Task-10: use matplotlib module for plotting in Python.

Aim: To use matplotlib module for plotting in Python

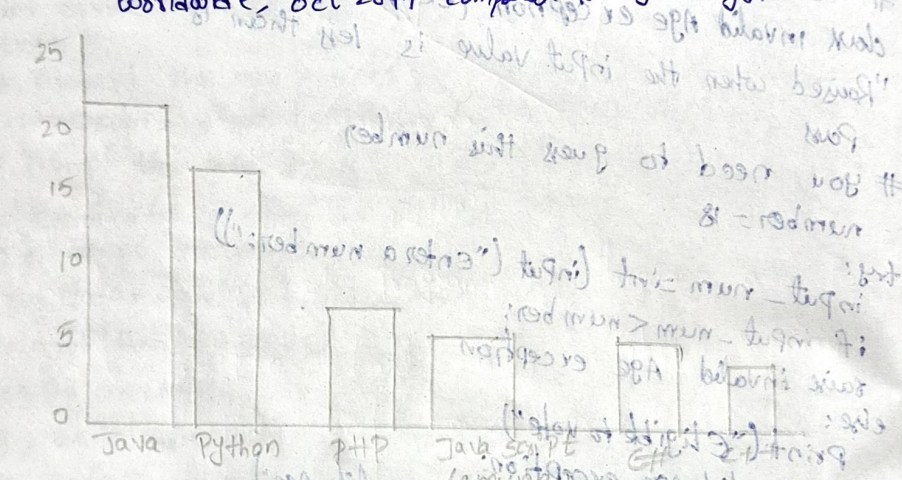
10.1: write a Python Programming to display a bar chart of the Popularity of Programming languages.

sample data:

Programming languages: Java, Python, PHP, Javascript, C#, C++

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

sample output:



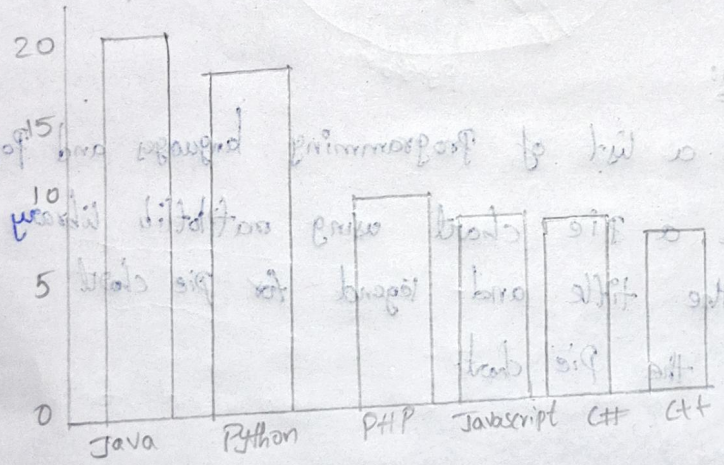
Algorithm:

1. Define two lists for programming languages and their popularity respectively.
2. Find the maximum popularity in list
3. Define a scaling factor to scale the bar heights within a certain limit
4. For each language and popularity pair.
5. Print chart.

Program:

```
# pip install matplotlib
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()
```

Output:



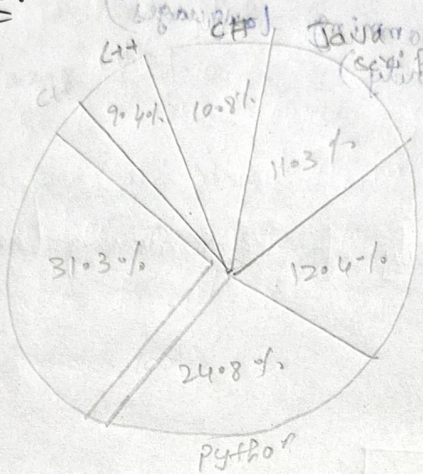
10.2 : write a Python programming to create a pie chart of the popularity of Programming languages.

Sample data:

Programming languages: Java, Python, PHP, Javascript, C#, C++

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

Sample output:



Algorithm:

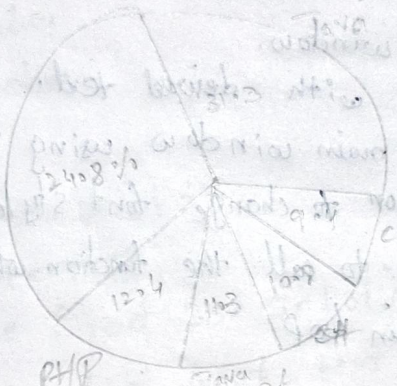
1. create a list of Programming languages and Popularity
2. create a pie chart using matplotlib library
3. set the title and legend for pie chart
4. show the pie chart.

Program:

```
import matplotlib.pyplot as plt
# step 1
languages = ('Java', 'Python', 'PHP', 'Java script', 'C#', 'C++')
Popularity = [22.2, 17.6, 8.8, 7.7, 6.7]
#step2
plt.Pie (Popularity, labels = languages, autopct = '%1.1f%%')
```

```
# step 3
plt.title ('Popularity of Programming Languages')
plt.legend (languages, loc = 'best')
# step 4
plt.show()
```

Output:



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PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	
RECORD (5)	15
TOTAL (20)	
SIGN WITH DATE	

Result:

Thus the Python Program use matplotlib module for Plotting is executed and Verified successful.