

INTRODUCTION

Data Visualization

Data visualization is the graphical representation of data and information. It uses visual elements like charts, graphs, and maps to help viewers understand trends, outliers, and patterns in data. Data visualization is important because it allows people to see and understand data more easily than they would with raw numbers.

There are many types of data visualizations, including:

1. **Bar charts:** Used to compare different categories of data.
2. **Line charts:** Show trends over time or relationships between variables.
3. **Pie charts:** Display parts of a whole and are useful for showing percentages.
4. **Scatter plots:** Show the relationship between two variables.
5. **Heat maps:** Use color to represent data values in a matrix.
6. **Tree maps:** Display hierarchical data using nested rectangles.
7. **Dashboards:** Combine multiple visualizations into a single interface for comprehensive data analysis.

Effective data visualization involves choosing the right type of visualization for the data and the audience, using appropriate colors and labels, and providing context to help viewers interpret the data correctly.

Applications of Data Visualization:

Data visualization has a wide range of applications across various industries and fields. Some common uses include:

1. **Business Intelligence:** Data visualization is used to analyze business data, identify trends, and make informed decisions. It helps businesses understand their performance, customer behavior, and market trends.
2. **Financial Analysis:** In finance, data visualization is used to analyze stock prices, market trends, and financial performance. It helps investors and financial analysts make informed decisions about investments.
3. **Healthcare:** Data visualization is used in healthcare to analyze patient data, track disease outbreaks, and monitor public health trends. It helps healthcare professionals make informed decisions about patient care and public health interventions.

4. **Marketing:** Marketers use data visualization to analyze customer behavior, track marketing campaigns, and measure the effectiveness of marketing strategies. It helps them make data-driven decisions to improve marketing performance.
5. **Education:** In education, data visualization is used to track student performance, identify learning trends, and improve educational outcomes. It helps educators tailor their teaching methods to individual student needs.
6. **Research:** Researchers use data visualization to analyze research data, visualize scientific findings, and communicate research results. It helps researchers communicate complex ideas and findings to a wider audience.
7. **Operations Management:** Data visualization is used in operations management to track production processes, analyze supply chain data, and optimize operations. It helps organizations improve efficiency and reduce costs.
8. **Urban Planning:** Urban planners use data visualization to analyze population trends, traffic patterns, and environmental data. It helps them make informed decisions about urban development and infrastructure planning.

These are just a few examples of the many applications of data visualization. Its versatility and effectiveness make it a valuable tool in almost every industry for making sense of complex data and driving informed decision-making.

MODULE 1 INTRODUCTION TO TABLEAU

TABLEAU:

Tableau is a visual analytics platform that is revolutionizing the way we use data to solve problems by enabling individuals and organizations to make the most of their data.

Tableau is a great data visualization and business intelligence application that can be used to report and analyze massive amounts of data. Salesforce purchased Tableau in June 2019, an American firm founded in 2003. It enables users to build various charts, graphs, maps, dashboards, and stories for visualizing and analyzing data in order to aid in business choices. Tableau offers several unique and fascinating features that make it one of the most popular business intelligence (BI) applications.

DATA VISUALIZATION BEST PRACTICES:

Data visualization best practices can help you create more effective and engaging visualizations. Here are some key principles:

1. **Simplicity:** Keep your visualizations simple and focused. Avoid clutter and unnecessary elements.
2. **Clarity:** Ensure that your visualizations are easy to understand. Use clear labels, titles, and legends.
3. **Accuracy:** Ensure that your data is accurate and correctly represented in your visualizations. Avoid distorting or misrepresenting data.
4. **Relevance:** Choose the most appropriate type of visualization for your data and the message you want to convey.
5. **Interactivity:** Use interactive elements like tooltips and filters to allow users to explore the data in more detail.
6. **Storytelling:** Use your visualizations to tell a story and guide the viewer through the data, highlighting key insights and trends.
7. **Iteration:** Don't be afraid to iterate on your visualizations. Experiment with different approaches to find the most effective way to present your data. By following these best practices, you can create visualizations that are not only visually appealing but also informative and impactful.

GETTING STARTED WITH TABLEAU:

Download and Install Tableau:

First, you'll need to download and install **Tableau Desktop** or **Tableau Public** (a free version). Follow the installation instructions provided on the Tableau website for your specific operating system.

Link: <https://www.tableau.com/products/public/download>

Prepare Your Data:

Before connecting your data to Tableau, ensure that your data is in a suitable format. Common

data file formats that Tableau supports include **Excel (.xlsx)**, **CSV (.csv)**, and **text files (.txt)**. Make sure your data is organized with headers for each column.

Connect Your Data to Tableau or connecting to the tutorial dataset:

- 1. Launch Tableau Desktop.**
- 2. Go to "File" Menu and then click on "Open"**
- 3. Choose the data source type (e.g., Excel, CSV, text file) and Select the data file and click "Open".**
- 4. Drag any table into working area.**
- 5. Click on Worksheet(Sheet1).**

CREATING BASIC CHARTS:

a. Line Chart:

1. From the "**Data Source pane**", drag and drop the date field to the **Columns shelf** and a numeric field (e.g., date, boxes shipped) to the **Rows shelf**.
2. Then **Tableau** will automatically create a line chart. You can customize it by adding labels, titles, and formatting.

b. Bar Chart:

1. Drag and drop a **categorical field** (e.g., date, boxes shipped) to the Columns shelf and a **numeric field** to the Rows shelf.

FILTERING AND SORTING DATA:

Filtering Data:

1. Basic Filtering:

- Drag a field from the data pane to the Filters shelf.
- Choose the values you want to include or exclude.

2. Quick Filters:

- Right-click on a field in the view and select "Show Filter."
- A filter control will be added to the view, allowing users to interactively filter the data.

3. Filtering with Conditions:

- Use the "Filter" option in the context menu or drag a field to the Filters shelf.
- Choose "Custom" to define specific conditions for filtering.

4. Top N Filters:

- Use this to filter the view to show the top or bottom N items based on a measure.
- Right-click on a measure in the view, go to "Quick Table Calculation," and select "Top N."

