Date: 8/10/25

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 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).
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 loop to print the barchart 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

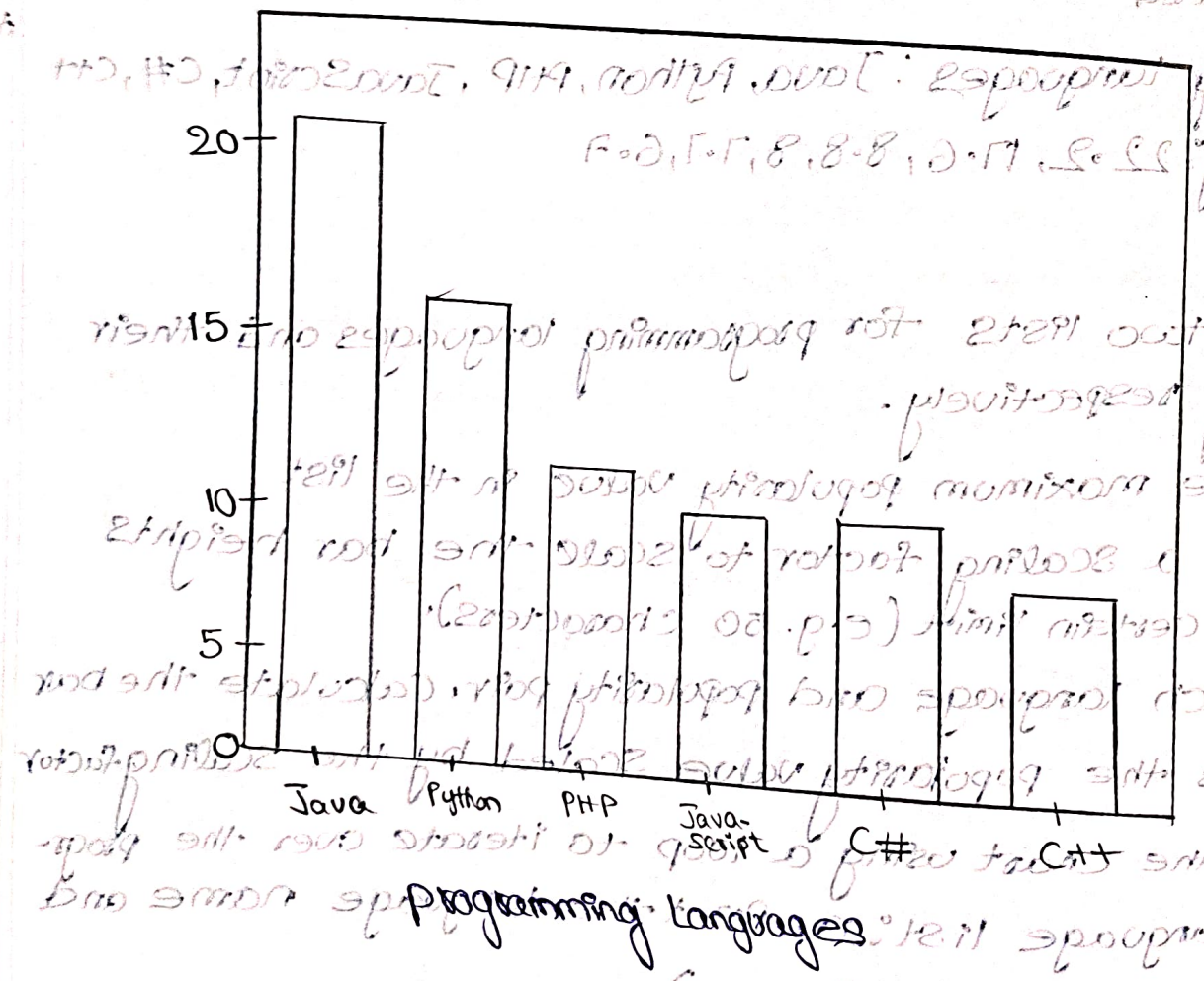
```
# Pip install matplotlib
    import matplotlib.pyplot as plt

    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()
```

output :- Popularity of programming languages



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

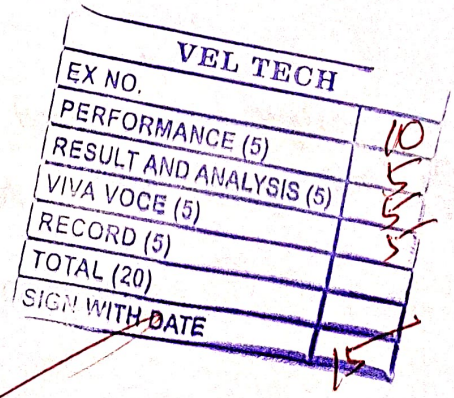
Aim: write a python programming to create a pie chart of the popularity of programming languages.

