

TASK: 10

DATE: 8/10/23

USE THE MATPLOTLIB MODULE FOR PLOTTING IN PYTHON

AIM:-

To write a program to virtually compare the marks of 5 students across three subjects (Maths, Science, and English).

OBJECTIVE:-

ALGORITHM :-

1) Start

2) Prepare Data:

* Define the lists for students and their marks in math, science and English

3) Plot Bars:

* Plot three sets of bars, using offsets so the bars for each student appear side-by-side.

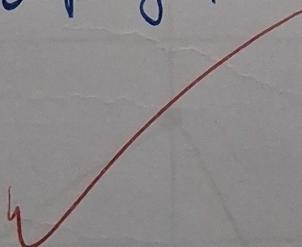
4) Label:

* Set the x-axis ticks to the student names, label the axes, add a plot title.

5) Finalize:

* Add a legend to identify the subjects & display the plot

6) End

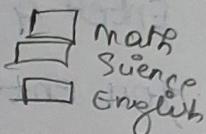


PROGRAM :-

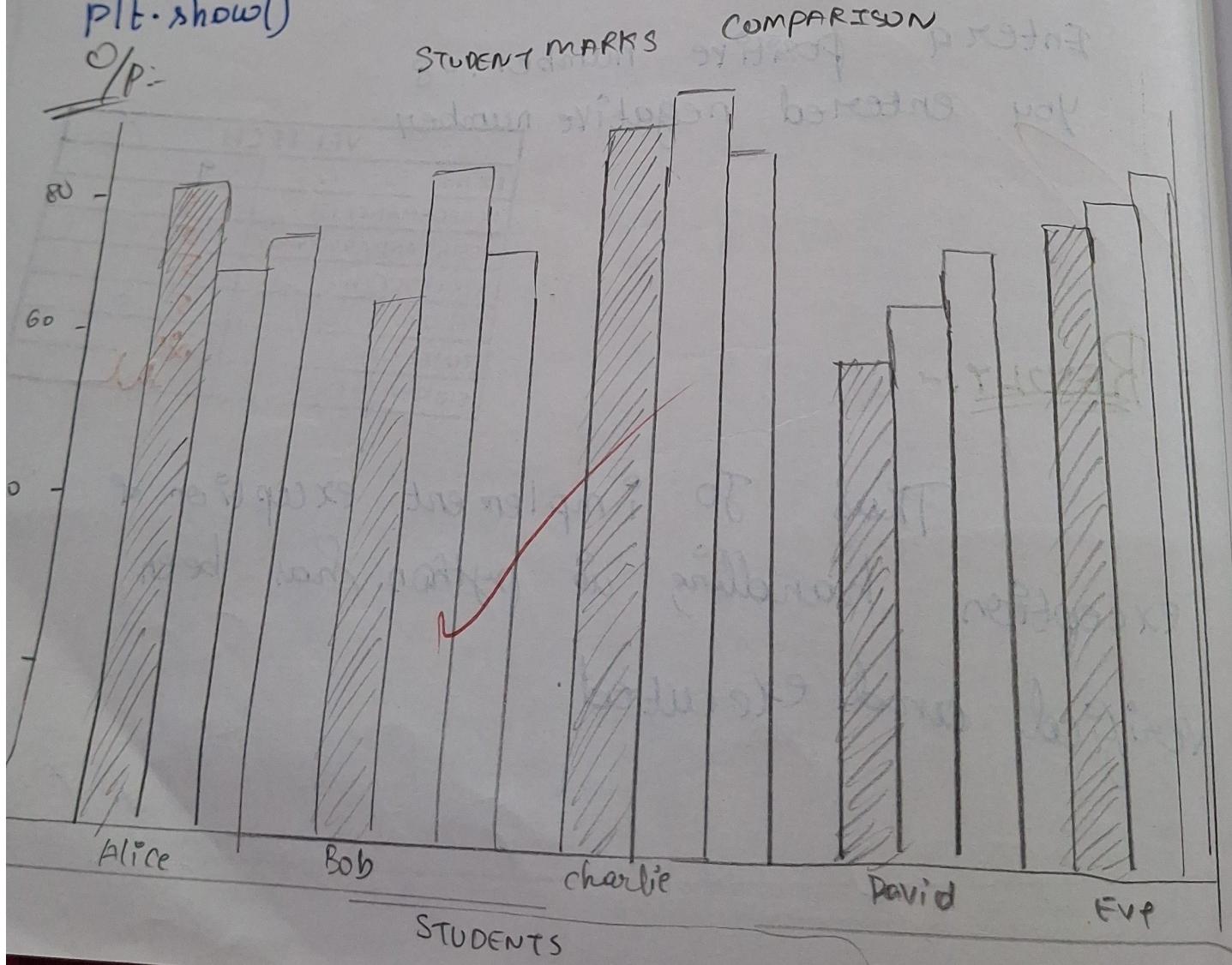
```

import matplotlib.pyplot as plt
Students = ["Alice", "Bob", "Charlie", "David", "Eve"]
math = [85, 72, 90, 60, 75]
science = [78, 88, 92, 65, 80]
english = [82, 76, 88, 72, 84]
x = range(len(Students))
plt.bar(x, math, width = 0.25, label = "math")
plt.bar([i + 0.25 for i in x], science, width = 0.25,
        label = "Science")
plt.bar([i + 0.50 for i in x], english, width = 0.25,
        label = "English")
plt.xticks([i + 0.25 for i in x], Students)
plt.xlabel("Students")
plt.ylabel("Marks")
plt.title("Student Marks Comparison")
plt.legend()
plt.show()

