10. Matplotlib module for plotbing 24/9/25 in python.

Aim: - To analyze the performance of students in different subjects using various charts (line, Bar and Pie) with the help Matphotlib. in pythom.

Algorithm

1. Start the program.

2. Import the Matphothib and Numpy libraries.

3. Create a dataset for 5 students and their marks in 3 subjects (math, science, English).

4. Line chart:

· plot marks. of all students for each subject.

· Add little, labels, legend and grid.

J. Bar chart:

· Calculate average marks. for each subject.

· Phot a bor chart comparing the averages.

6. Pie chart:

· select one student.

. Phot a pie chart showing the percentage. of marks. in each subject.

. Add all chart ving Pit. show ().

7. God the program.

Program

import matploth 6. pyplot as plt import mappy as np.

Data. students = ['s1', 's2', 's3', 's4', 's5'] maths = [85, 78, 92, 70, 90].

```
english = [78, 82,88,72,85]
 Pit. figure (tigsize = (10,6))
PIt. plot (students, marker= o', label-'mulhs')
Plt. Plot (students, science, marker = 0, label= 'science')
Plt. Plot (students, english, marker = o', label = 'English')
Pit. plot ('students porformance in different subjects').
Pit. Ylabel ('Marki) 174 et 88.28 86 = Nesty
Plt. legand()
Plt. grid (true)
                     + line charte, waries of old T
plt. show ()
ang-marks. = [np. mean (maths), np. mean (science),
                np. near (english)].
subjects = [maths' scrence', 'English'].
plt. figure (figsize = (8, 5)).
Pit-bar ( subjects, ang-marks, color = [ blue, 'green',
            (pronge ]).
Pit. title ('Average marks of Bach Subject')
Pit. xlabel ('subjects')
Plt. Ylabel ('Average marks')
Plt. grid (duis = 'y')
Plt. shop ().
Student 1- marks = [maths [0], science(0), english [0]].
PIt . figure (figgize = (6,6))
Plt. pie. (student-marks, labelse subjects, autopet.
```

= '%1.1f 100/0', starter gle = 90).

Science = [80, 75, 85, 68, 90].

Input Shidents: 51,58,53,54,55 Subjects: Maths, xience, English Marks Day to a reduce of the district to the Maths = [85, 78, 92, 70, 88] science = [80,75,85,68,90] (dischiel) local English = [78,82,88,72,85] (idinal) (No served . 17 · Line chart: Marks of all 5 shidents across the 3 subjects. · Bar chart: Comparision of average marks. persobjects) · Pire chart: Distribution of marks. across subjects for student !in a screen of surphy lig pr. box (subjects, and ranker, edos = (oine; green ([simous]) it ille (Ar Engle moles of Bach Subject) Tr. xlobel (into octs) Todam of south / lodge makes (Windows) Bog .. M (1) Shorts . 1) The lating of the second that when I a second the second Mr. Agent Against (act) the the property of the service of t

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Pit. title ('pertentage of marks. for student 1')
Pit. show ().

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