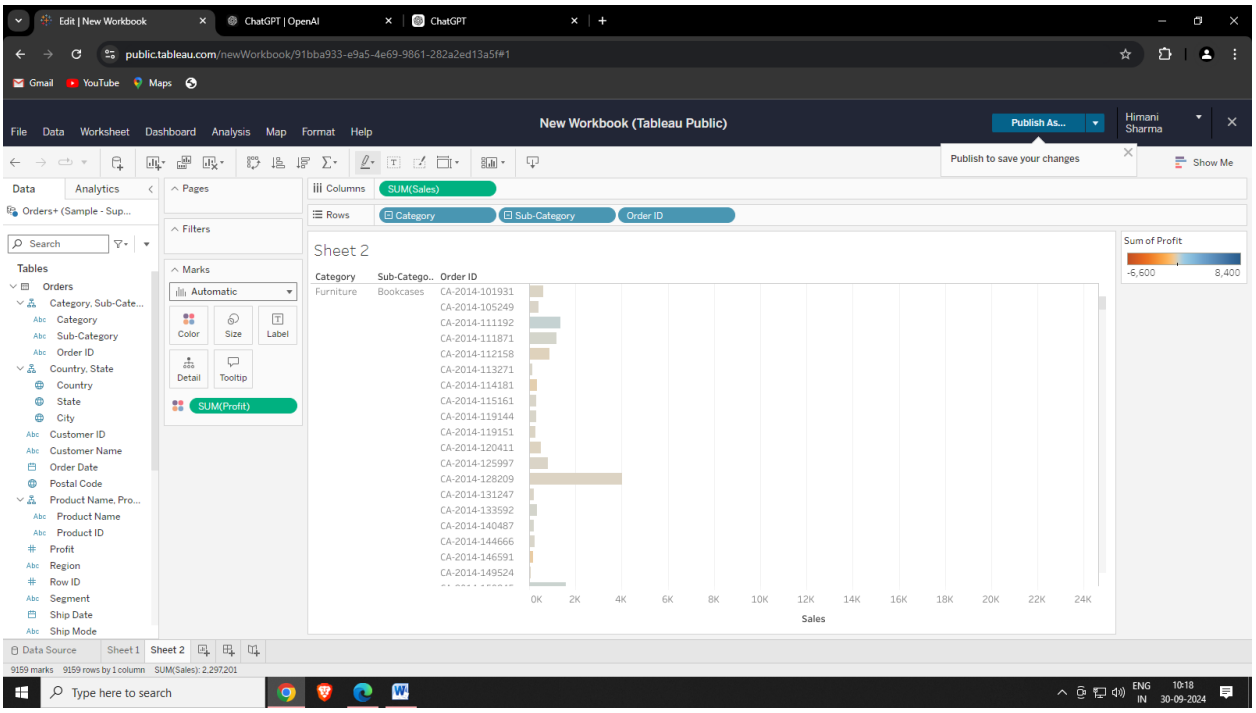




Conclusion: Creating hierarchies in Tableau enhances data exploration and insight by enabling intuitive drill-down capabilities.