```


 Math
 Science
 English

O/P:-

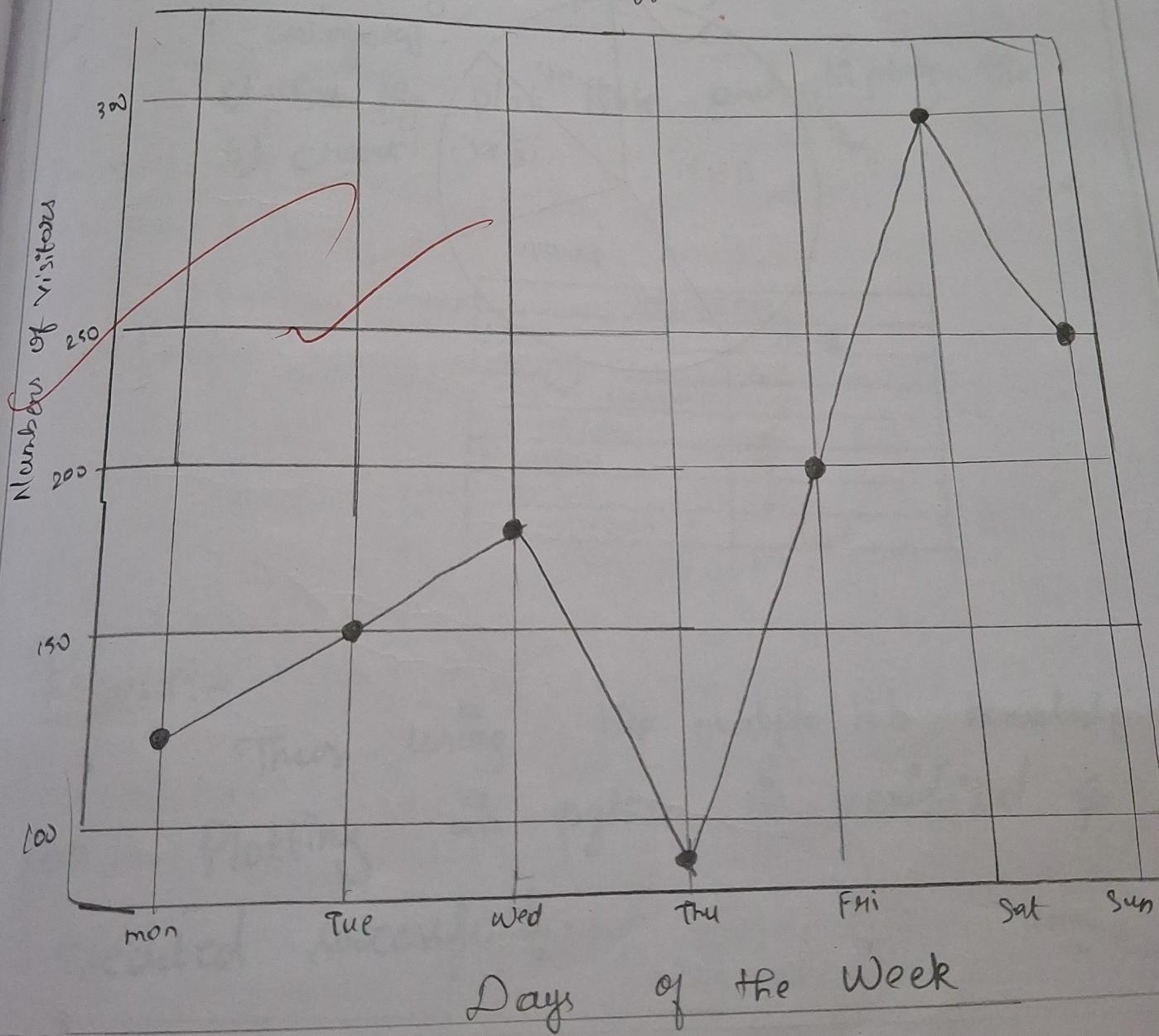


Task 10.2 : Website Traffic Over a Week

Algorithm :-

- 1) Start
- 2) Define lists for the days of week & the corresponding visitor counts.
- 3) Use plt.plot() to create a line connecting the points, putting the days on the x-axis and visitors on the y-axis.
- 4) Label the axes & set the plot title
- 5) Add a grid to the plot for better trend visualization & display the plot
- 6) End.

Website Traffic over a week



Program:-

Import matplotlib as plt
 days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat",
 "Sun"]
 visitors = [120, 150, 180, 90, 200, 300, 250]
 plt.plot(days, visitors, marker = "o", linestyle = "-.",
 color = "blue")

plt.xlabel("Days of the week")

plt.ylabel("Number of visitors")

plt.title("Website traffic Over a week")

plt.grid(True)

plt.show()

which does not work yet

: total (A)

a set of days like - Mon, Tue, ...

Not doing plots, we'll do total, mean

Number of people in office

total is 40 people

but (A)

Task :- 10-3

Sales Distribution

Aim:-

To write program to represent the percentage share of a company's sale distributed among four categories.

Algorithm :-

- 1) Start
- 2) Define list for the 4 categories & their sales figure
- 3) Use plt.pie() with the sales figures to create the slices.
- 4) Set labels for the slices & use autopct to display the percentage for each category.
- 5) Set the plot title and display the chart.

VELTECH	
EX NO.	10-3
PERFORMANCE (S)	5
RESULT AND ANALYSIS (S)	5
INTERVIEW (S)	5
RECORD (S)	5
Total (20)	00
IN WITH DATE	11/11/11

RESULT:-

Thus using the matplotlib module up python is verified & for Plotting executed successfully.

Program:-

```
import matplotlib.pyplot as plt
categories = ["Electronics", "Fashion", "Groceries",
               "Books"]
sales = [350, 200, 150, 100]
plt.pie(sales, labels=categories, autopct="%.0f",
        startangle=90, shadow=True)
plt.title("Sales Distribution by category")
plt.show()
```

O/P:-