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.

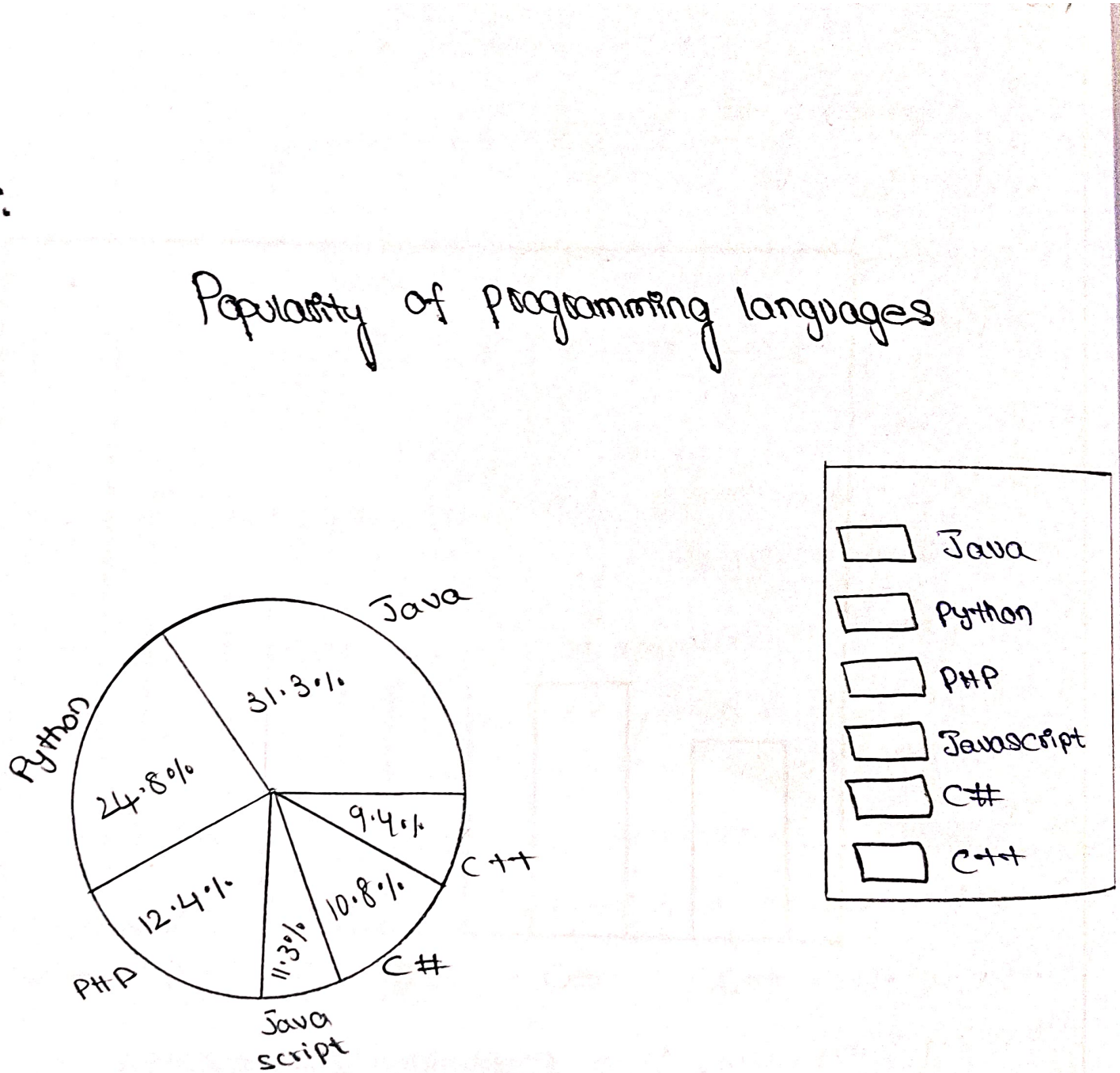
Program:

```
import matplotlib.pyplot as plt.
# Step1
languages = ['Java', 'Python', 'PHP', 'Javascript', 'C#', 'C++']
Popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]
# Step2
plt.pie (Popularity, labels = languages, autopct = '%.1.1f%%')
# Step3
plt.title ('Popularity of programming languages')
plt.legend (languages, loc = "best").
# Step 4
plt.show()
```



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

output:


Popularity of Programming Languages
Java
Python
PHP
Javascript
C#
C++
Java
31.3%
Python
24.8%
9.4%
C++
12.4%
10.8%
11.3%
PHP
C#
Java script