Task :- 10

Task : 10 : use matplotlib module for plotting in python.

Aim :- To use matplotlib module for plotting in python.

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. Point the chart using a loop to iterate over the programming language list :

a. Print the language name and a separator character
b. Use a loop to print the bar chart 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',
'Java Script', 'C#', 'C++']

Popularity = [22.2, 17. 6, 8.8, 8, 7.7, 6.7]

Plt. bar (languages, popularity, colour = 'b')
Plt. title ('Popularity of programming languages')
Plt. xlabel (' programming languages')
Plt. ylabel (' popularity )

Plt. shaol()
```
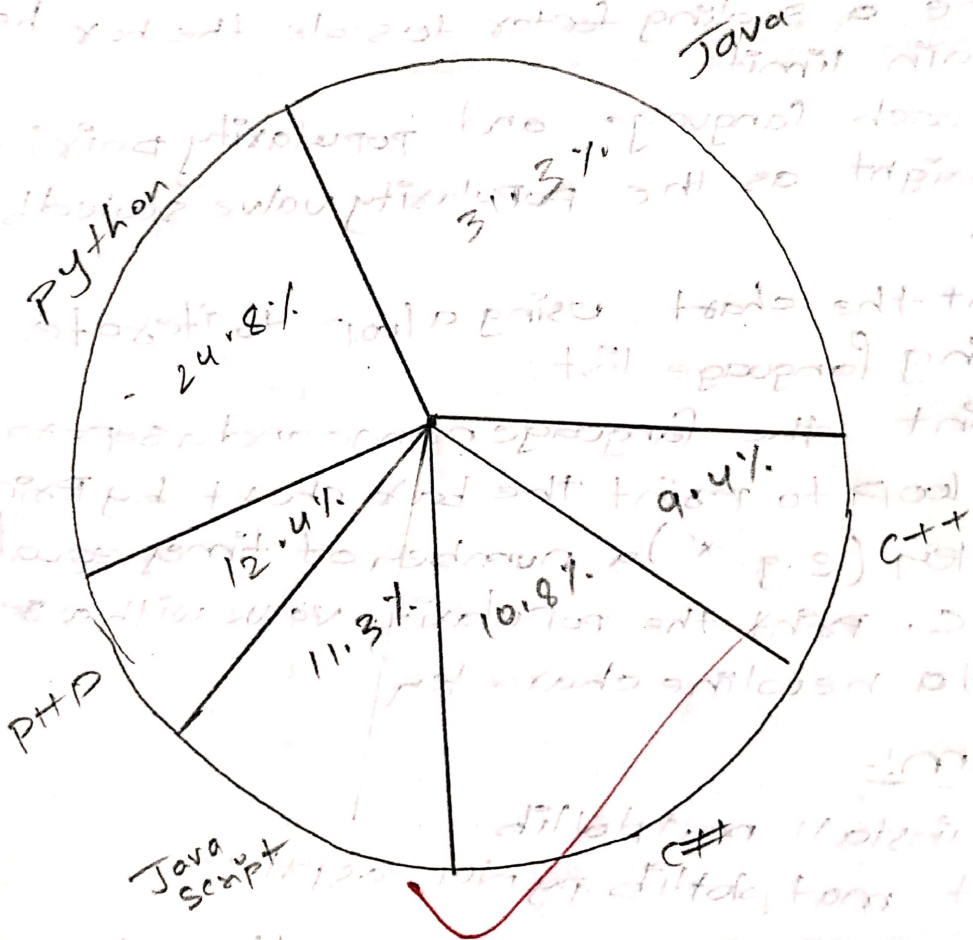
__output !__

Popularity of programming language

Problem 10.2 :- 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.

# 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 ,autopd='%1.1f%%')

# Step 3.
   plt.title ('Popularity of programming languages')
   plt.legend (languages , loc = "best")

# step 4.
   plt.show()
```

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