

PYTHON

Aim: To use matplotlib module for plotting in Python

problem: 101: - write a python programming to display a bar chart of the popularity of programming language
sample data: programming languages: Java, Python, PHP, JavaScript, C++, C#
popularity: 22.2, 17.6, 8.8, 8.7, 7.7, 6.7

Algorithm: define two lists for programming languages

1. Define two lists for programming languages and their popularity respectively and their popularity value in the list.
2. find the maximum popularity value
3. define a scaling factor to scale the bar heights
4. within a certain limit (e.g 50 characters) for each language and popularity pair, calculate the popularity value scaled by the bar height as the popularity value scaled by the scaling factor
5. print the char using a loop to iterate over the programming language list:
 - a. print the language name and a separator character (e.g. '|')
 - b. use a no. of times equal to 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

language=['Java','Python','PHP','JavaScript','C++','C#']
POPULARITY=[22.2,17.6,8.8,8.7,7.7,6.7]

plt.bar(language, POPULARITY, color='b')
plt.title('Popularity of programming languages')
plt.xlabel('Programming languages')
plt.ylabel('Popularity')
plt.show()
```

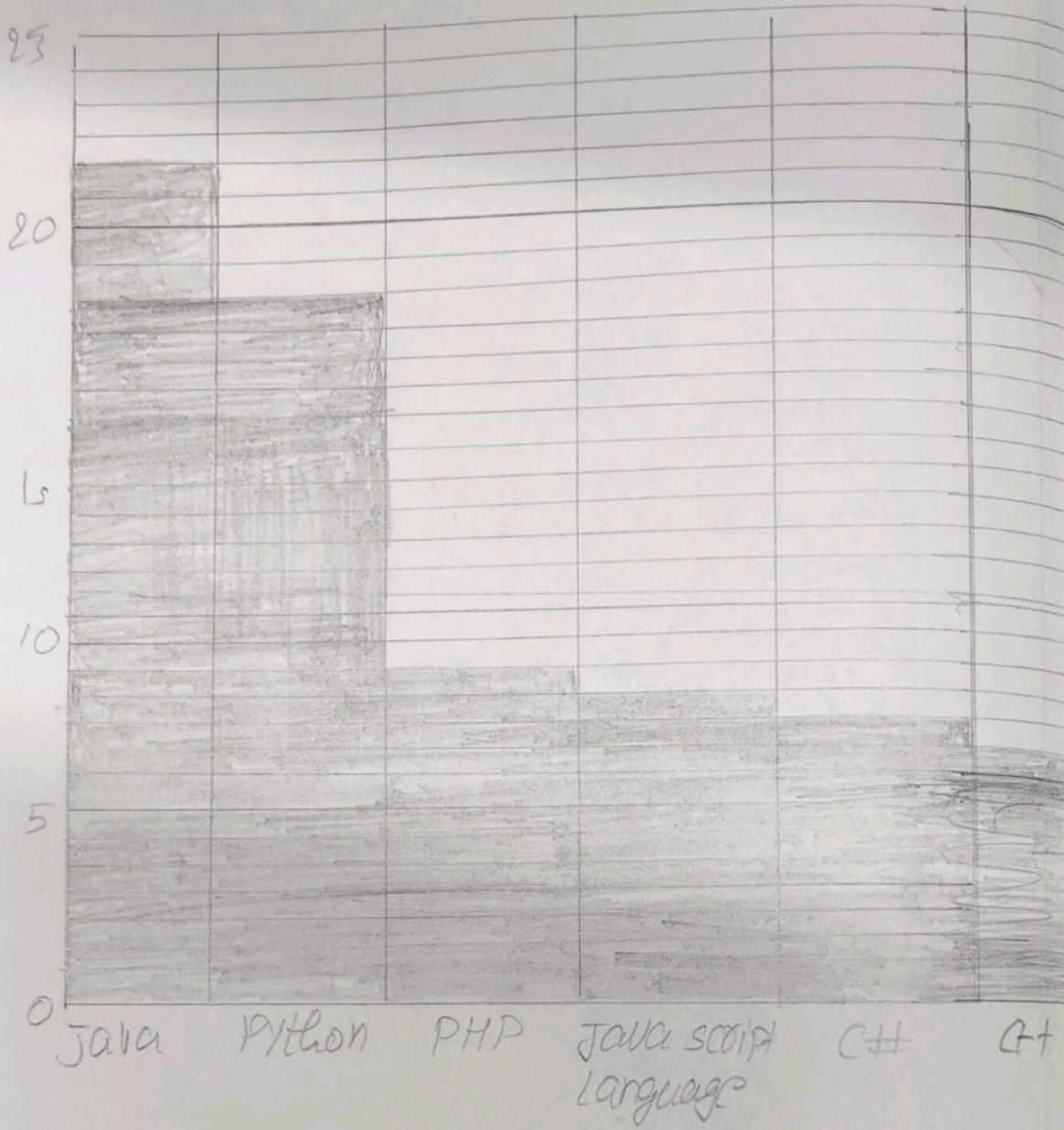
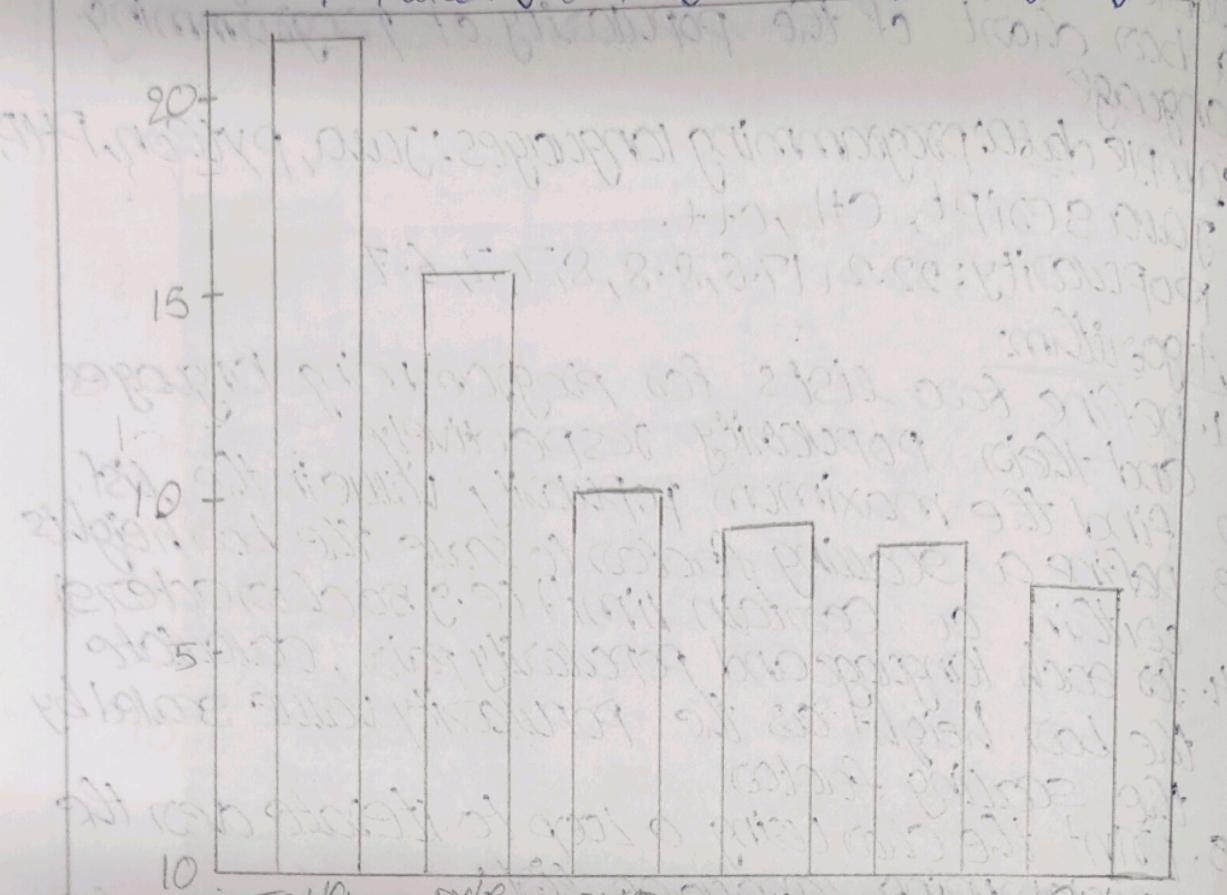