Sorting Data:

1. Sorting within a Field:

- Right-click on a field in the view and select "Sort."
- Choose either ascending or descending order.

2. Sorting by a Different Field:

- Drag a field from the data pane and drop it onto the field you want to sort by.
- Choose the "Sort" option and select the desired sorting order.

3. Manual Sorting:

- Drag a field to the Rows or Columns shelf.
- Click on the field's drop-down menu and select "Sort."
- Choose "Manual" and drag items to rearrange them.

4. Sorting by a Calculation:

- Create a calculated field that defines the sorting logic.
- Use this calculated field to sort the data in your view.

By using these filtering and sorting techniques, you can easily navigate and analyze your data in Tableau to gain valuable insights.

MODULE 2

COMMON CHARTS

Chart:

A chart is a graphical representation of data, often used to make complex data more understandable and easier to interpret. Charts are used in various fields such as business, economics, science, and engineering to visually represent data trends, relationships, and comparisons.

Tableau offers a wide range of charts to visualize data effectively. Some common charts used in Tableau include:

1. **Bar Chart:** Suitable for comparing categorical data.
2. **Line Chart:** Ideal for showing trends over time or continuous data.
3. **Pie Chart:** Useful for displaying parts of a whole, though it's often recommended to use other chart types instead due to potential readability issues.
4. **Scatter Plot:** Great for showing the relationship between two numerical variables.
5. **Map:** Ideal for displaying geographical data.
6. **Histogram:** Useful for displaying the distribution of numerical data.
7. **Heat Map:** Useful for visualizing data density on a map or in a table.
8. **Box Plot:** Ideal for displaying the distribution of data and identifying outliers.
9. **Bullet Graph:** Useful for comparing actual and target values.
10. **Gantt chart:** Ideal for visualizing project schedules and timelines.

These are just a few examples, and Tableau offers many more types of charts to suit various data visualization needs.

CREATING COMMON CHARTS IN TABLEAU:

Before creating charts connect your data to tableau desktop. Connecting data to tableau:

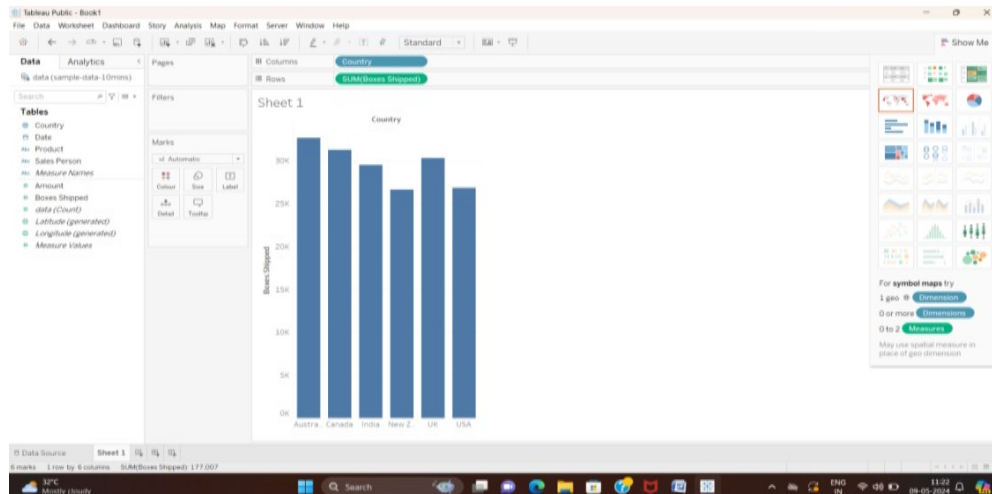
BAR CHART:

- ☐ Bar chart represents data in rectangular bar.
- ☐ It is used to compare data across categories, highlight trends, differences and outliers.
- ☐ More effective when data can be split into multiple categories.

EXAMPLE: Country by sales.

For creating Bar Chart we require one or more measure and one or more dimensions.

From the "**Data Source pane**", drag and drop the country field to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a bar chart. You can customize it by adding labels, titles, and formatting.

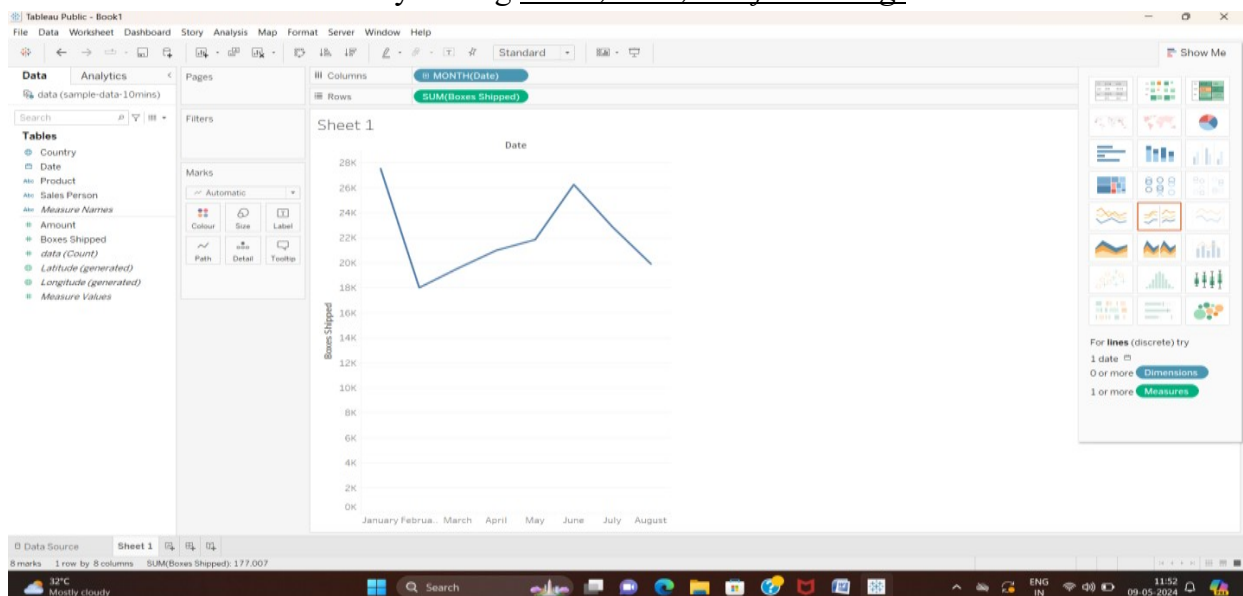


LINE CHART:

- ☐ Line chart connects individual numeric data points.
- ☐ It is used to compare data over different periods.
- ☐ A straight forward way to visualize change in one value relative to anotherEXAMPLE: sales in different months.