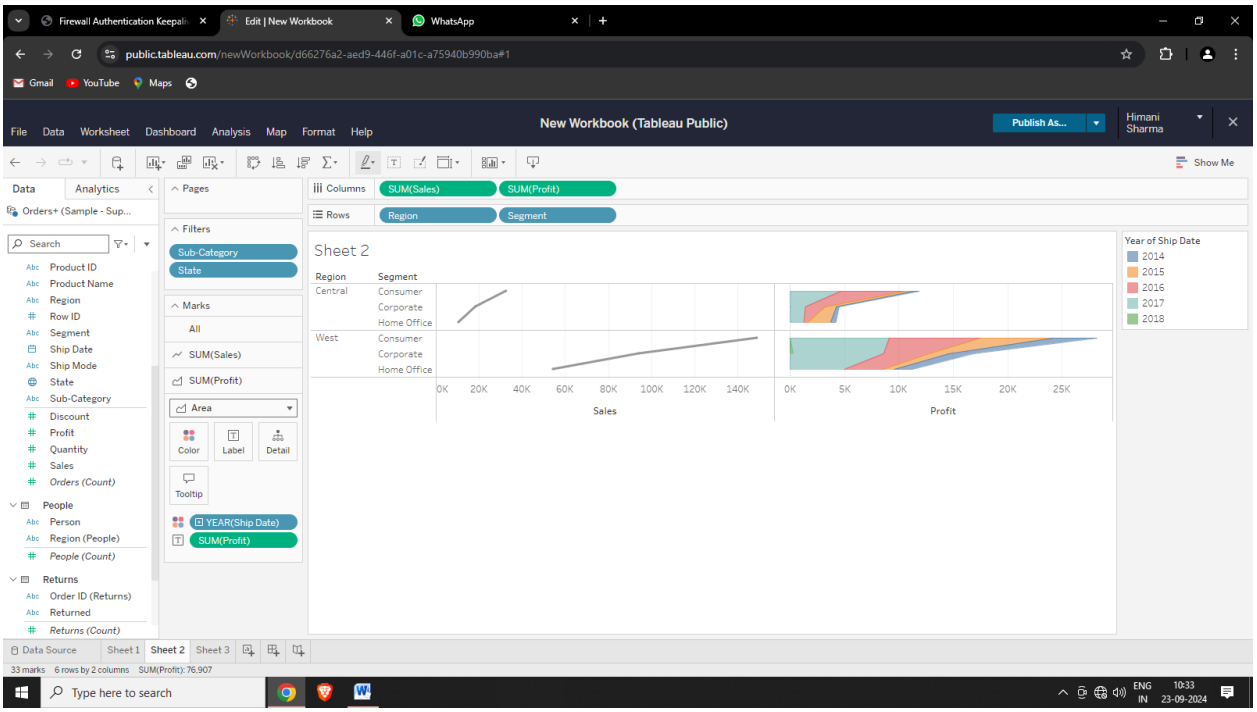
EXPERIMENT – 9

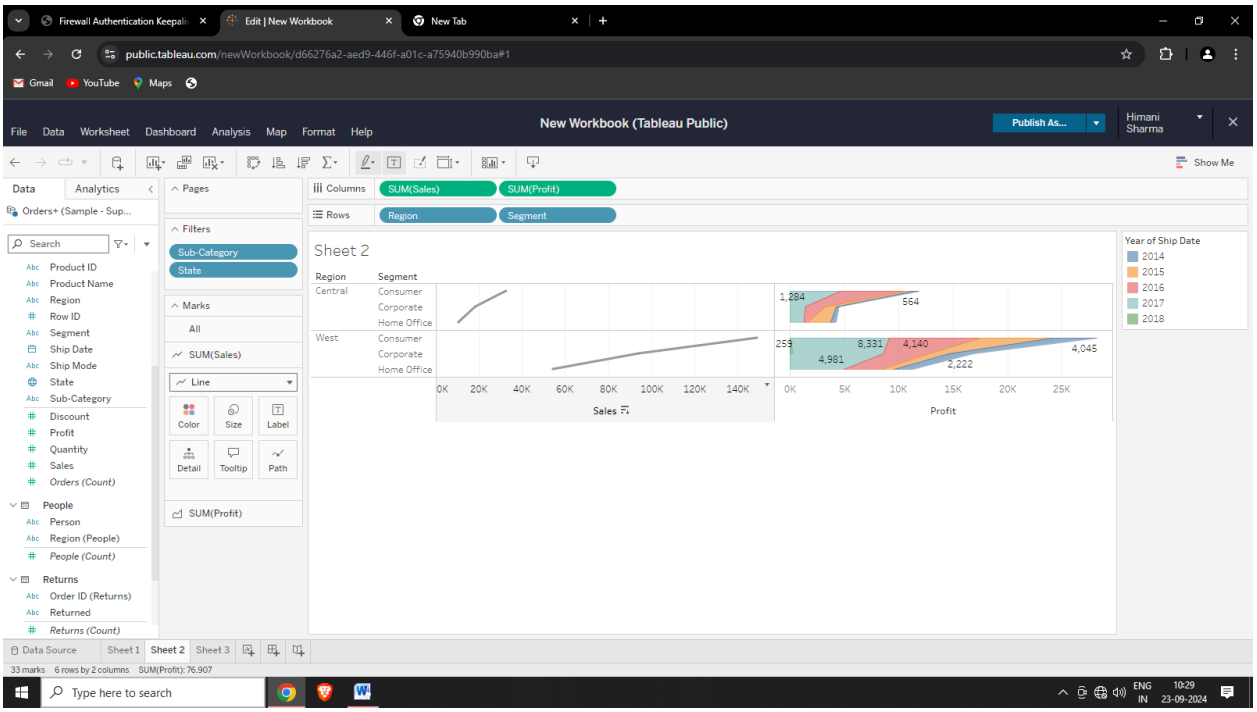
Aim: Use of filters to visualization in Tableau.

