

27-09-25

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, Java Script, C#, C++

Popularity: 22.2, 12.6, 8.8, 8, 7.2, 6.2

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 (eg..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 : q.
- Print the language name and a separator character (eg. "|") b. use q loop to print the bar chart by the printing the bar character.
d. Print a newline character.

Program:

```
# PIP install matplotlib
```

```
import matplotlib.pyplot as plt
```

```
languages = ['Java', 'Python', 'PHP', 'Java Script', 'C#', 'C++']  
popularity = [22.2, 12.6, 8.8, 8, 7.2, 6.2]
```

```
plt.bar(languages, popularity, color='b')
```

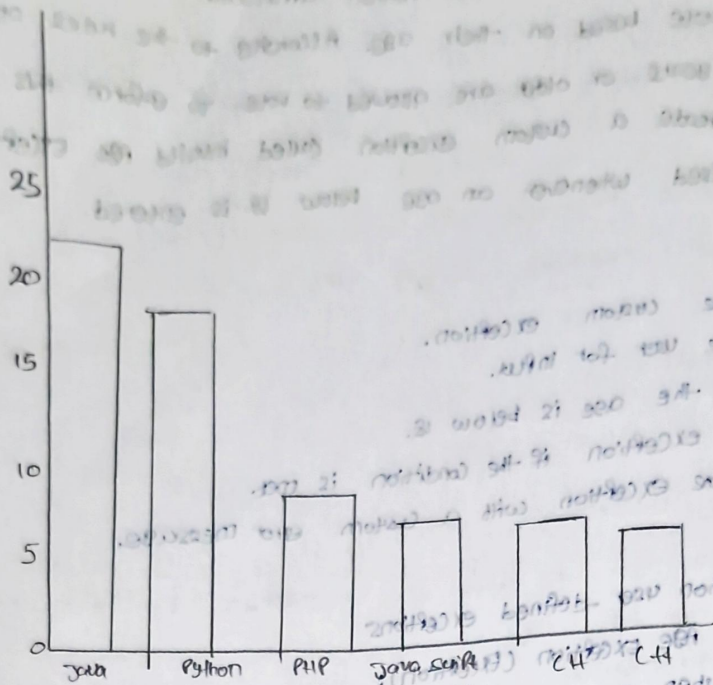
```
plt.title('Popularity of programming languages')
```

```
plt.xlabel('Programming Languages')
```

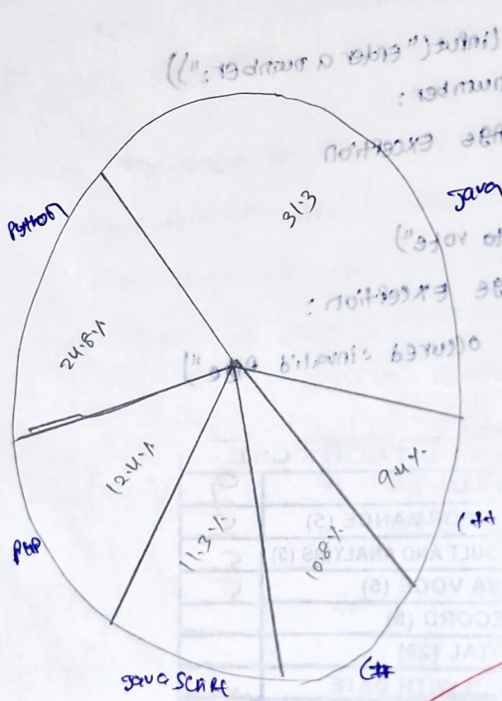
```
plt.ylabel('Popularity')
```

```
plt.show()
```

sample output:

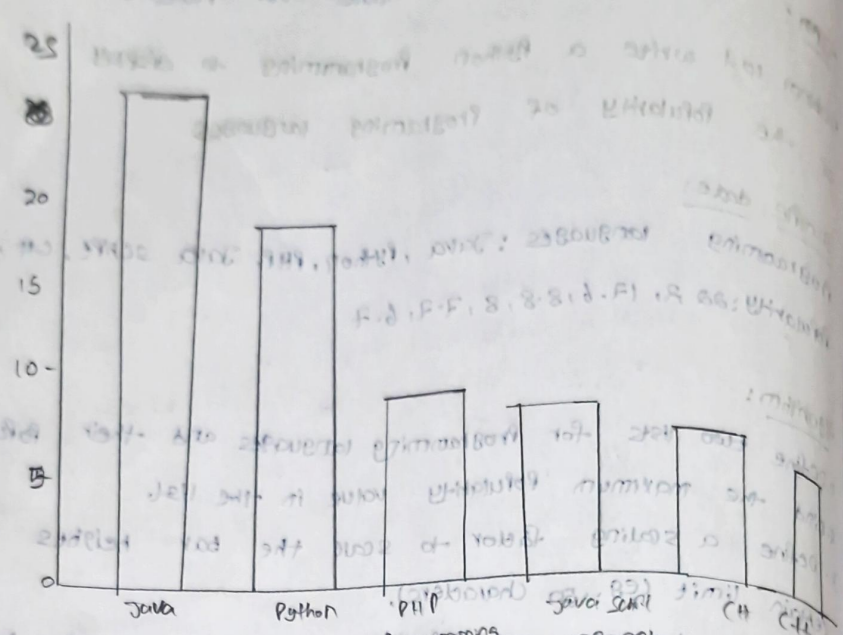


Popularity of programming language world wide
Oct 2019 compared to a year ago, been up to number = 18

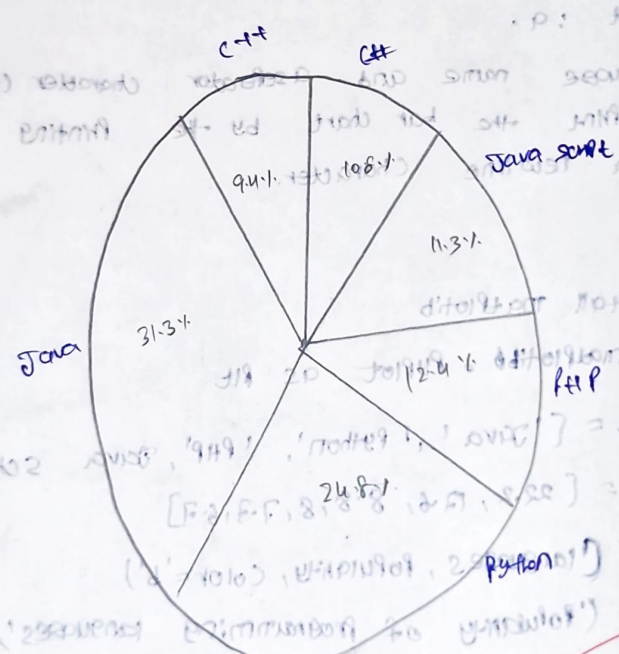


popularity of programming language

Chart:



Programming Language



10.8 write a program 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, 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
```

Step 1 :

```
languages = ['Java', 'Python', 'PHP', 'Java script', '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()
```

L. TECH - CSE	
EX NO.	10
PERFORMANCE (5)	8
RESULT AND ANALYSIS (5)	3
VIVA VOCE (5)	5
RECORD (5)	
TOTAL (20)	
SIGN WITH DATE	12

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