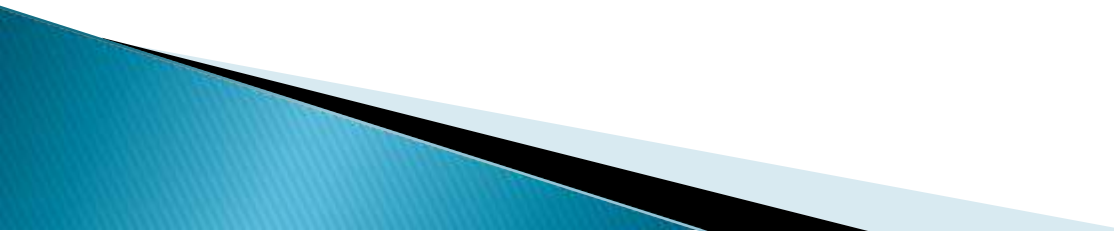# ARTIFICIAL INTELLIGRNCE CLASS–6☺

BY
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Data visualization

- Data Visualization is a concept of graphical representation of data or information using visual elements like graphs, charts, and maps. This representation helps us in understanding the patterns, trends, and outliers in the data and it makes data easily understandable and explainable.
- With the increase in the volume of data, discovering the patterns in data has become challenging. By making use of data visualization, a huge chunk of complex data can be displayed in a way that is easy to understand and is also appealing to the eyes.

How it looks?

- **Figure:** The Figure is the top-level container that acts as the window or page on which everything is drawn. It can contain multiple independent subplots, multiple Axes, a title, a legend, etc.
- **Axes:** The Axes are the area on which data is plotted. It can have labels or ticks associated with it. There can be multiple Axes in a figure. But a given Axes object can only be in one figure.

