

# Plottings

## 1. Scatter Plot

- **Use:**
  - Used to visualize the relationship between two continuous variables.
  - Helps identify correlations, trends, clusters, and outliers.

## 2. Line Plot

- **Use:**
  - Displays information as a series of data points connected by straight lines.
  - Ideal for showing trends over time or continuous data.

## 3. Histogram

- **Use:**
  - Used for visualizing the distribution of a single continuous variable.
  - Helps identify the frequency distribution, skewness, and potential outliers.

## 4. Bar Plot

- **Use:**
  - Displays the comparison of discrete categories or groups.
  - Useful for categorical data to show the frequency or mean values of categories.

## 5. Box Plot

- **Use:**
  - Used to display the summary statistics of a dataset (e.g., median, quartiles, outliers).
  - Helps understand the spread and skewness of data, and detect outliers.

## 6. Heatmap

- **Use:**
  - Used for visualizing complex data in matrix form, with color representing values.
  - Often used to visualize correlations between features or confusion matrices.

## 7. Pair Plot

- **Use:**
  - Used for visualizing the pairwise relationships between multiple features in a dataset.
  - Helps in detecting patterns or correlations between multiple variables.

## 8. Confusion Matrix

- **Use:**
  - Used in classification tasks to visualize the performance of a classification model.
  - Shows the counts of true positives, false positives, true negatives, and false negatives.

## 9. Violin Plot

- **Use:**
  - Combines aspects of box plot and KDE.
  - Shows the distribution of the data along with the density of values.

## 10. Swarm Plot

- **Use:**
  - A **swarm plot** is a type of scatter plot used to visualize individual data points, especially for categorical data, in a way that avoids overlap and provides a clear view of the distribution of data points.

## 11. KDE (Kernel Density Estimate) Plot

- **Use:**
  - Used to estimate the probability density function of a continuous random variable.
  - Provides a smoother alternative to histograms.

## 12. Count Plot

- **Use:**
  - A count plot is a type of bar plot used to show the counts (or frequencies) of occurrences of categorical data.
  - It is primarily used to visualize the distribution of a categorical variable.

## 13. Dist Plot

- **Use:**
  - The distplot function was used to plot the distribution of a continuous variable as both a histogram and a Kernel Density Estimate (KDE), or optionally a fitted distribution.

## 14. Displot

- **Use:**
  - **displot** are used for visualizing the distribution of a single continuous variable.