Objective: Analyzing sales and profit data using filters and visualization in Tableau.

Step-By-Step Instruction:

- Drag Profit, sales to the columns.
- Drag Region, Segment to the rows.
- Drag Subcategory to the Filter Shelf.
  - Pop-up window opens , select the field that are required and apply.
- Drag another field state to the Filter Shelf.
  - Select the states and apply.
- Customize the visualization.
  - Use bar chart for profit , stacked area chart for sales.
- Save the worksheet.





Outcome: A sophisticated analysis of sales and profit data is achieved through the strategic application of Tableau's visualization tools and filters , providing actionable insights for informed decision-making.

Experiment-7

Aim: Creating Visualization using the SHOW ME button on the toolbar.

Objective: To explore the visualization using "SHOW ME" button in Tableau to quickly create visualization Based on the different types and fields.

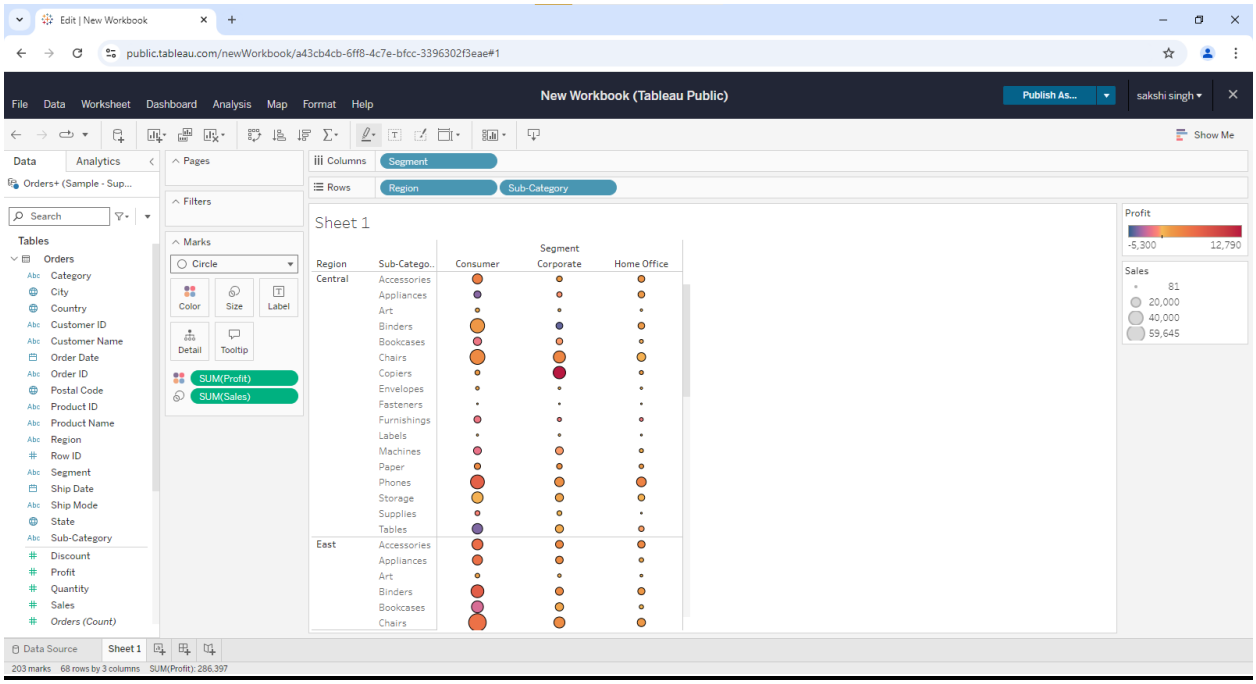
Step-by-Step Instruction:

To create visualizations using the "Show Me" button in Tableau, follow these steps:

- **Open Tableau:**
  - Launch Tableau Desktop on your compute.
- **Connect to Your Data:**
  - Connect to your dataset (e.g., Superstore dataset) by selecting the appropriate file type (e.g.,Excel, CSV) and navigating to your data source.
- **Navigate to a New Worksheet:**
  - Click on the "Sheet" tab at the bottom of the Tableau interface to create a new worksheet.
- **Access the "Show Me" Panel:**
  - Locate the "Show Me" button on the right side of the interface, typically above the Data pane.
  - The "Show Me" panel displays various visualization types that Tableau can create based on thefields available in your dataset.
- **Select a Visualization Type:**
  - Click on a visualization type in the "Show Me" panel. For example:
    - Click on "Bar Chart" to create a standard bar chart.
    - Click on "Line Chart" to create a line graph.
    - Click on "Scatter Plot" to create a scatter plot.
    - Click on "Map" to create a geographical map.
    - Choose the appropriate visualization based on the data fields you want to analyse.
- **Drag and Drop Fields:**
  - Drag the relevant fields from the Data pane (left side) to the appropriate shelves in the workspace:
    - Columns shelf for categorical data (e.g., "Category", "Region").
    - Rows shelf for numerical data (e.g., "Sales", "Profit").
    - Color, Size, Label, and Tooltip shelves on the Marks card to further customize your visualization
- **Customize the Visualization:**
  - Adjust the properties and formatting of your visualization:

- Use the Marks card to change colors, add labels, adjust size, etc.
- Edit titles, axes, and legends to provide clear context and information.

- **Save Your Workbook:**
  - Once you are satisfied with your visualization, go to "File" and select "Save As" to save yourTableau workbook.



Outcome: Using the "Show Me" button in Tableau allows student to quickly explore and create a variety of visualizations based on your dataset. This feature helps them to visualize data relationships and patterns efficiently, enabling deeper insights and analysis

Experiment-4

Aim: Understanding the Tableau Workstation and Naming Conventions.

Objective: To explore the Tableau Workstation and Naming Conventions.

Step-by-Step Instruction:

