



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (po), Coimbatore – 641 107

Accredited by NAAC-UGC with 'A' Grade

Approved by AICTE & Affiliated to Anna University, Chennai

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

19AD504 – DATA VISUALIZATION

UNIT –I

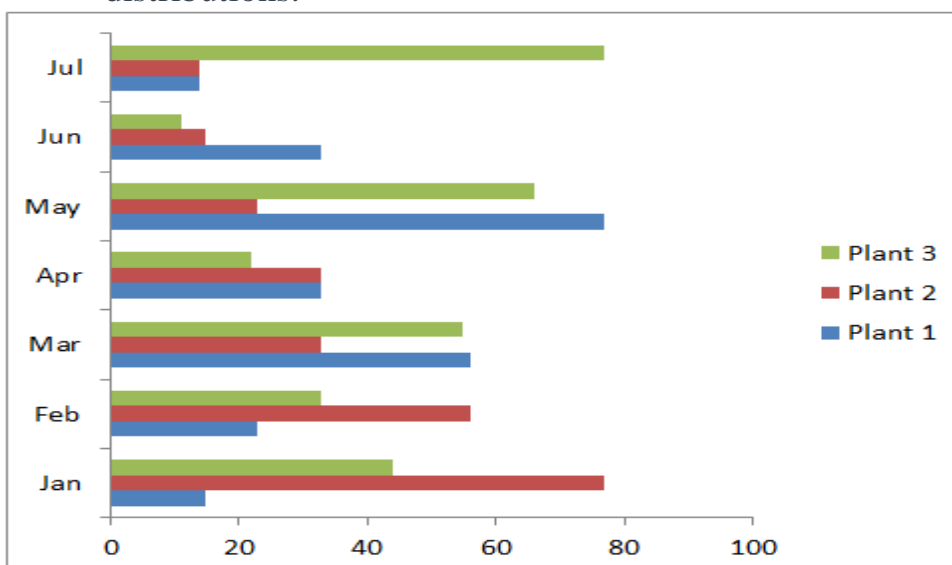
INTRODUCTION TO DATA VISUALIZATION

1.9 CHARTS

Charts are a common and effective way to visualize data in data visualization. Here are some popular types of charts used in data visualization:

1. Bar Chart:

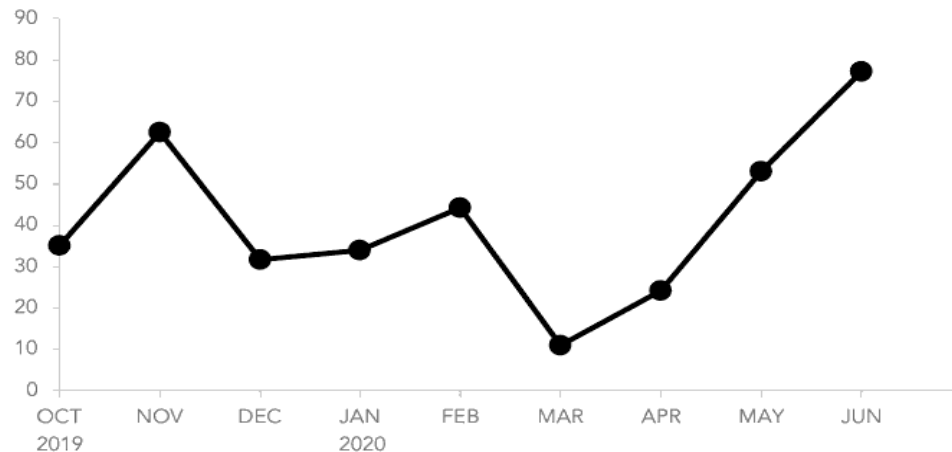
- Bar charts display data using rectangular bars of lengths proportional to the values they represent.
- They are useful for comparing discrete categories or groups and can be vertical (column chart) or horizontal.
- Bar charts are effective for showing comparisons, trends, and distributions.



