TASK 10: Use MatPlotlib module for plotting in Python

Aim: To use Matplotlib module for plotting in Python.

Problem 10.1: Write a Python Programming to display a bar chart of the popularity of Programming Languages

Sample data:
Programming languages : Java, Python, PHP, JavaScript, C#, C++,
Popularity : 22.2, 17.6, 8.8, 8, 7.7, 6.7.

Algorithm:
1. Define two lists for Programming languages and their popularity respectively.
2. Find the maximum popularity value in the list.
3. Define a scaling factor to scale the bar heights within a certain limit (e.g. 50 characters)
4. For each language and popularity pair, calculate the bar height as the popularity value scaled by the scaling factor.
5. Print the chart using a loop to iterate over the programming language list.

Program:

```
import matplotlib.pyplot as plt
languages = ['Java', 'Python', 'PHP', 'JavaScript', 'C++', 'C#']
popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]
plt.bar(languages, popularity, color='b')
plt.title('Popularity of Programming Languages')
plt.xlabel('Programming Languages')
plt.ylabel('Popularity')
plt.show()
```

Problem 10.2: Write a Python Programming to create a Pie chart of the Popularity of Programming Languages.

Sample data:

Programming languages: Java, Python, PHP, Java script, C#, C++.

Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

Algorithm:

1. Create a list of programming languages and popularity
2. Create a Pie chart using the matplotlib library.
3. Set the title and legend for the piechart.
4. Show the pie chart.

Program:

```
import matplotlib.PyPlot as plt
languages = ['Java', 'Python', 'PHP', 'Java script', 'C#', 'C++']
Popularity = [22.2, 17.6, 8.8, 7.7, 6.7]
plt.pie (Popularity, labels = languages, autopct = '%1.1f %%')
plt.title ('Popularity of Programming Languages')
plt.legend (languages, loc = "best")
plt.show()
```

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EX NO.	10
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	
TOTAL (20)	
SIGN WITH DATE	

Result: Thus the Python Program use MatPlotlib module for plotting is executed and verified Successfully.