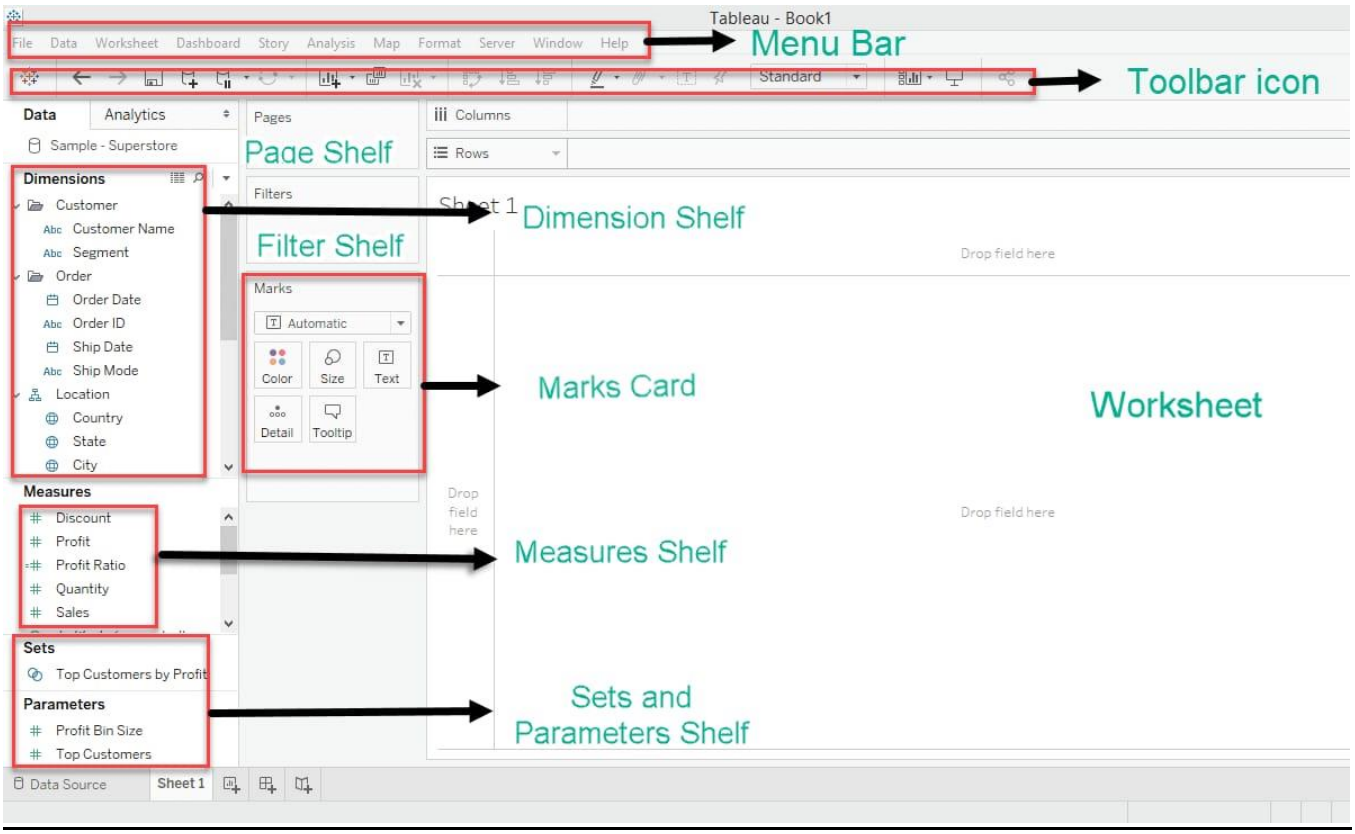
- **Open Tableau:**
    - Launch Tableau Desktop on your computer.
- **Familiarize yourself with the tableau Interface:**
    - **Start Page:** This is where you can connect to your data sources. It includes options like "Connect," "Open," and "Sample Workbooks."
    - **Data Pane:** Located on the left side, it displays the connected data sources, fields (dimensions and measures), and metadata.
    - **Shelves and Cards:** Columns and Rows Shelves: These are used to build visualizations by dragging and dropping fields.
    - **Marks Card:** Allows you to customize the appearance of the visualization (color, size, shape, detail, tooltip, label).
    - **Toolbar:** Positioned at the top, it provides quick access to common commands and functions.
    - **Workspace:** The central area where visualizations (views) are created and displayed.
    - **Tabs:** Each worksheet, dashboard, and story is represented as a tab at the bottom.
- **Understand Naming Conventions in Tableau:**
    - **Dimensions and Measures:**
    - **Dimensions:** Categorical data fields (e.g., Order ID, Customer Name, Region). ▪ Measures: Quantitative data fields (e.g., Sales, Profit, Quantity).
    - **Calculated Fields:** Custom fields created using formulas to perform

calculations on existing data (e.g., Profit Margin).