Single axes in a figure
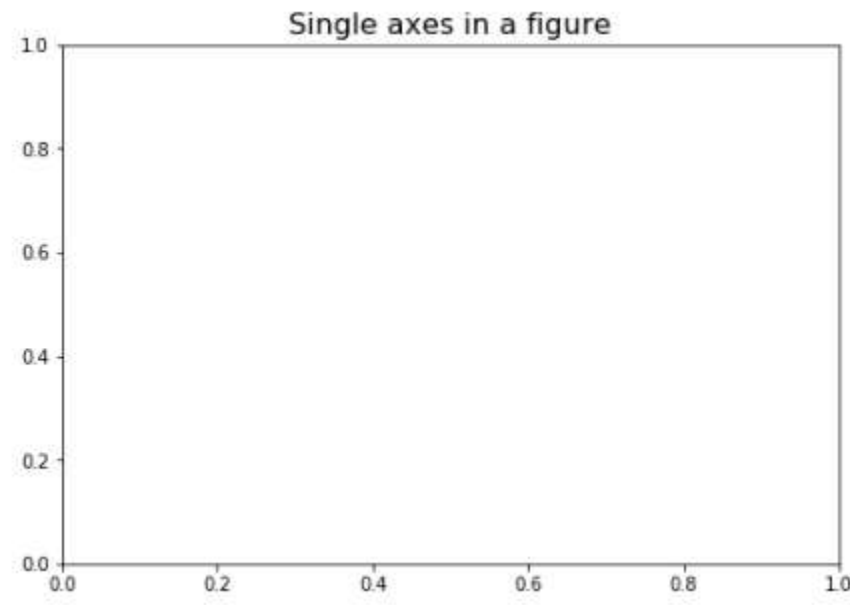
Multiple axes in a figure
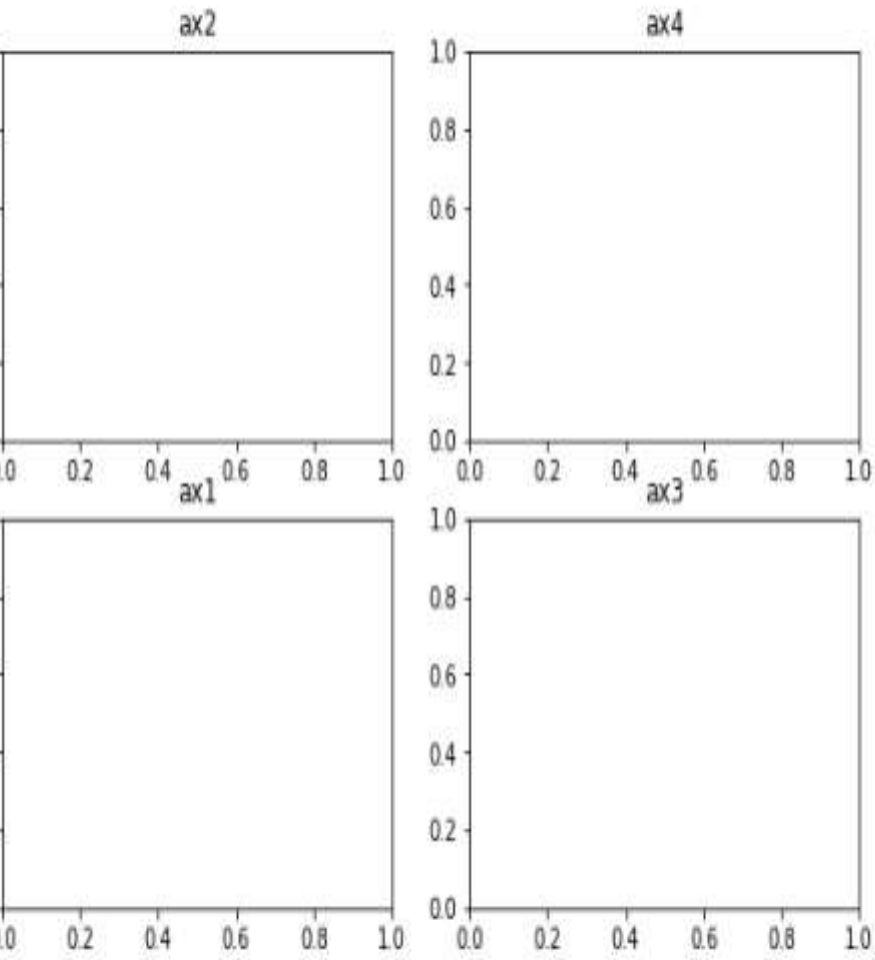
Plots in Multiple axes
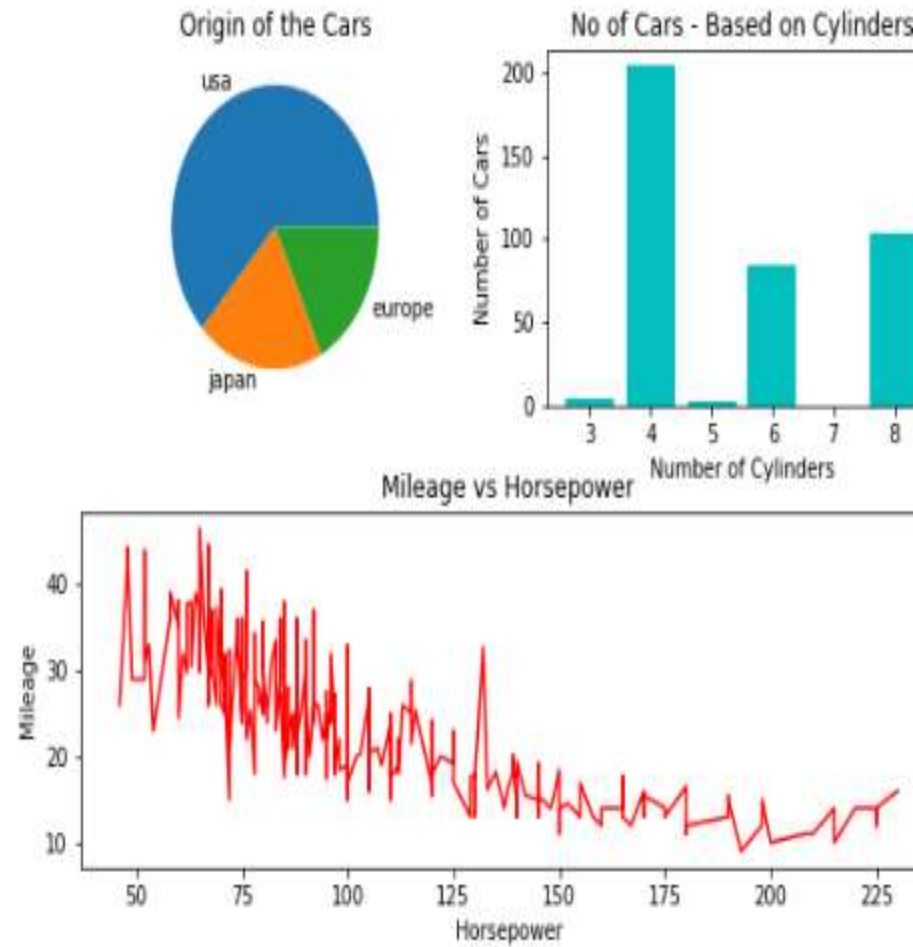
MATPLOTLIB

JOHN D HUNTER

IMPORTING

- *#importing the required packages*
- import matplotlib.pyplot as plt
- import numpy as np

PYPLOT

Pyplot is a sub-module of the matplotlib library for Python. It is a library consisting of a collection of functions/methods used for plotting simple 2D graphs using Python. Pyplot can be imported using import matplotlib.

TOPICS

1) PLOT
2) SHOW
3) POINT
4) MARKER,COLOUR,SIZE
5) LINESTYLE (LS,COLOR)
6) LINEWIDTH
7) TITLE,LABEL
8) GRID
9) SUBPLOT ,SUPTITLE
10) BARCHART
11) PIECHART(LABELS,STARTANGLE,SEPARATE)
12) HISTOGRAM