Task 10:- use Matplotlib module for plotting in python

Aim:- To use Matplotlib module for plotting in python

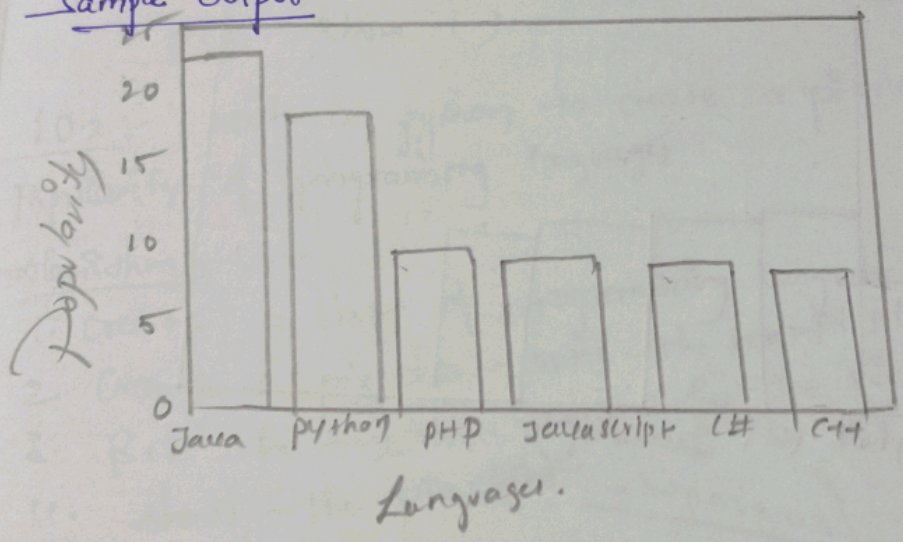
Problem 10.1:- write a python programming to display a bar chart of the popularity of programming languages.

Sample data:

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

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

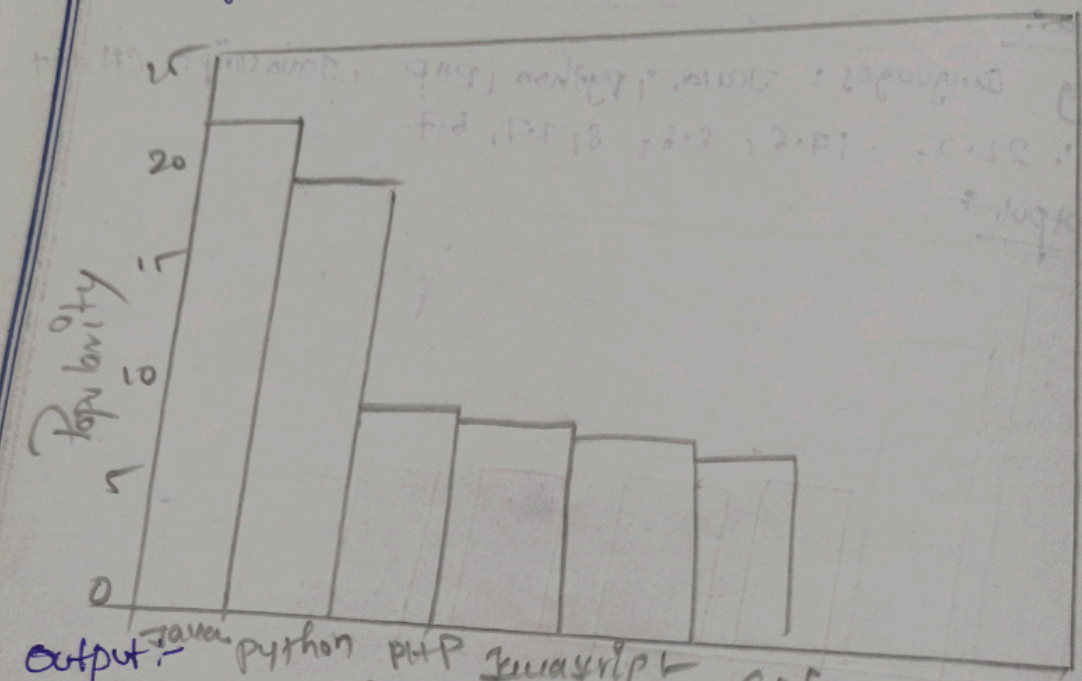
Sample output:



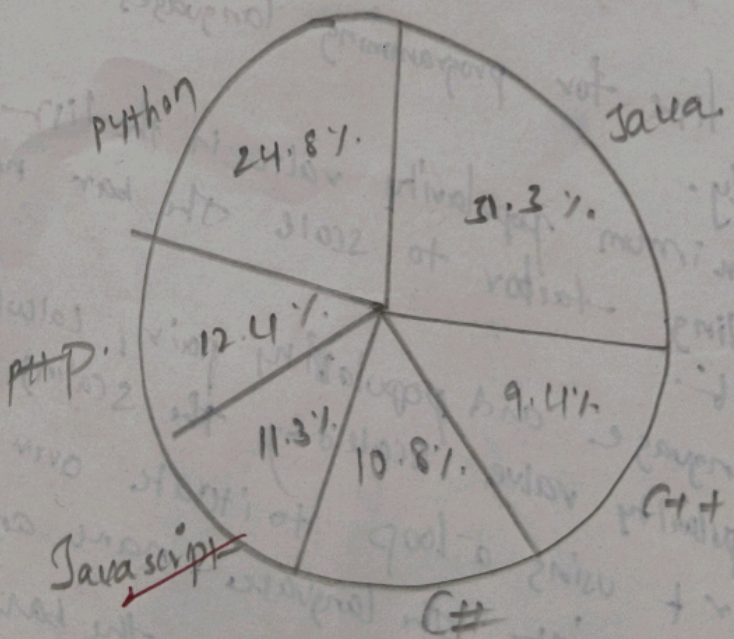
Algorithm:-

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.
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 a. print the language name and separator character b. use a loop to print the bar chart by printing.

Output:-



Output:-



Program:-

```
import matplotlib.pyplot as plt
languages = ['Java', 'python', 'PHP', 'Javascript', 'C#', 'C++']
popularity = [22.2, 17.6, 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 ()
```

10.2:- write a python to create a pie chart of the popularity of programming languages

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 pie chart
4. show the pie chart.

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.pie (popularity, labels = languages, autopct = '%.1f%%')
plt.title ('popularity of programming languages')
plt.legend (languages, loc = "best")
plt.show ()
```

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

Result:- Thus the python program using matplotlib module for plotting is executed and verified successfully.