2. Line Chart:

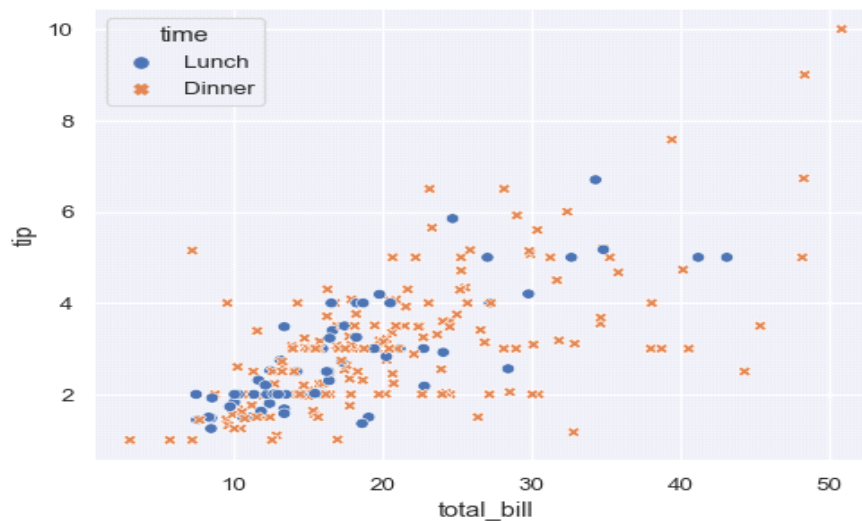
- Line charts represent data points connected by lines, commonly used to show trends or changes over time.
- They are effective for visualizing continuous data and highlighting patterns or fluctuations over a period.

Produce sales
IN THOUSANDS (USD)



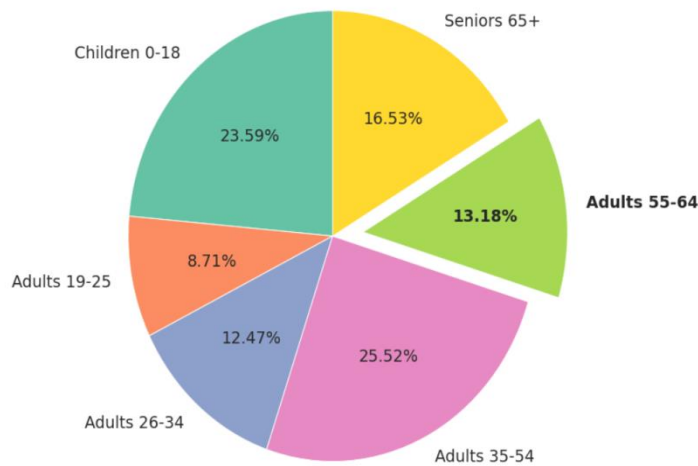
3. Scatter

- display their relationship on a two-dimensional graph.
- They are useful for visualizing the correlation or relationship between two continuous variables.



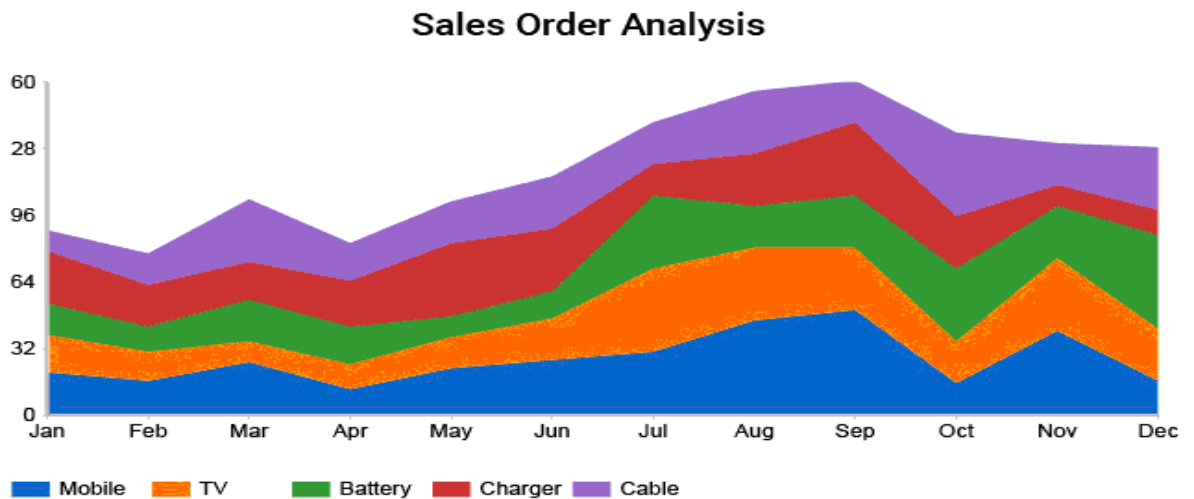
4. Pie Chart:

- Pie charts divide a circle into sectors, with each sector representing a category's proportion of a whole.
- They are suitable for showing proportions or percentages and are often used to display categorical data with a limited number of categories.



