

## Task 10 :- use Matplotlib module for plotting in Python.

Aim:- To use matplotlib module for plotting in Python.

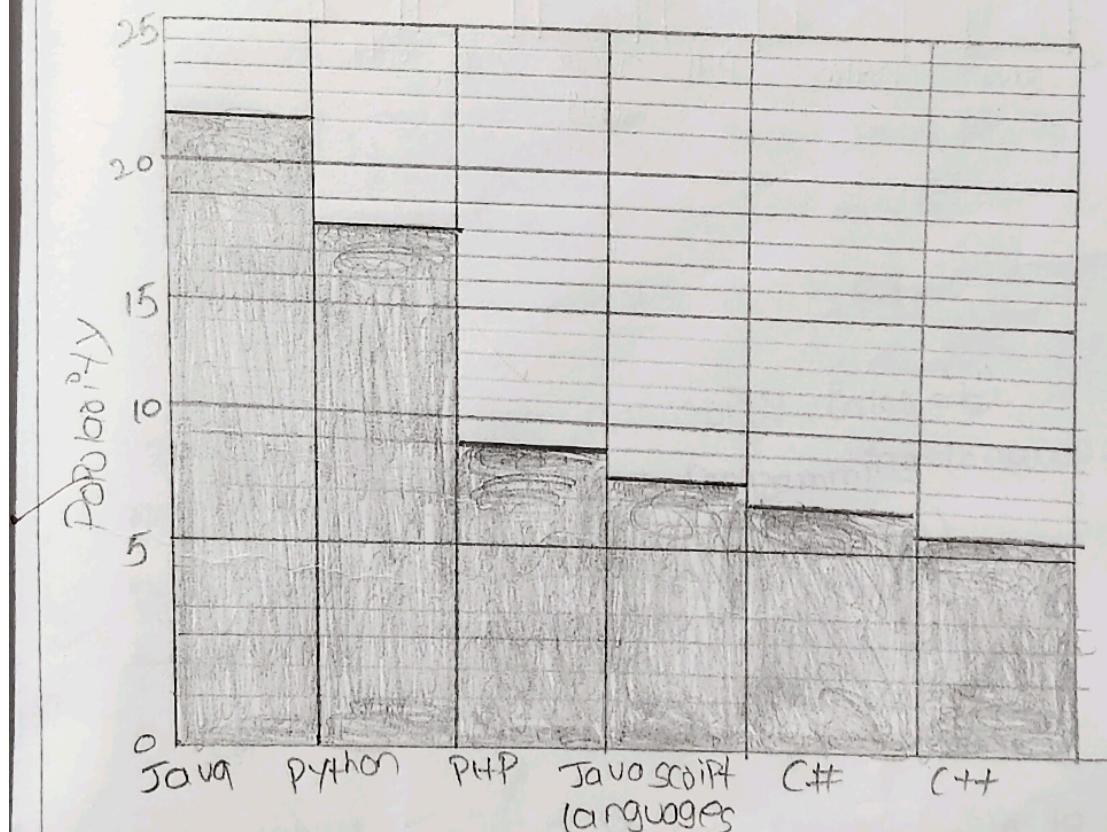
Problem 10.1 :- write a Python Programming to display a bar chart of the Popularity OF Programming Languages.

