Task 10: Use matplotlib module for plotting in python

aim: To use matplotlib 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, 7.7, 6.7

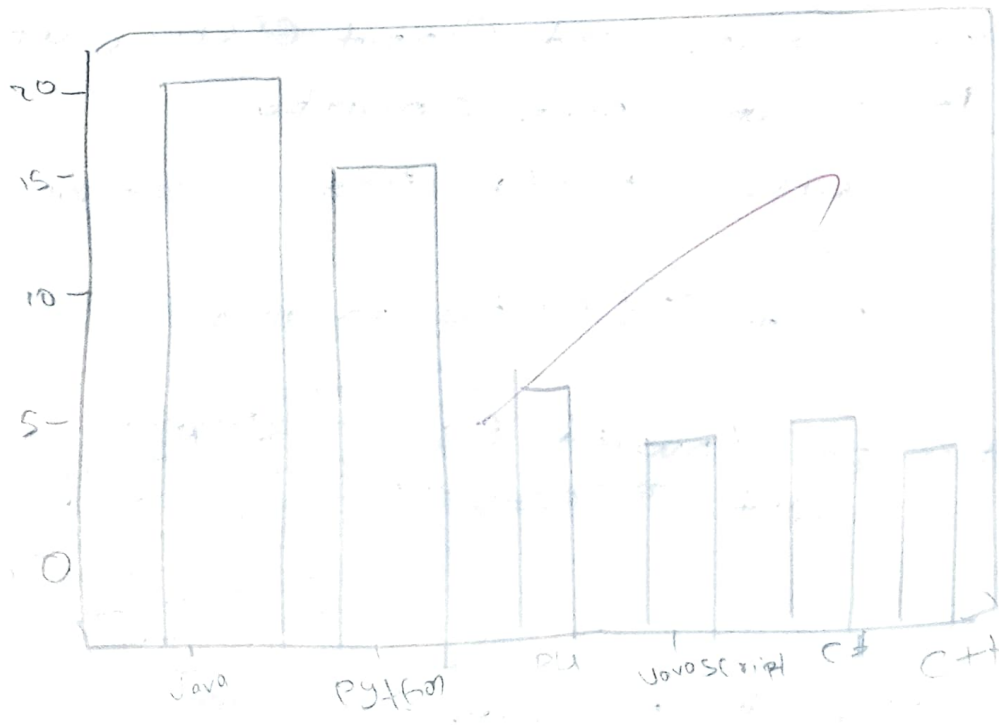
Sample Output: (Algorithm):

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 with in 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: a. print the language name and a separator character (e.g. "|") b. use a loop to print the bar chart by printing the bar character (e.g. "*")

Program:-

```
# pip install matplotlib
import matplotlib.pyplot as plt
languages = ['Java', 'Python', 'PHP',
             'JavaScript', 'C#', 'C++']
popularity = [22.2, 17.6, 8.8, 7.7, 6.7]
plt.bar(languages, popularity, color='g')
plt.title('Popularity of programming
           Languages')
plt.xlabel('Programming Languages')
plt.ylabel('Popularity')
plt.show()
```

Output:-



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

Sample data:

programming languages: Java, python, PHP, Java Script, C#, C++

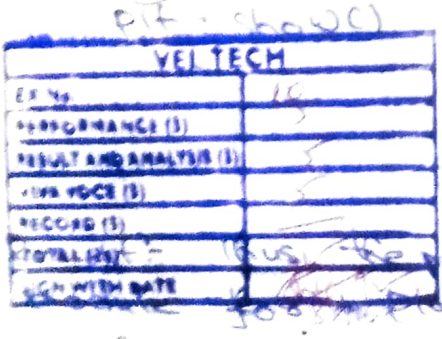
popularity : 22.2, 17.6, 8.8, 7.7, 6.7

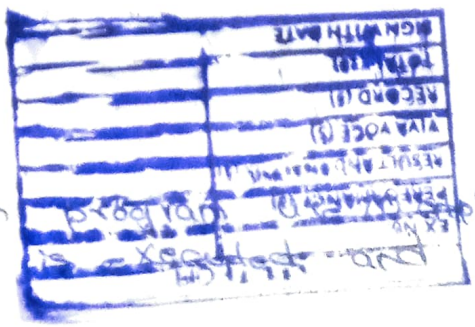
Algorithm:

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

Program:

```
import matplotlib.pyplot as plt

# Step1
languages = ['Java', 'python', 'PHP', 'Java Script', 'C#', 'C++']
popularity = [22.2, 17.6, 8.8, 7.7, 6.7]

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

# Step3
plt.title('Popularity of programming Languages')
plt.legend(Language s, loc = "best")

# Step4
plt.show()
```





Thus the python program is executed and verified successful.

output :-

Popularity of Programming Languages