For creating line chart we require one date and zero or more dimensions or one or more measures.

From the "**Data Source pane**", drag and drop the date field to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a line chart. You can customize it by adding *labels, titles, and formatting*.



PIE CHART:

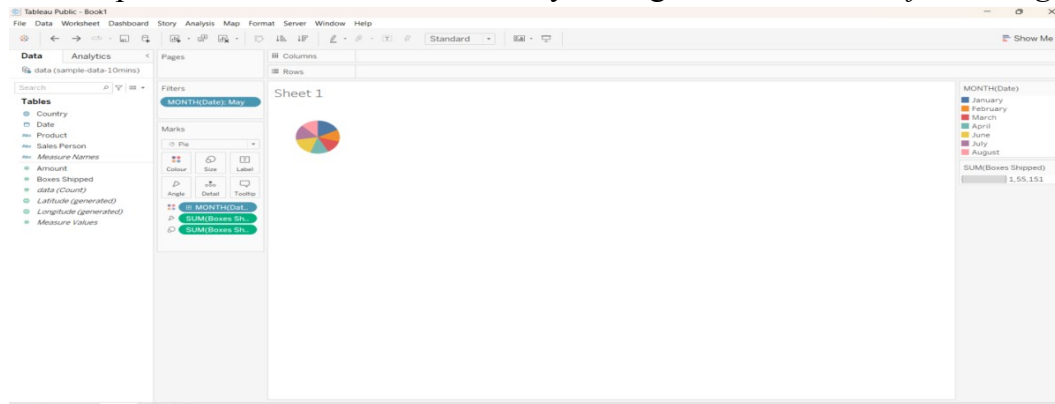
- ☐ Pie chart represents segment wise data.
- ☐ It is used to show relative portion/ percentage of information.

- ☐ Powerful for adding detail to other visualizations.
- ☐ Distinct colors are used to describe different portions of features.

EXAMPLE: No. of boxes shipped in different months.

For creating pie chart we require one or more dimensions and one or two measures.

From the "**Data Source pane**", drag and drop the date field to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a piechart. You can customize it by adding *labels, titles, and formatting*



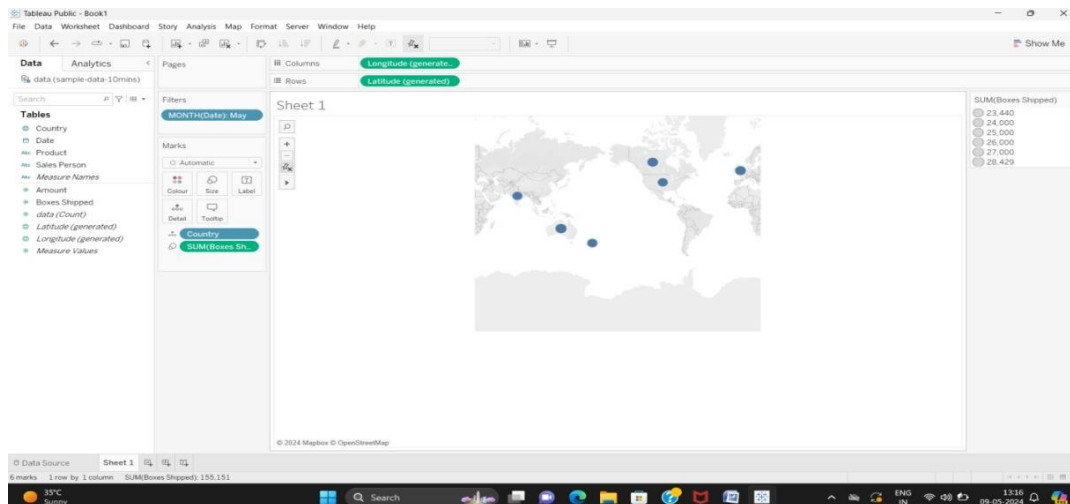
MAP:

- ☐ It is used to show geo-coded data like postal code, state and country.
- ☐ It highlights the most geographical trends in the most accessible and efficient way.

EXAMPLE: Sales in different countries.

For creating map we require one geo dimension and zero or more dimensions or zero to two measures.

From the "**Data Source pane**", drag and drop the country field to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a map. You can customize it by adding *labels, titles, and formatting*



SCATTER PLOT:

