ASSIGNMENT

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ROLL NO : 46 RMCAAS3

20MCA201-DATA SCIENCE AND MACHINE LEARNING

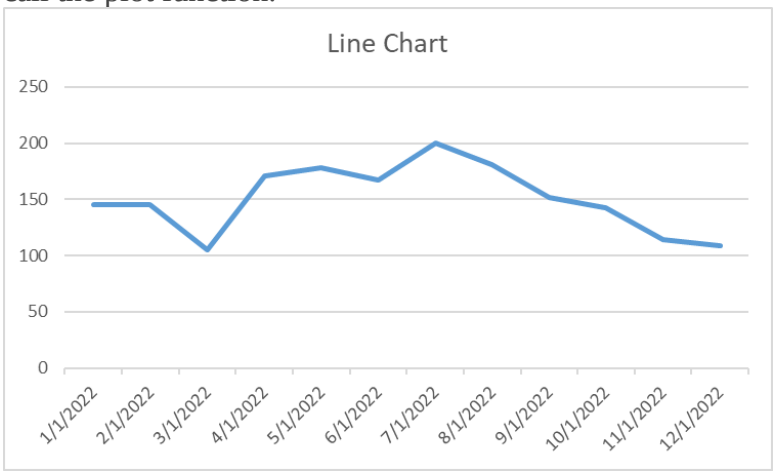
Data Visualization Methods

Data visualization is a graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data. This blog on data visualization techniques will help you understand detailed techniques and benefits

Charts

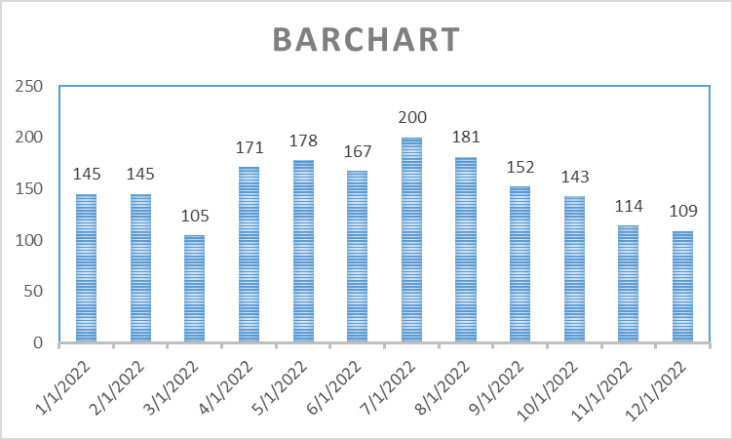
- **Line Chart**

  The simplest technique, a line plot, is used to plot the relationship or dependence of one variable on another. To plot the relationship between the two variables, we can simply call the plot function.



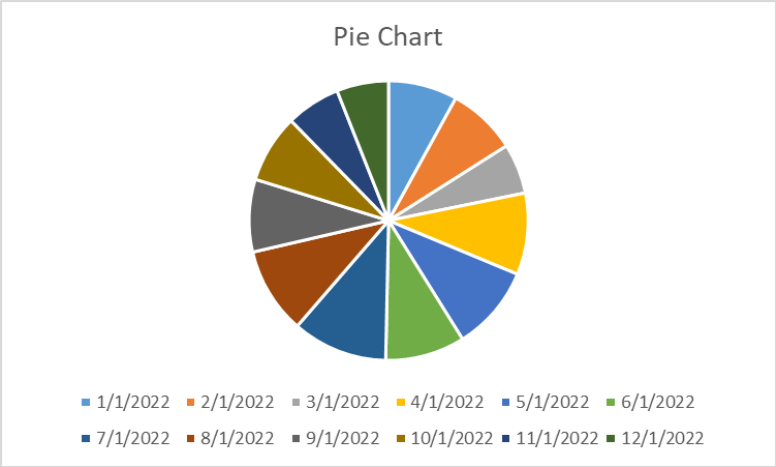
- **Bar Charts**

  Bar charts are used for comparing the quantities of different categories or groups. Values of a category are represented with the help of bars and they can be configured with vertical or horizontal bars, with the length or height of each bar representing the value.



- **Pie Chart**

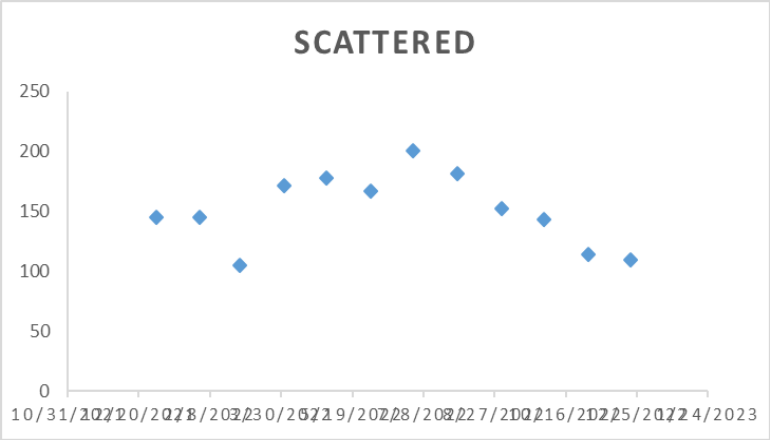
  It is a circular statistical graph which decides slices to illustrate numerical proportion. Here the arc length of each slide is proportional to the quantity it represents. As a rule, they are used to compare the parts of a whole and are most effective when there are limited components and when text and percentages are included to describe the content. However, they can be difficult to interpret because the human eye has a hard time estimating areas and comparing visual angles.



- **Scatter Charts**

  Another common visualization technique is a scatter plot that is a two-dimensional plot representing the joint variation of two data items. Each marker (symbols such as dots, squares and plus signs) represents an observation. The marker position indicates the value for each observation. When you assign more than two measures, a scatter plot matrix is produced that is a series scatter plot displaying every possible pairing of the measures that

are assigned to the visualization. Scatter plots are used for examining the relationship, or correlations, between X and Y variables.



- **Bubble Charts**

It is a variation of scatter chart in which the data points are replaced with bubbles, and an additional dimension of data is represented in the size of the bubbles.