- **Aggregations:** Functions that summarize data (e.g., SUM, AVG, MIN, MAX).
- **Pills:** Fields dragged into the workspace are referred to as "pills" and can be blue (discrete) or green (continuous).
- **Filters:** Criteria applied to data to limit the scope of analysis (e.g., date ranges, specific categories).

- **Create a Sample Visualization:**
  - Drag a dimension (e.g., "Region") to the Columns shelf.
  - Drag a measure (e.g., "Sales") to the Rows shelf.
  - Use the Marks card to customize the visualization (e.g., color by "Segment").

- **Save your Workbook:**
  - Go to "File" and select "Save As."
  - Choose a location and name for your file, then click "Save".



Outcome: By completing this practical exercise, we gain the understanding of the Tableau workstation interface and the naming conventions used within Tableau.

Experiment -5

Aim: Visualize the Sum of Discounts Across Categories in Tableau.

Objective: To explore the sum of discounts across categories in tableau.

Step-by-Step Instruction:

- **Open Tableau:**
    - Launch Tableau Desktop on your computer.
- **Connect to the Superstore Dataset:**
    - On the start page, under "Connect," select "Microsoft Excel" (or the relevant file type).
    - Navigate to the location of the Superstore dataset and select it.
    - Click "Open" to import the dataset into Tableau
- **Go to the Worksheet:**
    - Once the data is loaded, you will be taken to a new worksheet.
- **Drag and Drop Fields:**
    - From the Data pane on the left, drag the "Category" field to the Columns shelf.
    - Drag the "Discount" field to the Rows shelf.
- **Aggregate the Discounts:**
    - By default, Tableau will sum the discounts. If it does not, right-click the "Discount" pill on the Rows shelf, hover over "Measure," and select "Sum."
- **Customize the Visualization:**
    - **Change the Chart Type:**

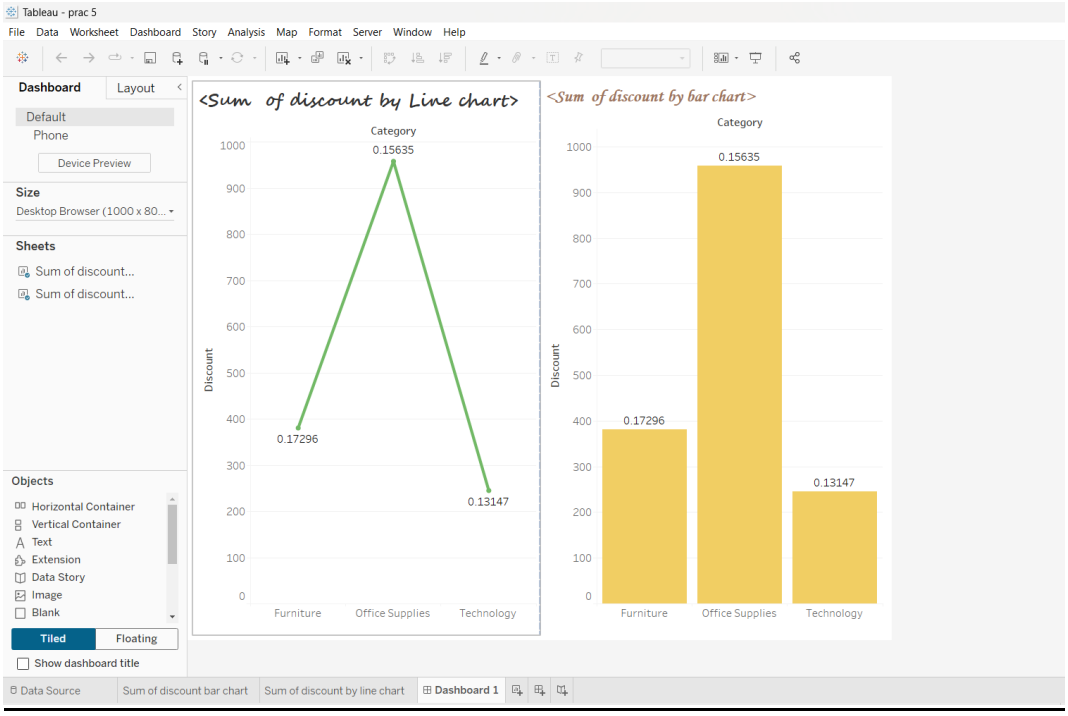
      Click on the drop-down menu on the "Marks" card (it might show "Automatic" or "Bar") and select "Bar" if it is not already selected.
    - **Add Labels:**