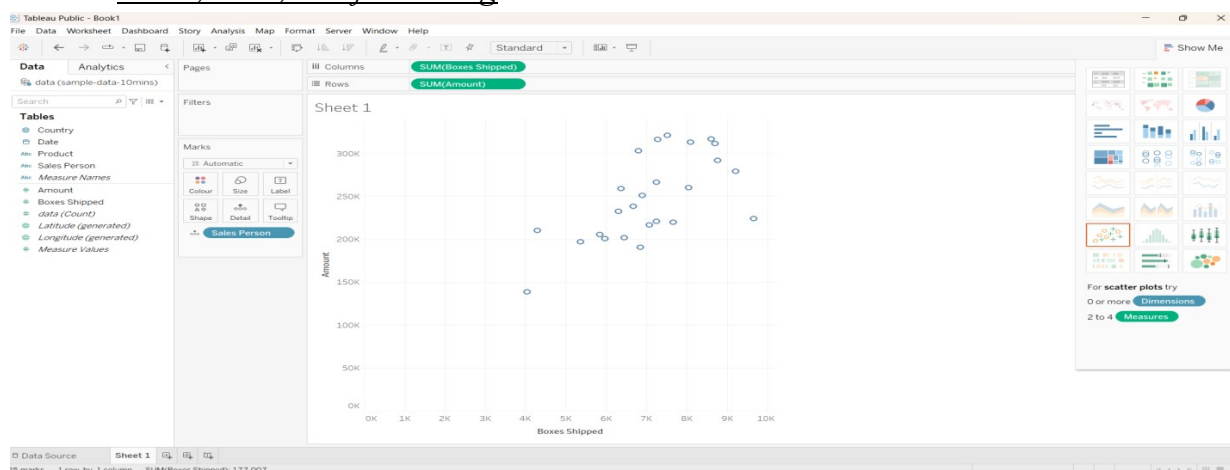
- ☐ It is used to visualize the relationship between two measures.
- ☐ Scatter plot investigates the relationship between different variables.
- ☐ The plot is created when both row and column shelf have atleast one measure.

EXAMPLE: No.of boxes shipped by sales person.

For creating scatter plot we require one or more dimensions and two to four measures.

From the "**Data Source pane**", drag and drop the boxes shipped field to the **Columns shelf** and a Amount to the **Rows shelf** and add salesperson in marks tab.

Then **Tableau** will automatically create a scatter plot. You can customize it by adding labels, titles, and formatting



BUBBLE CHART:

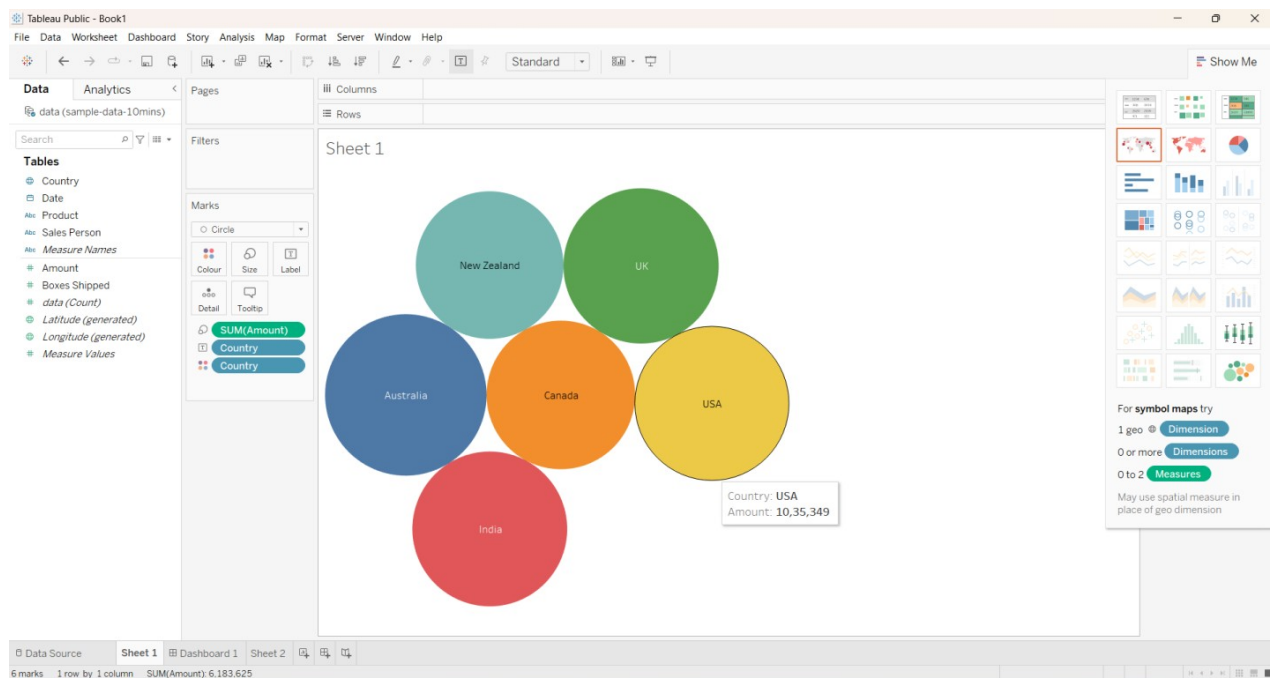
- ☐ It is used to visualize measure and dimension in bubble form.

- ☐ It shows the concentration of data along the axis.
- ☐ Having different sizes and colors, it becomes easy to analyze.

EXAMPLE: Country by sales.

For creating bubble chart we require one or more dimensions and zero or two measures.

From the "**Data Source pane**", drag and drop the country field to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a bubble chart. You can customize it by adding labels, titles, and formatting.



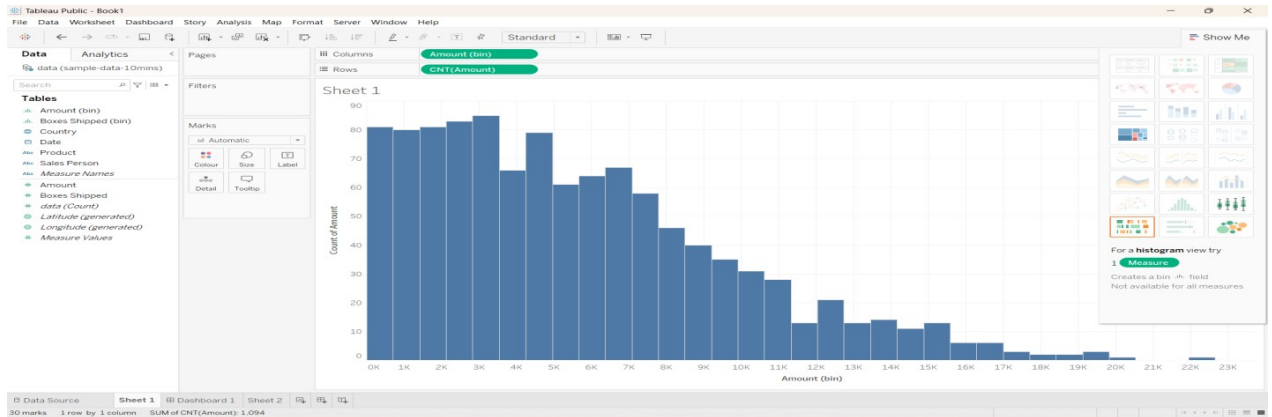
HISTOGRAM CHART:

- ☐ A Histogram displays the shape of the distribution.
- ☐ Represents how data is distributed across different groups.
- ☐ It is used to understand the distribution of the data.

