Task 10 - Use Matplotlib module for plotting in python
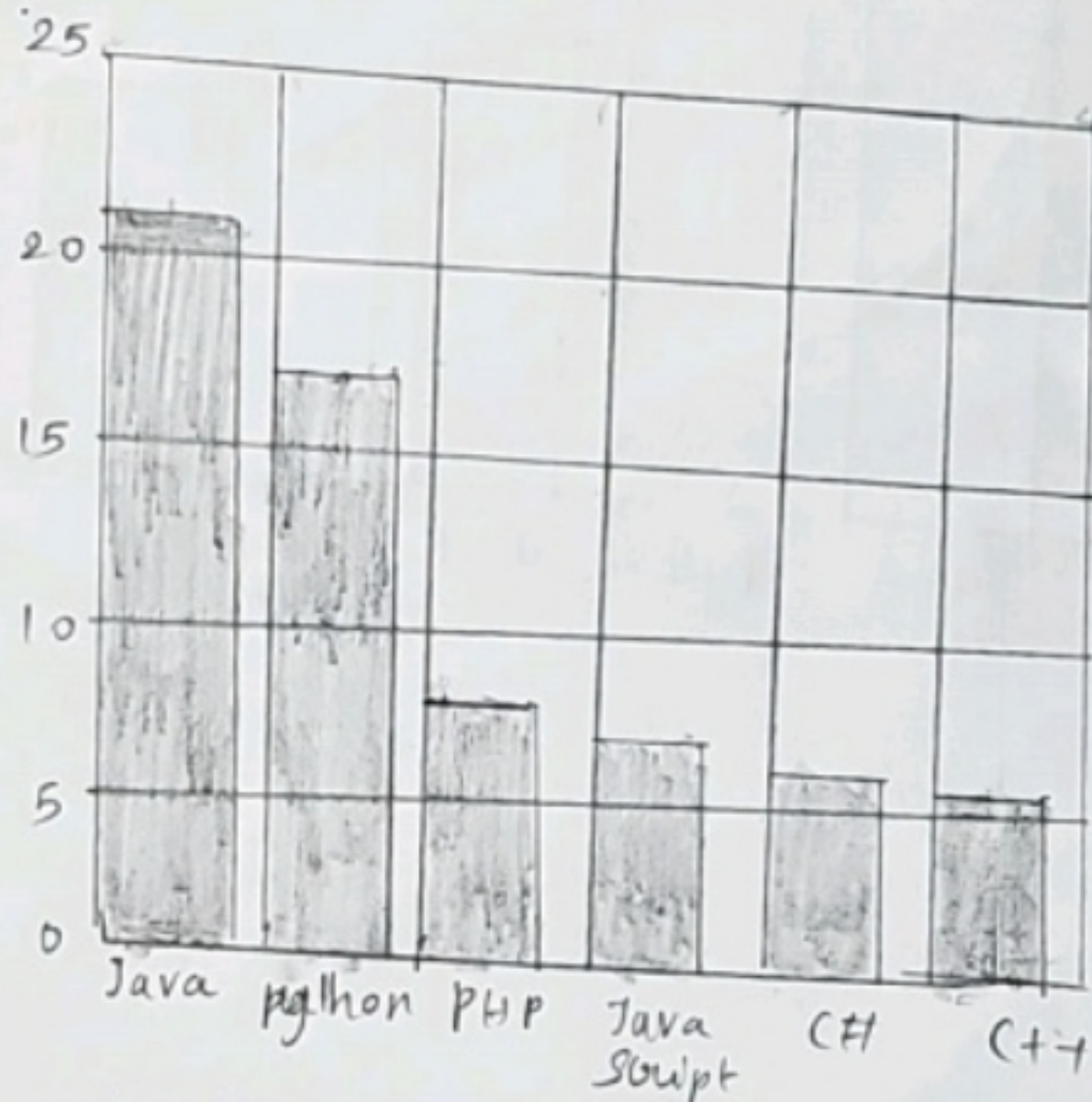
AIM :-

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 language : Java, Python, PHP, JavaScript, C#
Popularity : 22. 2, 17. 6, 8.8, 8.7, 7.7, 6.7

Sample output :

ALGORITHM :-

1. Define 2 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 bars 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.

