Experiment - 1.4

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1. Aim:

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

2. 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.

3. 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.

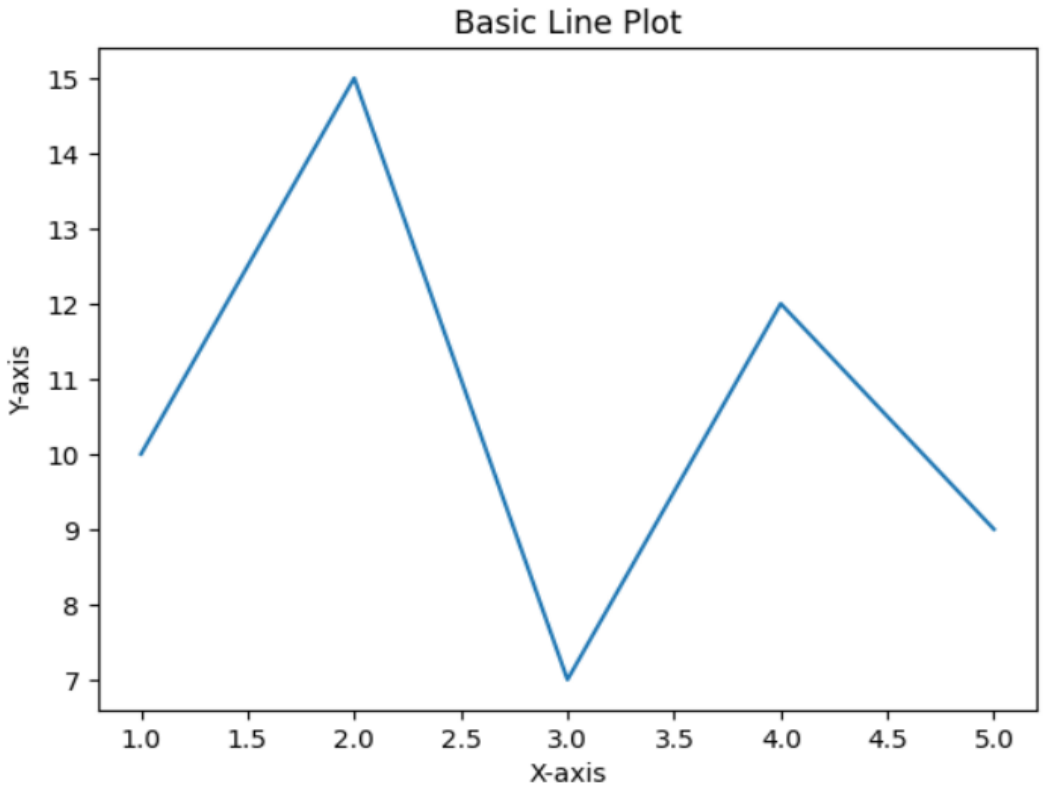
plt.legend(): This line displays the legend on the plot, which shows the label you specified earlier.

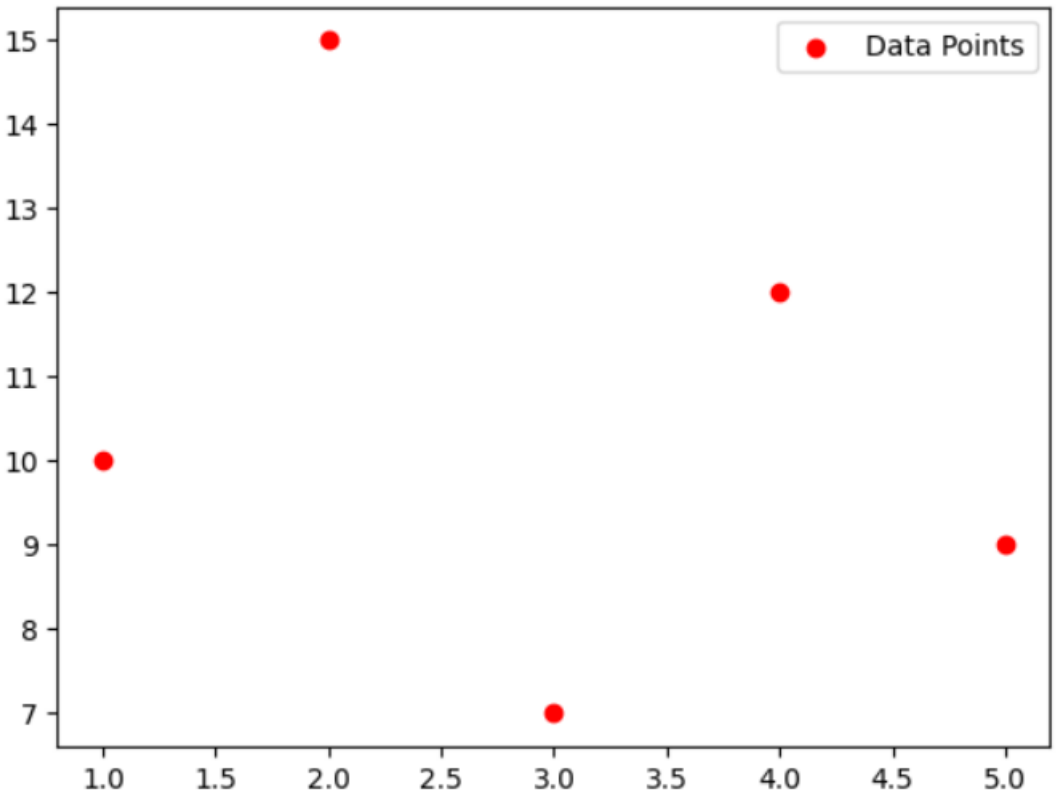
plt.show(): This line displays the scatter plot.

4. 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='Data
  Points')
plt.legend()
plt.show()
```

5. Output


Basic Line Plot
Y-axis
X-axis
15
14
13
12
11
10
9
8
7
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0


Data Points
15
14
13
12
11
10
9
8
7
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0