EXAMPLE: sales.

For creating Histogram we require one measure.

From the "**Data Source pane**", drag and drop a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a histogram chart. You can customize it by adding labels, titles, and formatting.



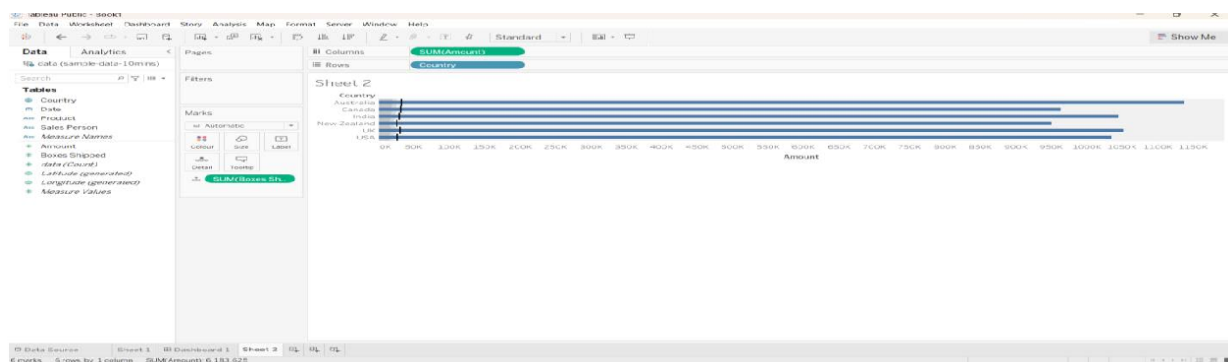
BULLET CHART:

- It is an indicator to show the performance of the measure.
- Compares a primary measure to one or more other measure and present it to define a performance matrix.
- Used to evaluate the performance of a matrix against the goal.

EXAMPLE: No of boxes shipped to different countries by amount.

For creating bullet chart we require one or more dimensions and two measures

From the "Data Source pane", drag and drop the country field and boxes shipped to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a bullet chart. You can customize it by adding labels, titles, and formatting.



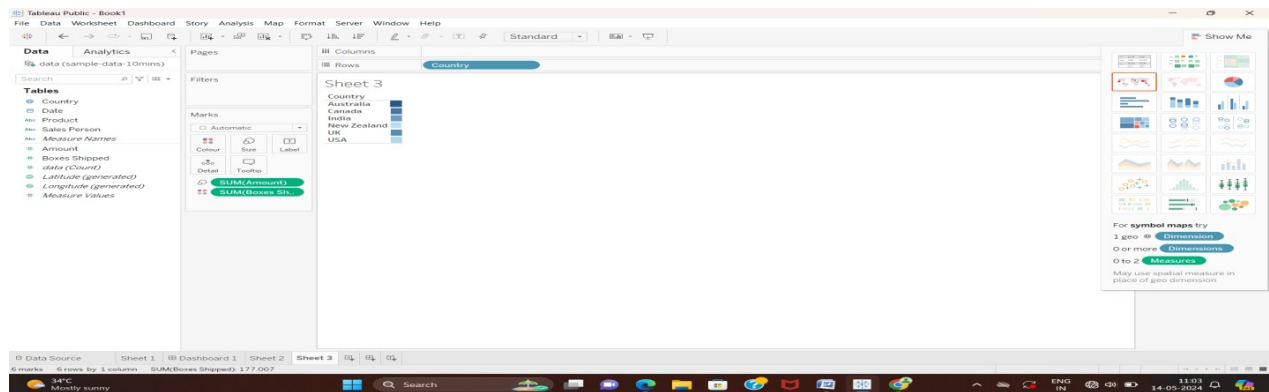
HEAT MAP:

- ☐ This is the best way to compare data across different categories is by using colours.
- ☐ It shows the relationship between two features.

EXAMPLE: No of boxes shipped to different countries by amount.

For creating heat map we require one or more dimensions and one or two measures

- From the "**Data Source pane**", drag and drop the country field to the **Columns shelf** and a numeric field Amount and boxes shipped to the **Rows shelf**. Then **Tableau** will automatically create a heat map. You can customize it by adding labels, titles, and formatting.



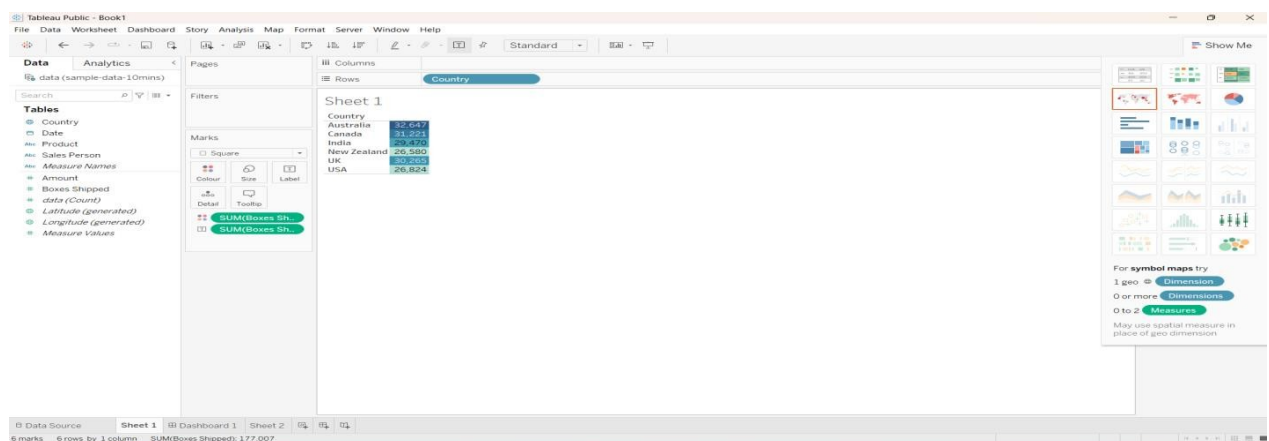
HIGHLIGHTED TABLE:

- It can be considered as an extension of the heat map.
- It provides detail information on the heat map.
- It is similar to the text table and the only difference is data is displayed using different colors.