PROGRAM:-

```
#Pip install matplotlib
import matplotlib.pylot as plt
languges = ['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()
```
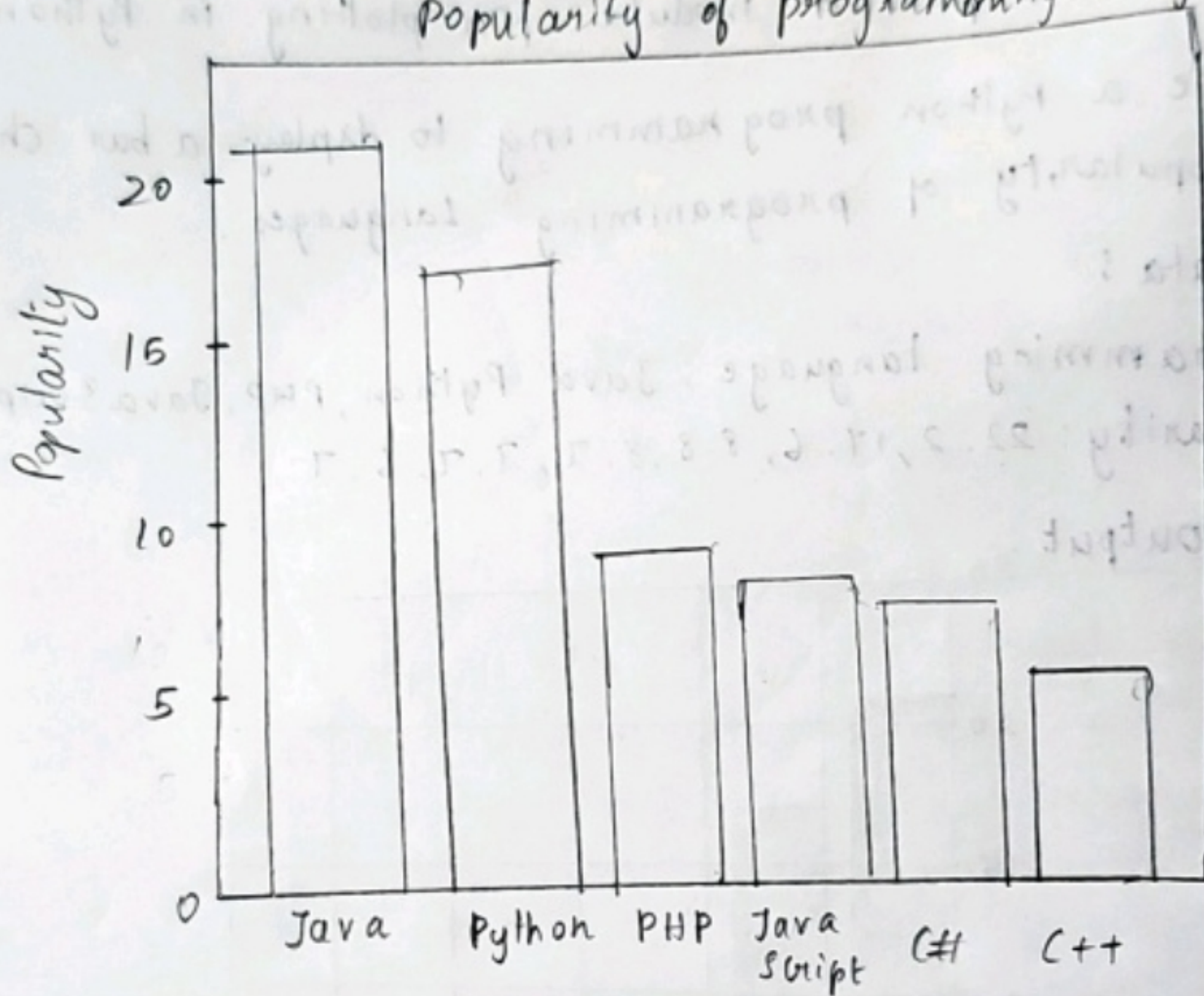
Output :-

Popularity of programming Languages.