      Click on the "Label" option on the Marks card and check the "Show mark labels" box to display the sum of discounts on the bars.

- **Format the Visualization:**
    - **Colors:**

      Click on the "Color" option on the Marks card and select a color scheme that makes the visualization clear and attractive.
    - **Title:**

      Double-click the title at the top of the worksheet to edit it. Enter a descriptive title such as "Sum of Discounts by Category".
- **Save Your Workbook:**
    - Go to "File" and select "Save As."
    - Choose a location and name for your file, then click "Save."



Outcome: By following these steps, we will create a simple bar chart in Tableau that visualizes the sum of discounts across different product categories.

Experiment-6

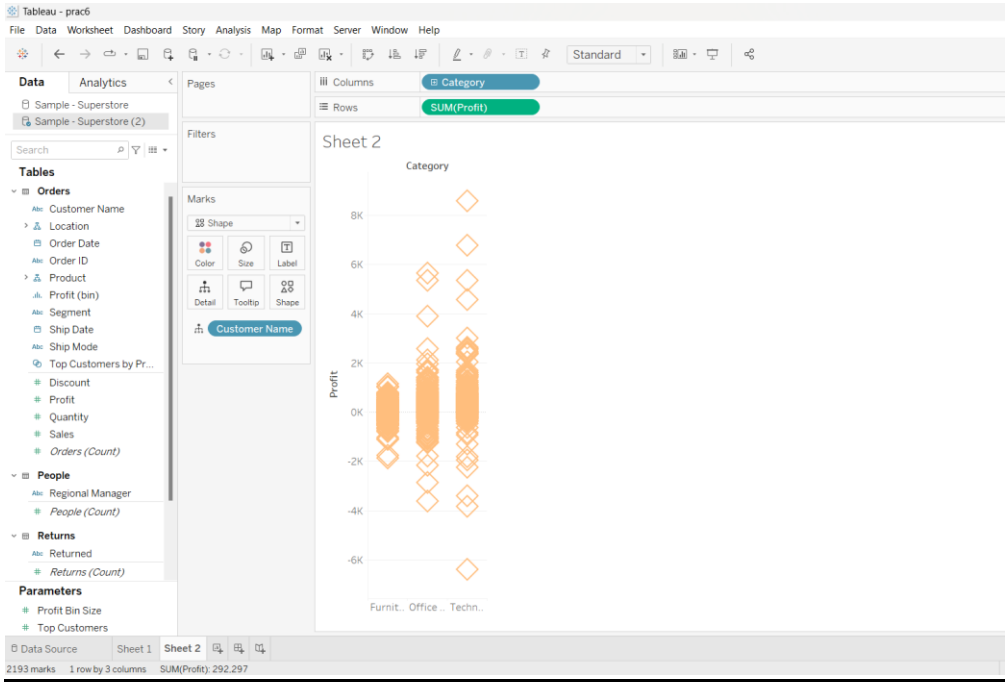
Aim: Renaming the Visualization and Adding Legends to each bar in Tableau.