EXAMPLE: No of boxes shipped to different countries.

For creating highlighted table we require one or more dimensions and one measure.

From the "**Data Source pane**", drag and drop the country field to the **Columns shelf** and a numeric field boxes shipped to the **Rows shelf**. Then **Tableau** will automatically create a highlighted table.. You can customize it by adding labels, titles, and formatting.

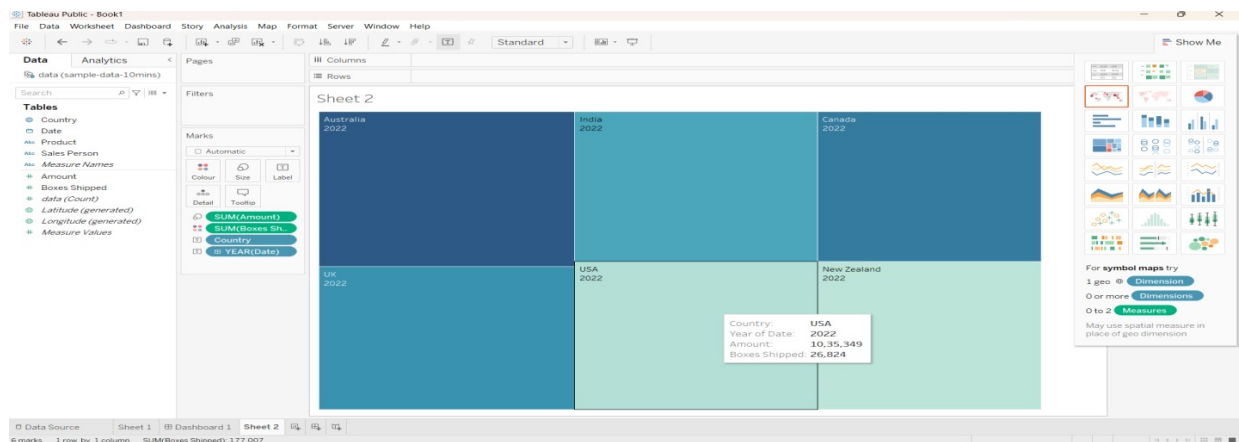


TREE MAP:

- ☐ Rectangular chart representing data in nested rectangle.
- ☐ It is used to show hierarchical data as a portion of a whole.
- ☐ It makes efficient use of space to display the entire data at once.

EXAMPLE: No of boxes shipped to different countries by amount and date. For creating tree map we require one or more dimensions and one or two measures.

From the "**Data Source pane**", drag and drop the country field and date to the **Columns shelf** and a numeric field Amount and boxes shipped to the **Rows shelf**. Then **Tableau** will automatically create a bullet chart. You can customize it by adding labels, titles, and formatting.



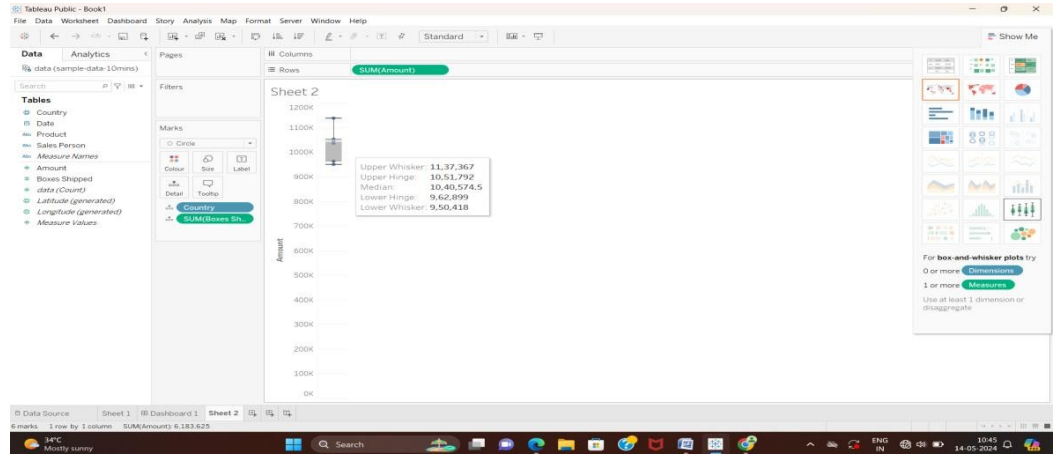
BOX -AND-WHISKER PLOT:

- ☐ It is used to show the distribution of a set of data.
- ☐ Box-and-Whisker plots are divided in to two parts
 - Box: consists of the median, first and third quartile of the data.
 - Whisker: consists of the data with 1.5 times 1QR (1QR = first quartile - Third quartile).

EXAMPLE: No of boxes shipped to different countries by amount.

For creating box and whisker plot we require zero or more dimensions and one or more measures.

From the "**Data Source pane**", drag and drop the country field and boxes shipped to the **Columns shelf** and a numeric field Amount to the **Rows shelf**. Then **Tableau** will automatically create a box and whisker plot. You can customize it by adding labels, titles, and formatting.



ASSEMBLING THE DASHBOARD

In Tableau a *Dashboard* is a display that brings together the content from multiple sheets. A dashboard may also have additional text and images, and it can be configured with *Actions* to make it more interactive.

