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 language

Sample data:-

Programming Language :- Java, Python, PHP, Java Script, C#, C++ popularity 22.2, 17.6, 8.8, 8, 7.7, 6.7.

Algorithm

1. Define two list 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

(eg: 50 characters)

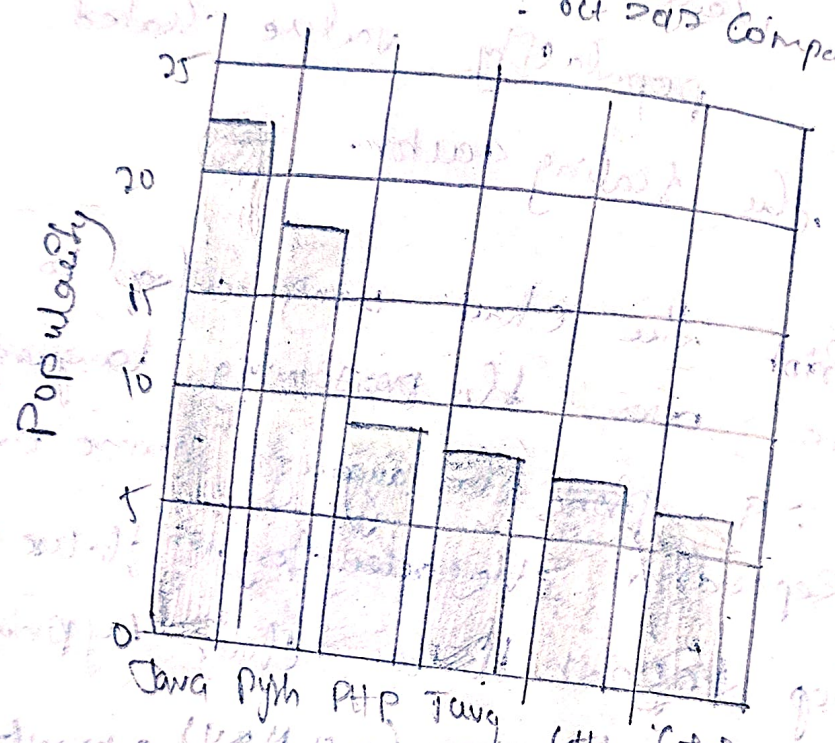
4. for each language and popularity pair, calculate the bar height as the popularity value scaled by the scaling factor.

5. Print the chart using a loop to iterate over the programming language list: a. print the language name and a separator character (eg: ":") b. use a loop to print the bar chart by printing the bar character (e.g "#") a number of times equal to the bar height c. print the popularity value with a separator character d. print a newline character.

Program:

```
# pip install matplotlib.
import matplotlib.pyplot as plt.
language = ['Java', 'python', 'PHP',
            'Javascript', 'C#', 'C++']
Popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]
```

output

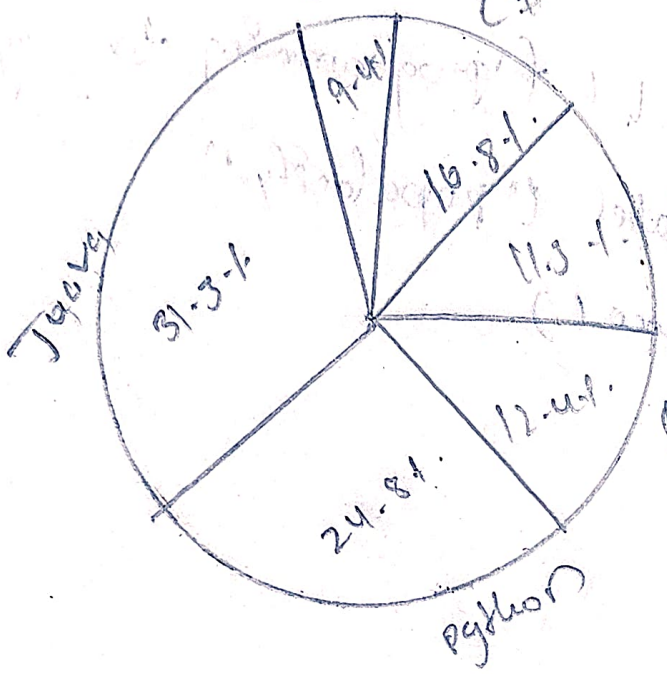

Popularity of programming languages worldwide - 04 2015 compared year
25
20
15
10
5
0
Popularity
Java
Pyth
PHP
Java Script
C#
C++

```
plt.bar(language, popularity, color='b')
plt.title('popularity of programming
          language')
plt.xlabel('programming languages')
plt.ylabel('popularity')
plt.show()
```

Result:- Thus the Python Program is matplotlib module for plotting in Python is successfully executed

Diagram

Popularity of Programming Language



Problem 10.2 write a python programming to create a pie chart of the popularity of programming language.

Aim:- To use create a pie chart of the popularity python program.

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.
# step)
languages = ['Java', 'python', 'PHP', 'Java
    Script', 'C#', 'C++']
popularity = [22.2, 17.6, 9.8, 8.3, 7.1, 6.1]
```

```
# Step2
plt.pie(popularity, labels=languages,
        autopct='%1.1f%%')

# Step3
plt.title('Popularity of programming
          languages')
plt.legend(languages, loc="best")
# Step4
plt.show()
```

VEL TECH - CSE	
EX NO.	10
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TOTAL (15)	
SIGN WITH DATE	

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