Objective: To explore the visualization and adding legends to each bar in tableau.

Step-by-Step Instruction:

- **Open Tableau:**
  - Launch Tableau Desktop on your computer.
- **Open the Worksheet:**
  - If not already in a worksheet, navigate to a new worksheet by clicking on the "Sheet" tab.
- **Rename the Visualization:**
  - Double-click on the title of the worksheet at the top (by default, it might be named "Sheet 1").
  - Rename it to "Sum of Discounts by Category".
- **Drag and Drop Fields:**
  - From the Data pane on the left, drag the "Category" field to the Columns shelf.
  - Drag the "Discount" field to the Rows shelf.
- **Aggregate the Discounts:**
  - By default, Tableau should sum the discounts. If it does not, right-click the "Discount" pill on the Rows shelf, hover over "Measure," and select "Sum."
- **Customize the Visualization:**
  - **Change the Chart Type:**
    - Click on the drop-down menu on the "Marks" card (it might show "Automatic" or "Bar") and select "Bar" if it is not already selected.
  - **Add Legends:**
    - Drag the "Category" field from the Data pane to the Color shelf on the Marks card. This will add legends (color codes) to each bar corresponding to different categories.
    - You can adjust the color scheme by clicking on the "Color" legend and selecting "Edit Colors" to customize the palette.

- **Format the Visualization:**
    - **Labels:**
        - Click on the "Label" option on the Marks card and check the "Show mark labels" box to display the sum of discounts on each bar.
    - **Titles and Axes:**
        - Edit the titles and axes labels as needed to make them clear and descriptive.
- **Save Your Workbook:**
    - Go to "File" and select "Save As."
    - Choose a location and name for your file, then click "Save



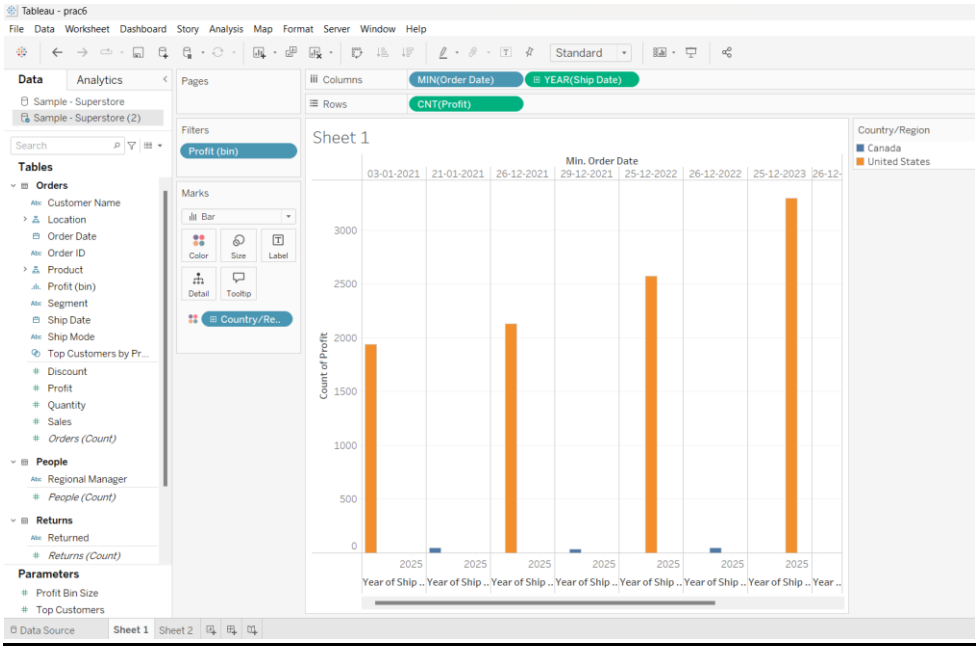


Tableau - prac6
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Sales
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25-12-2023
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United States
Data Source
Sheet 1
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