Assembling the pieces of a dashboard can take time, especially as you learn to adjust the size, position, formatting, and relationships among the components of your dashboard.

I Add a dashboard

1. From the top menu select *Dashboard -> New Dashboard*
2. Your sheets are listed on the left; drag them into position in the central dashboard pane.

MODULE 3

CALCULATIONS IN TABLEAU:

In Tableau, calculations are essential for analyzing and presenting data. There are different types of calculations you can create:

1. Basic Calculations

Basic calculations allow you to create new fields based on your existing data.

- **Calculated Fields:** Create new data from your existing data using mathematical operations, logical statements, and other functions.

2. Table Calculations

Table calculations are transformations applied to the values in a visualization. They are computed based on the data in the view.

- **Running Total:** Sum of values up to the current point in the data.
- **Percent of Total:** Computes each value as a percentage of the total.

3. Level of Detail (LOD) Calculations

LOD calculations provide a way to compute values at the data source level and the visualization level. They allow you to control the level of granularity for your calculations.

4. Aggregate Calculations

These calculations involve aggregating your data in some way, like summing, averaging, or finding the maximum or minimum values.

5. String Calculations

String calculations allow you to manipulate text fields.

6. Date Calculations

Date calculations help manipulate date fields to perform tasks like extracting parts of a date or calculating the difference between dates.

CREATING SIMPLE CALCULATIONS IN TABLEAU:

In Tableau, you can create simple calculations using calculated fields. Calculated fields allow you to perform basic arithmetic operations, string manipulation, date calculations, and more. Here's how you can create a simple calculation in Tableau:

1. Open Tableau: Open Tableau Desktop and connect to your data source.
2. Navigate to the Data Source tab: Click on the Data Source tab at the bottom of the screen to start creating your calculated field.
3. Create a Calculated Field:
 - Right-click on a blank space in the Data Source tab.
 - Select "Create Calculated Field."
 - Enter a name for your calculated field.
 - In the calculation editor, write your calculation using the available functions and fields from your data source.
 - Click OK to save your calculated field.
4. Use the Calculated Field in your Visualizations:
 - Navigate back to a worksheet.
 - Drag the calculated field from the Data pane to the desired shelf (rows, columns, or marks).
 - Tableau will automatically apply the calculation to your visualization.

Example: Calculating Year-over-Year Growth

Let's say you have a dataset containing monthly sales data, and you want to calculate the year-over-year (YoY) growth in sales.

1. Connect to your Data: Connect to your data source in Tableau, which contains at least two fields: Date and Sales.
2. Create a Visualization:
 - Drag Date to the Columns shelf.
 - Drag Sales to the Rows shelf.

- Change the Date field to display by month (right-click on the Date field, select "More", and then "Month").
3. Add a Table Calculation:
 - Right-click on the Sales field in the Rows shelf.
 - Select "Quick Table Calculation" and then choose "Year over Year Growth".
 4. Customize the Calculation:
 - If needed, you can customize the table calculation. Right-click on the Sales field again, select "Edit Table Calculation".
 - In the dialog box, you can change the specific settings for the table calculation, such as the "Compute Using" option to ensure it computes along the correct dimension (e.g., Date).
 5. Format the Result:
 - You might want to format the result to show the growth as a percentage. Right-click on the Sales field, select "Format", and then choose the percentage format.

Example2: Calculating percentage of total sales.

1. Connecting to Data and Creating the Initial Visualization:
 - Drag the Country field to the Columns shelf and the Sales field to the Rows shelf.
2. Adding and Customizing the Table Calculation:
 - Right-click on the Sales field in the Rows shelf, select "Quick Table Calculation", and choose "percentage of total".
 - For further customization, right-click on the Sales field again, choose "Edit Table Calculation", and adjust the settings as needed, such as setting "Compute Using" to Date
3. Formatting the Result:
 - Format the field to display the results as percentages by right-clicking on the Sales field, selecting "Format", and choosing the percentage format.

This should give you a clear visualization of the year-over-year sales growth and percentage of total in Tableau using table calculations. You can apply similar steps for other types of calculations like moving averages, and running totals by selecting the appropriate quick table calculation and adjusting as necessary.

MODULE 4

INTERACTIONS USING DASHBOARD ACTIONS

Interactions in Tableau are crucial for creating dynamic and user-friendly dashboards. They enhance the user experience by allowing deeper data exploration and making dashboards more interactive. Here's a more detailed look at different types of interactions you can implement in Tableau:

1. Filter Actions

Filter actions enable users to filter the data in one or more visualizations by selecting data points in another visualization. This can be used to create drill-down capabilities and to focus on specific subsets of data. The filter actions are used to trigger events in one sheet and see the results in the other. So, let's create a tableau filter action in a few steps:

- Go to Worksheet>> Actions and then select Filter from the Add actions option.
- Click Ok and the 'Add Filter Action' dialog box will appear. From here, you can select the sources and target sheets along with the trigger on which you want to run your action.
- Apply the changes and select any category in sheet1
- As soon as you click on the category, the action will switch to the target sheet and highlight the corresponding sub-category.
- You can also choose the way of triggering your action(by either hovering or showing a menu) and the values that will be displayed by the action
- Now, if you click on the filter1 highlighted in the box, the action will jump onto the target figure and show the corresponding values.

2. Highlight Actions

Highlight actions allow users to highlight related data across multiple visualizations by selecting data points in one visualization. For highlighting the action tableau, you have to add another variable named Region. This will divide every bar of the category based on the regions and create a stacked bar chart. Apply this to both visualizations and the result would look something like this:

- The process of creating a tableau highlight is pretty much similar to that of filter actions. Here you just have to select Highlight in place of Filter under the add actions section.
- Now, select the source and target worksheets from the highlight action box, and apply the changes by clicking the OK button.
- Once the changes are applied, if you click on any section of the stacked bar, it will show all the details such as the Sales and region of that bar.
- Now, hover over the target worksheet and you will see that the highlight action has been applied to the respective category.

