

Task 10 :- Use Matplotlib module for plotting in python

Aim :- TO use Matplotlib module for plotting in python.

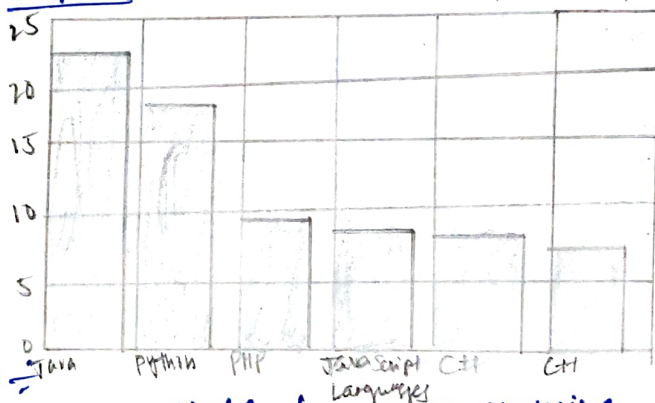
Problem 10.1 :- Write a python programming to display a bar chart of the popularity of programming Languages.

Sample data :

Programming languages: Java, Python, PHP, JavaScript, C#, C++

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

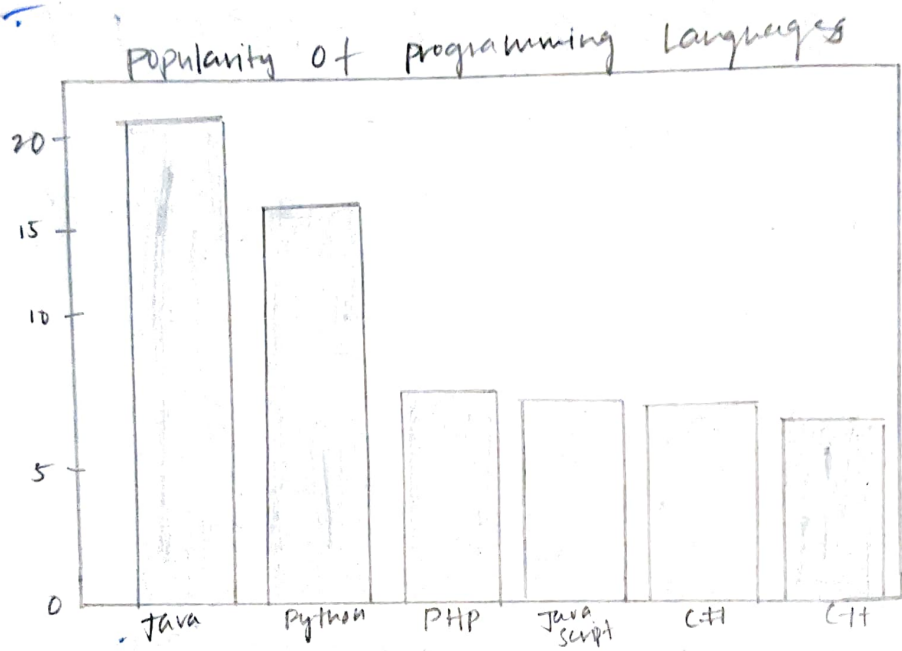
Sample output :- popularity of programming language



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.
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 separator character b. use a loop to print the bar chart by printing.

Output:



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()
```

10.2 :- Write a python 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

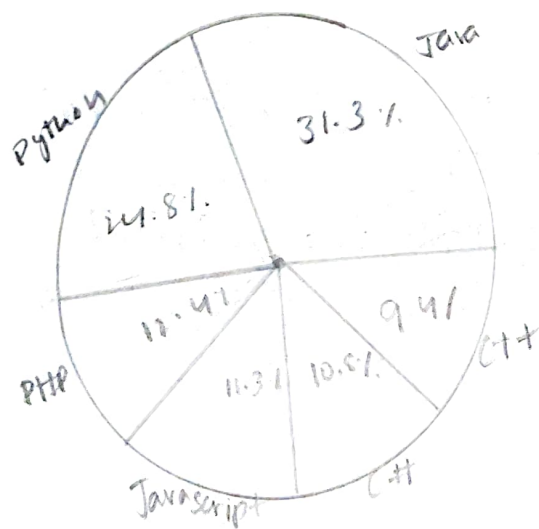
Sample output :-

Algorithm :-

1. create a list of programming languages and popularity.
2. create a pie chart using the matplotlib library.

Output:-

Popularity of programming Language



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='%1.1f%%')
```

Step 3

```
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 successful.

VELTECH	
Ex No.	
PERFORMANCE (5)	10
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	20
SIGN WITH DATE	8/10