A bar chart with y-axis labeled "Popularity" (marked at 5, 10, 15, 20) and x-axis showing programming languages: Java, Python, PHP, Java Script, C#, C++
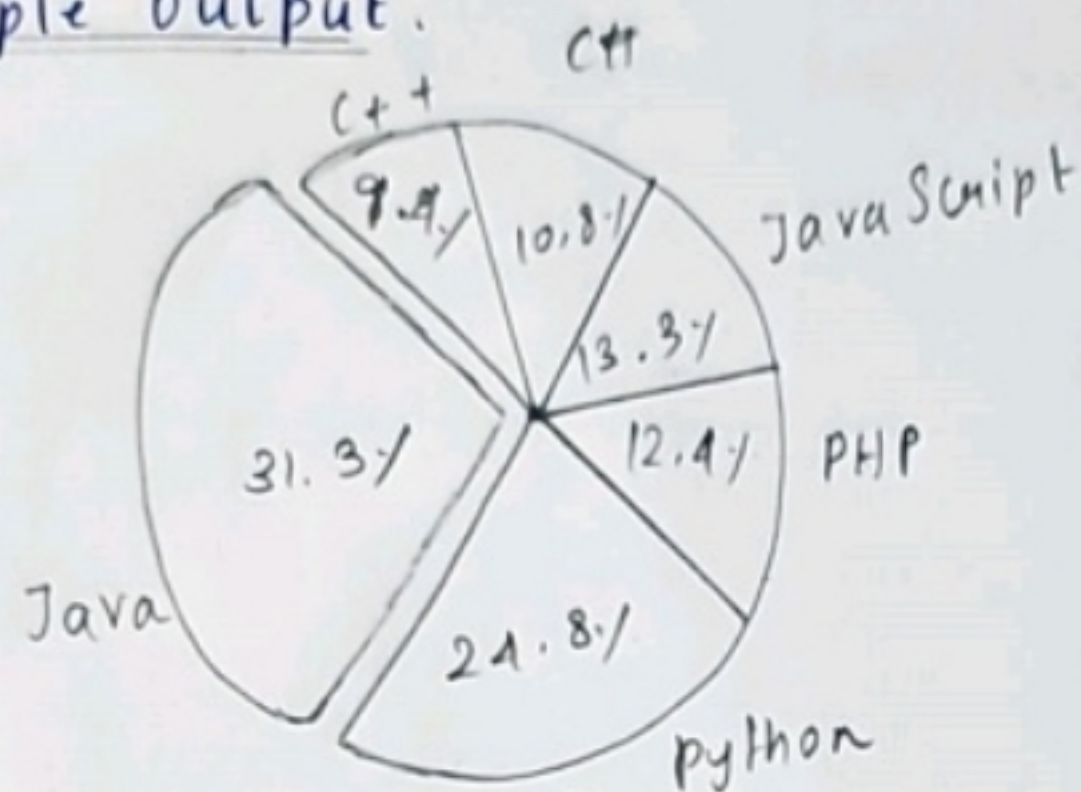
Prob 10.2) write a python programming to Create a pie
chart of the popularity of programming Languages.
Sample data: Programming lang: Java, Python, PHP, Java Script, C#, C++
    Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

Sample output:

ALGORITHM:

1. Create a list of programming Languages and popularity.

2. Create a pie chart using the matplolib library
3. Set the title and legend for the pie chart
4. Show the pie chart

PROGRAM :- import matpoltib.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 = '%1.1f%%')
plt. title ('Popularity of programming Languages')
plt. Show ()
```

RESULT:-

Thus the python program use Matplottib module
for plotting is executed and verified successfully

<u>Output:-</u>

popularity of programming Languages

Python 24.8%

Java 31.3%

C++ 9.4%

C# 10.8%

Java Script 11.3%

PHP 12.4%