You can also add this action to the dashboards and apply the button filter tableau to its

visualizations.

3. Tableau URL Actions

Following are the steps to create a Tableau URL Filter and apply it to the visualizations:

- Go to the Worksheet>> Actions>> Add actions>> URL and click on OK.
- A dialog box named 'Add URL action' will appear on the interface.
- Here, you can rename the URL action, select the source sheet, and add the URL of the resulting webpage you want to open.
- The action will open the URL on your browser whenever you click on the state. However, the action will open the same links for every State you click on.
- To make the URL open the exact page of the state you click on, open the URL action dialog box and remove the state name from the URL.
- Now, click on the mark in front of the mentioned URL and select the State variable from the drop-down menu.
- This will create a tableau hyperlink that will keep on changing the URL based on the State you click on.

4. Tooltip Actions

Enhancing interactivity with text and visual tooltips in Tableau can significantly improve the user experience by providing additional context and insights without overwhelming the main visualization. Here's how you can implement and customize these features:

Text Tooltips

1. Basic Text Tooltips:

- Edit Tooltip: You can add or modify text tooltips by editing the tooltip for a specific sheet.
 1. Click on the sheet you want to edit.
 2. Go to the Tooltip button on the Marks card.
 3. In the Edit Tooltip dialog box, you can add dynamic fields, plain text, and even basic HTML for formatting.

MODULE-5

ADVANCED VISUALIZATIONS

1. Waterfall chart:

A waterfall chart, shown below, is a special type of bar chart designed to show the cumulative effect of positive and negative values on an outcome. It's especially useful for visualizing the progression of data through a sequence of changes, providing a clear picture of how different factors contribute to a result over time.

Steps for creating Waterfall chart:

- ☐ **Prepare Your Data:** Ensure your data is structured properly, with at least one dimension and one measure. For example, you might have categories and corresponding values that represent increases or decreases.
- ☐ **Open Tableau and Connect to Your Data Source:** Load your dataset into Tableau.
- ☐ **Drag Dimensions and Measures to the View:**
 - Drag the dimension that you want to break down (e.g., country) to the Columns shelf.
 - Drag the measure (e.g., Amount) to the Rows shelf.
- ☐ **Convert to Gantt Bar:**
 - Click on the drop-down menu of the Amount(Measure) on the Rows shelf and select "Gantt Bar" as the mark type.
- ☐ **Create a Running Total Calculation:**
 - Right-click in the Data pane and select "Create Calculated Field."
 - Name it something like "Running Total."
- ☐ **Add the Running Total to the View:**
 - Drag the new calculated field "Running Total" to the Rows shelf, placing it to the right of the original measure.

2. Funnel chart:

Funnel charts are important visualization in business intelligence as they offer a way to represent linear workflows. We can make a stepped or smooth funnel chart to visually represent and understand the progression or workflow of a process. Also, we can get a systematic view of our data values through a funnel chart.

Step 1: Add Measures to the Rows Section

To begin with, we add one measure that is *Sales* to the **Rows** section. We select the aggregation type as SUM.

Step 2: Select Dimensions in the Marks Section

Next, we select a dimension (*Region*) from the list of **Dimensions** at the left and drag it onto the **Colors** card in the **Marks** section. This will divide our vertical bar into four different colors each of which represents a region.

Then, we add *SUM(Sales)* into the **Size** box present in the **Marks** section. Also, we select the icon for the “*Sort Region descending by Sales*” option. It will arrange the segments on the bar in a descending manner.

Step 3: Convert Standard View to Entire View

By default, the view type is set to *Standard*, we change it to *Entire View* so that our chart covers the full view and looks more like a funnel in shape.

Step 4: Add Labels in the Marks Section

Next, we add the fields *Region* and *SUM(Sales)* into the **Label** box present in the **Marks** section

Step 5: Final Funnel Chart

This adds text labels showing the region and total sales for each region block in our funnel chart.

MODULE 6

DATA STORYTELLING

INTRODUCTION TO DATA STORYTELLING

Data storytelling is the process of using data to create a narrative that communicates a message or conveys insights. It combines data analysis with storytelling techniques to make data more accessible and understandable to a wider audience. Here is a brief introduction to data storytelling:

1. **Purpose:** The purpose of data storytelling is to make data meaningful and relevant. It helps to uncover insights, trends, and patterns in data that can inform decision-making and drive action.
2. **Components:** Data storytelling typically involves three main components:
 - **Data:** The raw material that is analyzed and visualized.
 - **Visualization:** Charts, graphs, and other visual representations of the data.
 - **Narrative:** The story that is built around the data, including the context, analysis, and conclusions.

Creating Your Tableau Story: A Step-by-Step Guide

Creating your very Tableau story can be very interesting. In this section, I will walk you through the steps.

1. Open a New Story Tab

To start with, open Tableau and click on the “New Story” icon. Select “Story > New Story.” This will create a blank canvas where you can now create your story.

2. Add Worksheets or Dashboards

After creating a story tab, the next thing is to add worksheets and dashboards (on the left pane) by dragging and dropping the desired sheet onto the blank canvas. This is your first story point, a unit in your whole story.

3. Create Story Points

Now that you have added your first worksheet, the next thing is to create story points. These story points will serve as the basic components of your Tableau story, as they lead your audience through.

To create story points, you can either duplicate an existing one or start from scratch. When duplicating, it maintains all the details from the original story point, this includes charts, captions, and annotations.

To duplicate, right-click on the story point and select “Duplicate”.

4. Add Context with Captions

Now, to enhance your visuals and keep your audience better informed, you should add

captions. Captions provide context and guide the understanding of your audience.

PS: Don't forget to always keep your captions concise, with one or two sentences.

Just click the caption box, and write your desired caption.

5. Format Your Story

Finally, navigate to the menu bar and select “Story > Format” to modify the fonts, shading, alignment, and borders of your story elements, paying attention to your audience.

To remove certain elements, such as chart annotations, you can right-click on them and select “Remove.” You can also Click “X” on the story toolbar to delete.