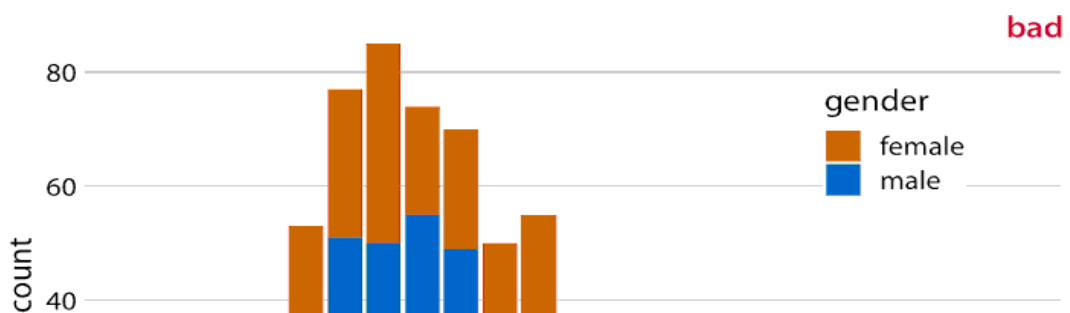
5. Area Chart:

- Area charts are similar to line charts, but the area beneath the lines is filled with colors or patterns.
- They are useful for showing cumulative values or the composition of a whole over time.



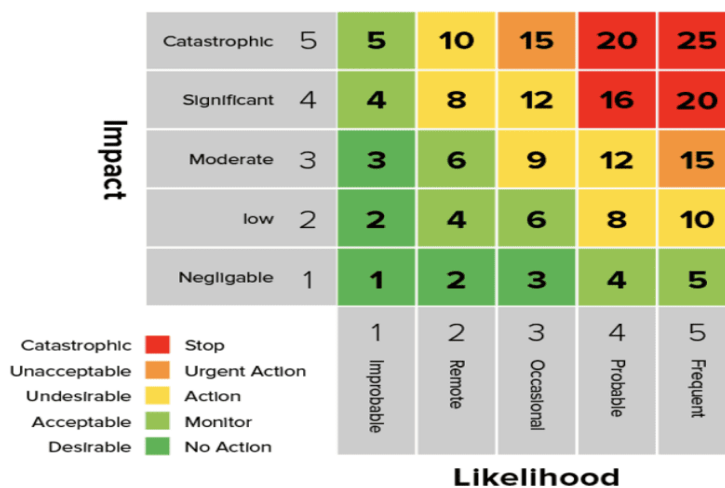
6. Histogram:

- Histograms are used to visualize the distribution of continuous data by grouping the data into bins and displaying the frequencies or counts of data points within each bin.
- They are effective for understanding the shape and spread of data.



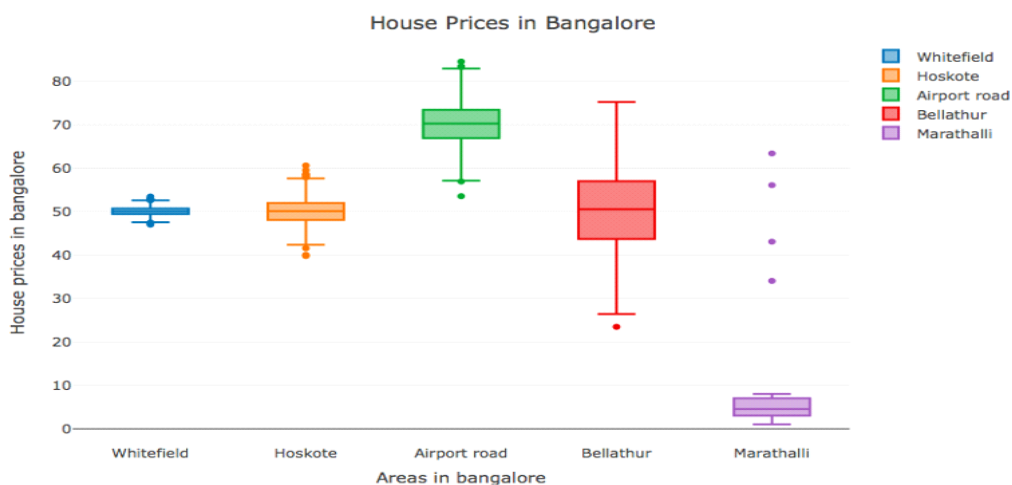
7. Heat map:

- Heat maps use colors or shades to represent values in a matrix or tabular format.
- They are commonly used to display patterns or relationships in two-dimensional data, such as correlation matrices or geographical maps.



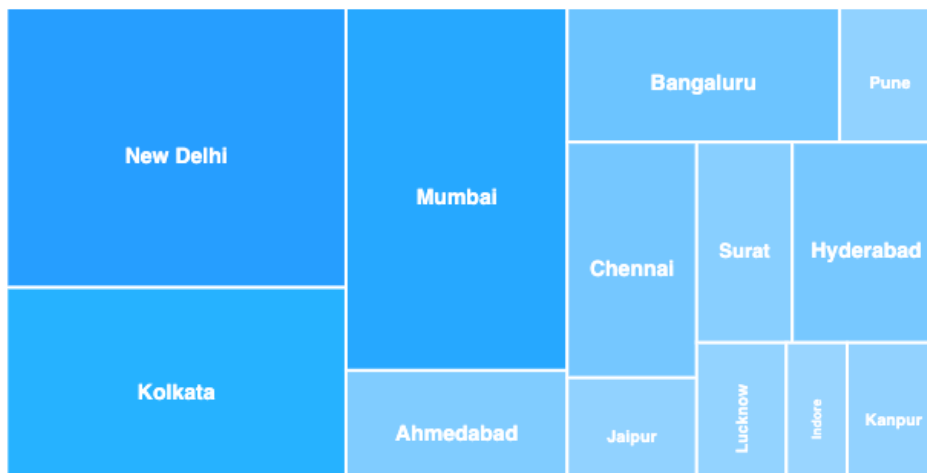
8. Box Plot:

- Box plots, also known as box-and-whisker plots, provide a summary of the distribution of continuous data.
- They show the median, quartiles, and outliers, making them useful for comparing distributions or identifying data anomalies.



9. Tree Map:

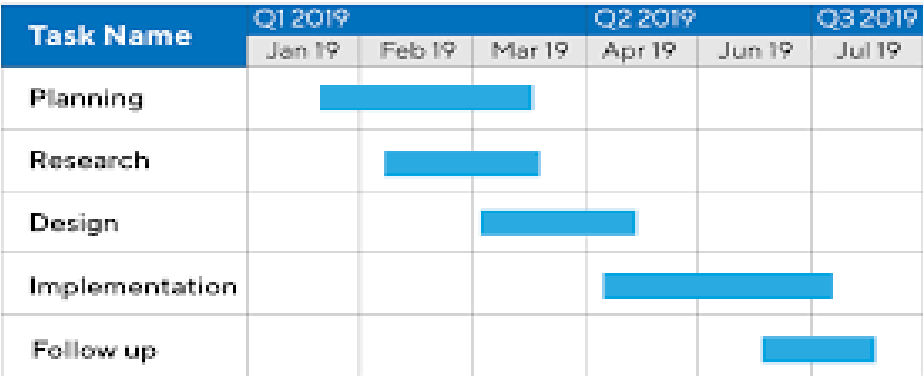
- Tree maps display hierarchical data using nested rectangles, with each rectangle representing a category or subcategory.
- The size of each rectangle corresponds to the relative magnitude of the data within that category, allowing for visualizing both the whole and its parts.



10. Gantt Chart:

- Gantt charts are used to visualize project schedules or timelines.
- They display tasks or activities as horizontal bars along a time axis, showing their start and end dates.
- Gantt charts help in visualizing project timelines, dependencies, and resource allocation.

Gantt Chart



These are just a few examples of the many types of charts available for data visualization. The choice of chart depends on the data type, relationship between variables, and the insights you want to convey. It's important to select the chart type that effectively represents your data and communicates the intended message to your audience.