Table showing the results of a survey or experiment.

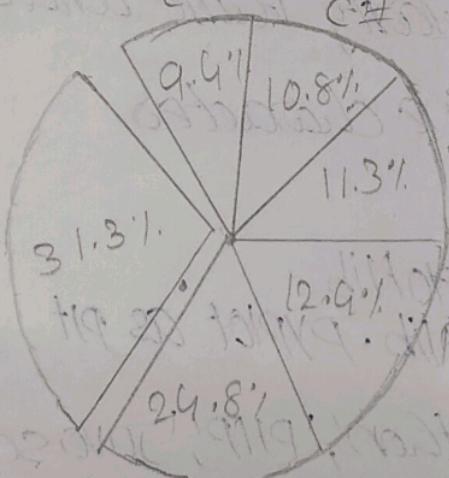
| Category | Value |
|-------------|------------------|
| RECORDS (1) | AVAIL/CREATE (1) |
| RECORDS (2) | AVAIL/CREATE (2) |
| RECORDS (3) | AVAIL/CREATE (3) |
| RECORDS (4) | AVAIL/CREATE (4) |
| TOTAL (10) | SIGN/ALTPAGE |
| 112% | |

Output:

Popularity of programming Language



sample output:



POPULARITY: [22.2, 17.6, 8.8, 8, 7.7, 6.7]

Algorithm:

1. Create a list of programming languages & popularity
2. Create a pie chart using the matplotlib library
3. Set of title and legend for the pie chart
4. Show the pie chart.

Program:

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

STEP 1

```
language=['Java', 'Python', 'PHP', 'JavaScript', 'C#', 'C++']
```

```
popularity=[22.2, 17.6, 8.8, 8, 7.7, 6.7]
```

STEP 2

```
plt.pie(popularity, labels=language, autopct='%.1f\n%.1f %')
```

STEP 3

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

```
plt.legend(language, loc="best")
```

STEP 4

```
plt.show()
```

Result:- Thus the program use matplotlib module for plotting verified

| VELTECH | |
|-------------------------|-------|
| SUCCESSFULLY | 10 |
| PERFORMANCE (5) | 5 |
| RESULT AND ANALYSIS (5) | 5 |
| VIVA VOCE (5) | 5 |
| RECORD (5) | 5 |
| TOTAL (20) | 20 |
| SIGN WITH DATE | 25/10 |