Sample data :-

Programming languages : Java, Python, PHP, JavaScript,

C#, C++

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

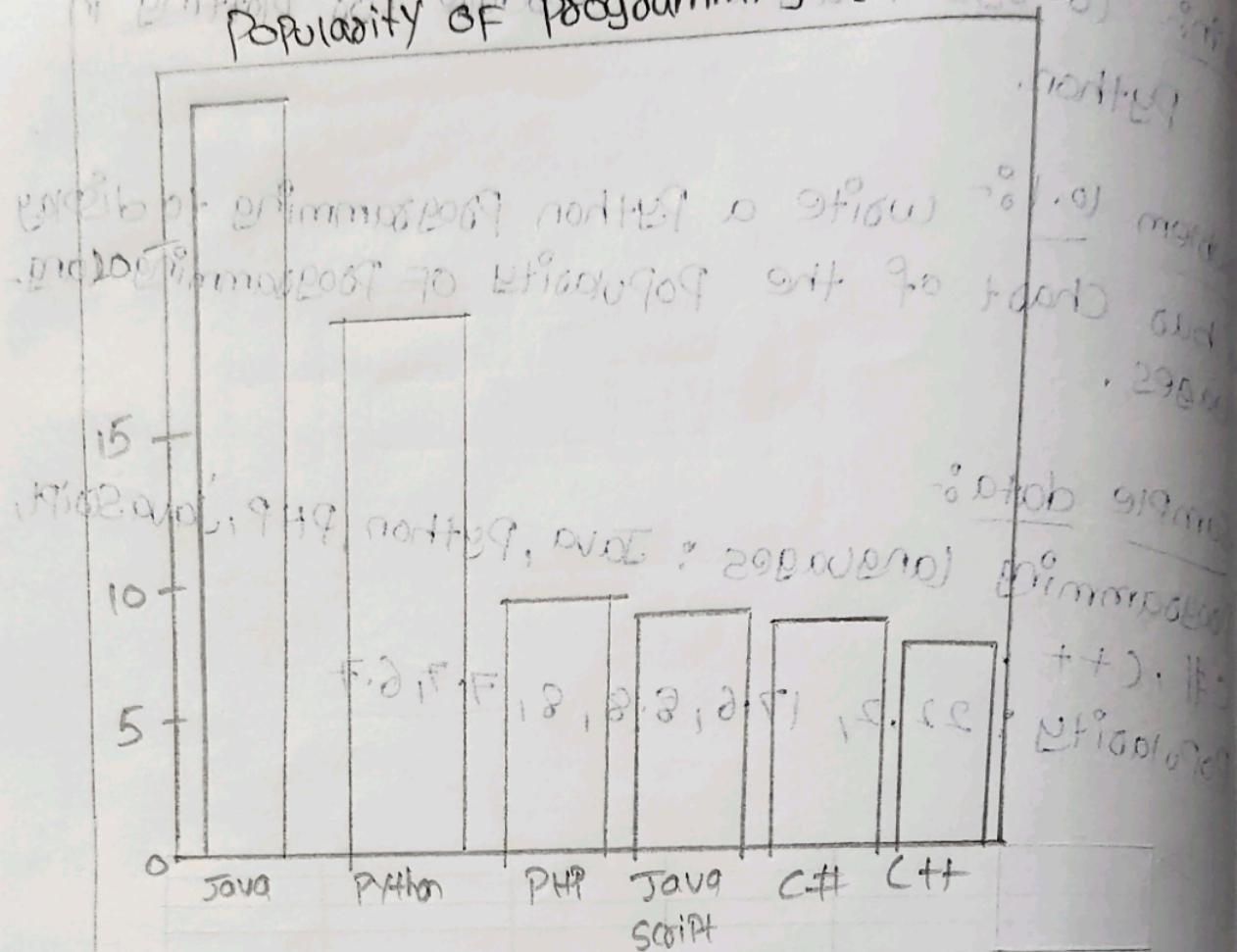


Algorithm :-

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)

Output :-

## Popularity of Programming Languages



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 (e.g. "|")

b. Use a no. of times equal to 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
```

```
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()
```

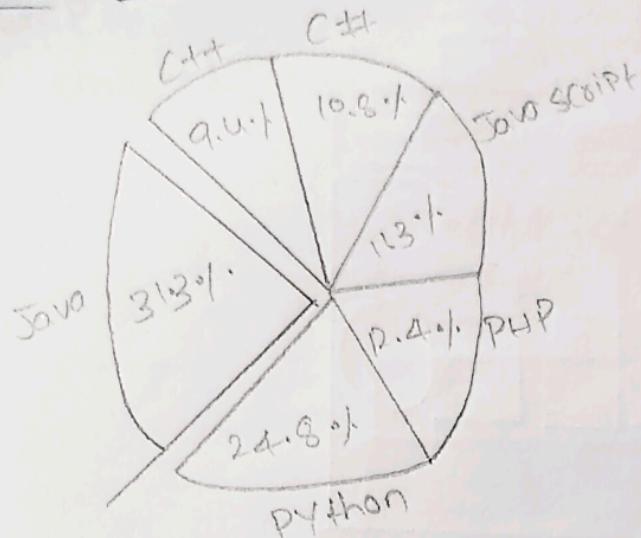
Problem 10.2 :- Write a Python program to create a pie chart of the popularity of programming languages.

Sample data :-

Programming 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 & 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 1

```
languages = ['Java', 'Python', 'PHP', 'JavaScript', 'C#',  
            'C++']
```

```
Popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]
```

# STEP 2

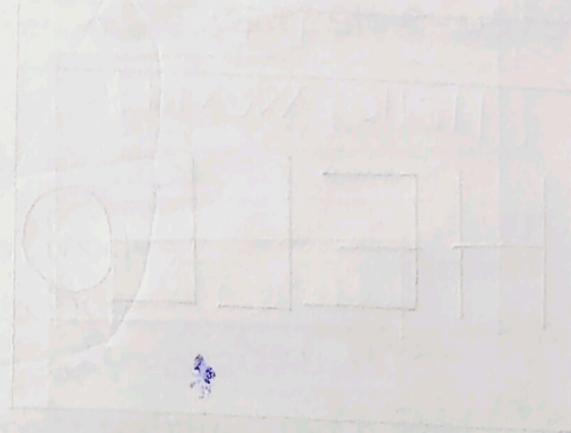
```
plt.pie(Popularity, labels=languages, autopct='%.1f %')
```

# STEP 3

```
plt.title('Popularity of Programming Languages!')
```

plt.legend (languages, loc="best")

#STEP 4  
plt.show ()



VEL TECH	
TX NO.	10
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	20
SIGN WITH DATE	15/10

15/10

Result: Thus the program use matplotlib module for plotting is executed and verified successfully.