**MATPLOTLIB (Plotting library)**

**MATPLOTLIB IN PYTHON**

* Matplotlib is Python's primary plotting library.
* Widely used for data visualization.
* Fast and supports export to popular image formats.
* Enables creation of diverse plots like line graphs, scatter plots, histograms, and more.
* Capable of 3D charting.

**NEED OF MATPLOTLIB**

* Humans grasp visual representations better than textual data.
* Visualization aids in efficient data analysis and decision-making.
* Matplotlib is crucial for creating various plots and graphs in Python.

**WHAT IS DATA?**

Data refers to raw facts, figures, or information, often in the form of numbers, text, or multimedia

**TYPES OF DATA**

**Numerical Data:**

* Involves measurable quantities and is expressed with numbers.
* Examples include temperatures, ages, heights, and income.

**Categorical Data:**

* Descriptive and non-numeric information that is typically divided into categories.
* Examples include colours, gender, types of fruits, or opinions.

**NOTE**

**CHOOSING GRAPHS BASED ON TYPES OF DATA**

**IMPORTING MATPLOTLIB:**

import matplotlib.pyplot as plt

**2D Line plots**[**¶**](http://localhost:8888/notebooks/SESSION%2023%20-%20MATPLOTLIB.ipynb#2D-Line-plots)

* 2D line plots are used in bivariate analysis, specifically applied to two columns.
* They are suitable for cases where either both columns are numerical or one is categorical and the other is numerical. - - Generally, we use 2D line plots for scenarios such as time series data, for example, in stock market analysis or tracking a company's revenue.

