

Experiment - 1.4

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Semester: 5th

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Date of Performance: 14 /09/23

Subject Code:21CSH-316

Aim:

Implementation of Python Libraries for ML application such as Pandas and Matplotlib

Objective:

The objective of this experiment is to of Python Libraries for ML application such as Pandas and Matplotlib and analyze its performance and characteristics.

Algorithm

- **import matplotlib.pyplot as plt:** This line imports the matplotlib.pyplot module and assigns it the alias plt. This module contains functions that allow you to create various types of plots.
- **x = [1, 2, 3, 4, 5] and y = [10, 15, 7, 12, 9]:** These two lists define the x and y coordinates of the points that you want to plot.
- **plt.plot(x, y):** This line creates a line plot using the data from the x and y lists. It connects the points with straight lines.
- **plt.xlabel('X-axis') and plt.ylabel('Y-axis'):** These lines set labels for the x-axis and y-axis of the plot.
- **plt.title('Basic Line Plot'):** This line sets the title of the plot.
- **plt.show():** This line displays the plot you've created.

- **plt.scatter(x, y, color='red', marker='o', label='Data Points'):** This line creates a scatter plot using the x and y data. The color argument specifies the color of the data points (red), the marker argument specifies the marker style (circle), and the label argument sets the label for the legend.
- **plt.legend():** This line displays the legend on the plot, which shows the label you specified earlier.
- **plt.show():** This line displays the scatter plot.

Code

```
import matplotlib.pyplot as plt
```

```
x = [1, 2, 3, 4, 5]
```

```
y = [10, 15, 7, 12, 9]
```

```
plt.plot(x, y)
```

```
plt.xlabel('X-axis')
```

```
plt.ylabel('Y-axis')
```

```
plt.title('Basic Line Plot')
```

```
plt.show()
```

```
#scatter plot
```

```
plt.scatter(x, y, color='red', marker='o', label='DataPoints')
```

```
plt.legend()
```

```
plt.show()
```

Output

