

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#

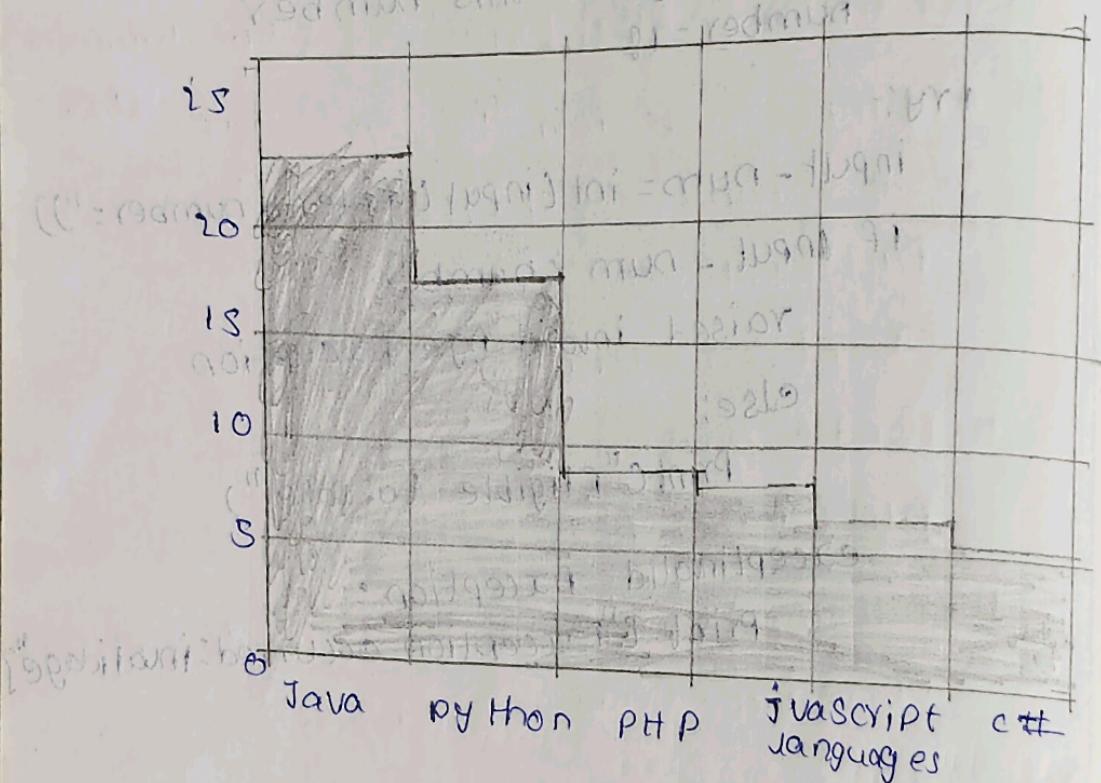
Popularity:- 22.2, 17.6, 88.8, 8, 7.7, 6.7,

Algorithm:-

- 1) Define two lists for Programming language 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 heights as the popularity value scaled by the scaling factor.
- 5) Print the character using loop to iterate over the programming language list: a) Print the language name and a separator character (e.g. ",") b. Use a loop to print the bar height c) Print the popularity value with a separator character d. Print a newline character.

5200

Sample output:-



AER-TECH	
1. AER-TECH (1)	2. AER-TECH (2)
3. AER-TECH (3)	4. AER-TECH (4)
5. AER-TECH (5)	6. AER-TECH (6)
7. AER-TECH (7)	8. AER-TECH (8)

