

24/09/25

Task 10 - using matplotlib for plotting in python

Aim: To visualize students performance in different subjects using linebar, and pie charts with the help of the matplotlib module in python

Algorithm:

1. import the matplotlib.pyplot module
2. Create data for 5 students and their marks in maths, Science and english
3. linechart
 - plot marks of all 5 students for the 3 subjects
 - Add labels, title, legend and grid
4. Bar chart
 - compute average marks for each subject
 - plot a bar chart showing average marks
5. pie chart
 - select one student and plot a pie chart showing marks distribution among subjects.
6. Display all charts using `plt.show()`

Program:

Step 1: Data for 5 students

Students = ['A', 'B', 'C', 'D', 'E']

maths = [85, 78, 92, 70, 88] 82.5

Science = [80, 85, 90, 75, 95] 85

english = [78, 82, 88, 72, 90] 82

`plt.figure(figsize=(8,5))`

`plt.plot(students, maths, marker='o', label='maths')`

`plt.plot(students, science, marker='o', label='Science')`

`plt.plot(students, english, marker='o', label='English')`

`plt.title("Students " performance in different Subjects")`

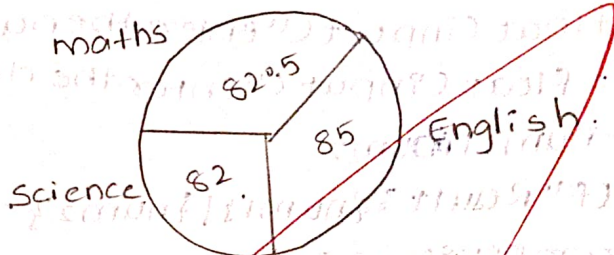
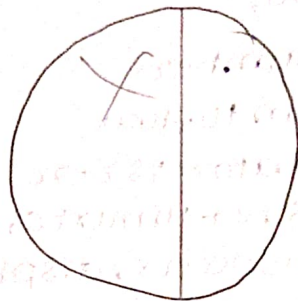
`plt.xlabel("Students")`

`plt.ylabel("marks")`

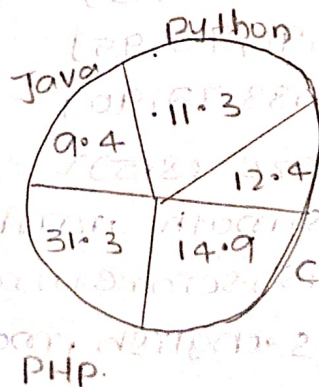
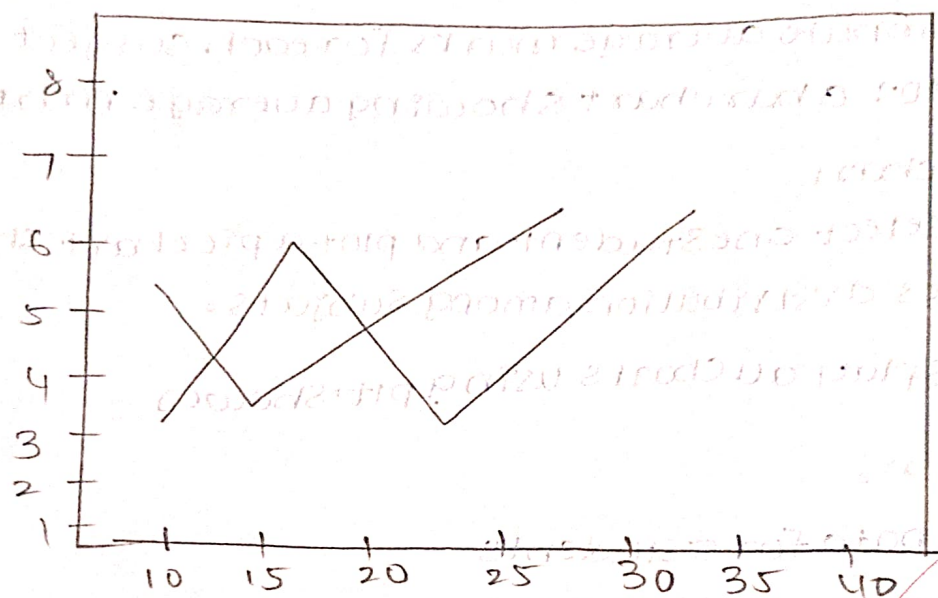
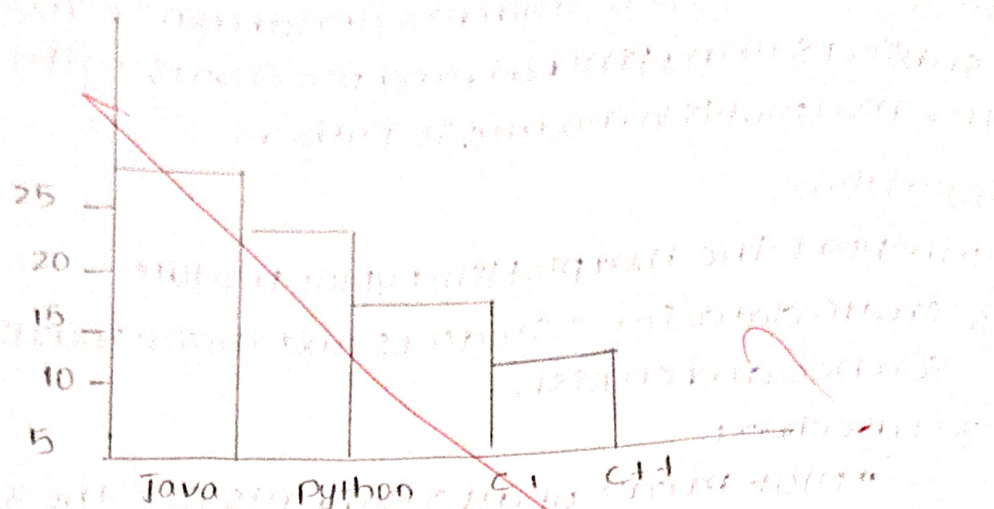
`plt.legend()`

`plt.grid(True)`

`plt.show()`



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plt.figure(figsize=(5,5))
plt.precmaries, labels = subjects.autopct = '%1.1f%%'
startangle = 90
shadow = True
plt.title('marks distribution for student')
plt.show()

```

VEL TECH - CSE	
EX NO.	
PERFORMANCE (5)	16
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	31
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Result:

Thus, a python program was successfully written and executed using the matplotlib lib.