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()
```

Problem 10.2 :- write a python program to create a pie chart of the popularity of Programming languages.

Sample data:-

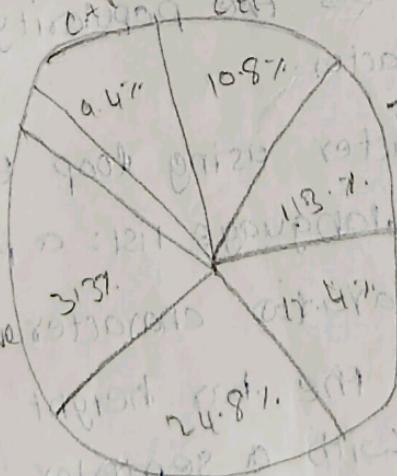
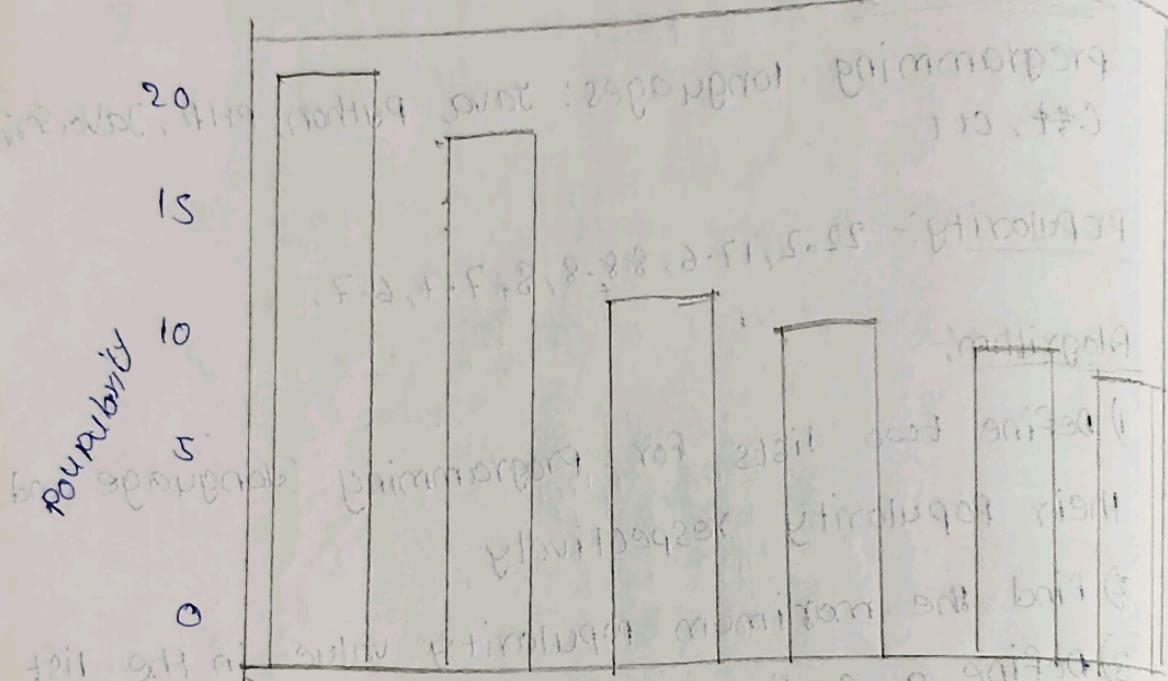
Programming language: Java, Python, PHP, JavaScript, C#, C++

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 pie chart
- 4) Show the pie chart

Output:



Program

```
import matplotlib.pyplot as plt  
# Step 1  
language = ['Java', 'Python', 'PHP', 'JavaScript', 'C++', 'C']  
popularity = [22.2, 17.8, 8.8, 8.7, 7.7, 6.7]  
# Step 2  
plt.pie(popularity, labels = language, autopct = '%.1f%%')  
# Step 3  
plt.title('Popularity of programming languages')  
plt.legend(loc = "best")  
# Step 4  
plt.show()
```

V.L.T.C.	
EX No.	
PERFORMANCE (5)	
RESULT AND ANALYSIS (5)	
VIVA VOCE (5)	
PIE CHART (5)	
FINAL (20)	
SIGN WITH DATE	

Result- Thus the python program use program use matplotlib module for plotting is executed and verified successful.