1. Program to Input Address and Print it on Screen

Aim: To write a program that gets the address as input from the user and prints it on screen

Source code:

```
#this program prints address
name=input("Enter name")
ad1=input("Enter address")
city=input("Enter City")
state=input("Enter state")
print("*****************")
print(name)
print(ad1)
print(city)
print(state)
print("******************")
```

Result:

The Program was executed successfully and output obtained

Output:

Enter name Raghav

Enter address KV HVF

Enter City Avadi

Enter state Tamilnadu

****

Raghav

KV HVF

Avadi

Tamilnadu

****

2. Program to find the area of a Triangle

Aim: To write a program which inputs base and height and finds area of the triangle

Source code:

```
#to find the area of a triangle by inputting base and height
base=int(input("enter the base"))
hei=int(input("enter the height"))
area=0.5*base*hei
print("Area of the triangle",area)
```

Result:

The Program was executed successfully and output obtained

Output:

enter the base 80

enter the height 12

Area of the triangle 480.0

3.Program to demonstrate Arithmetic operators

Aim: To write a Program to demonstrate the use of arithmetic operators

Source code:

```
#demonstrate arithmetic operators
a=int(input("Enter first number"))
b=int(input("Enter Second number"))
s=a+b
d=a-b
p=a*b
d1=a/b
d2=a//b
rem=a%b
power=a**b
print("Sum",s)
print("Difference",d)
print("Product",p)
print("Quotient",d1)
print("Integer quotient",d2)
print("Remainder",rem)
print(a,"raised to power",b,power)
```

Result:The Program was executed successfully and output obtained

Output:

Enter first number12

Enter Second number5

Sum 17

Difference 7

Product 60

Quotient 2.4

Integer quotient 2

Remainder 2

   12 Raised to power 5 248832

4.Program to calculate Simple interest

Aim: To write a program to input principal(p),time period (t), and rate of interest and calculate Simple interest(si)

```
#to calculate simple interest
p=float(input("Enter the principal"))
t=int(input("Enter the time Period"))
r=float(input("Enter the rate of interest"))
si=(p*t*r)/100
print("Simple interest calculated",si)
```

Result:

The Program was executed successfully and output obtained

Output:

Enter the principal1000.60

Enter the time Period4

Enter the rate of interest5.7

Simple interest calculated 228.1368

5.Program to print calendar of a month in a year

Aim: To write a program to input year and month and print the corresponding calendar of the month

```
#To print calendar of any month of a year

import calendar

yy=int(input("Enter the year"))

mm=int(input("Enter the month"))

print(calendar.month(yy,mm))
```

Result:

The Program was executed successfully and output obtained

Output

Enter the year2008

Enter the month7

```
    July 2008
Mo Tu We Th Fr Sa Su
    1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31
```

6.Program to check the eligibility for voting

Aim: To write a program to input the age and check the eligibility for voting

```
#Program to check eligibility for voting
age=int(input("enter the age of the person"))
if age>=18:
    print("Eligible to vote")
else:
    print("Not eligible wait for", 18-age,"years")
```

Result:

The Program was executed successfully and output obtained

Output:

enter the age of the person 12

Not eligible wait for 6 years

enter the age of the person 56

Eligible to vote

7. Program to draw a line chart using matplotlib library

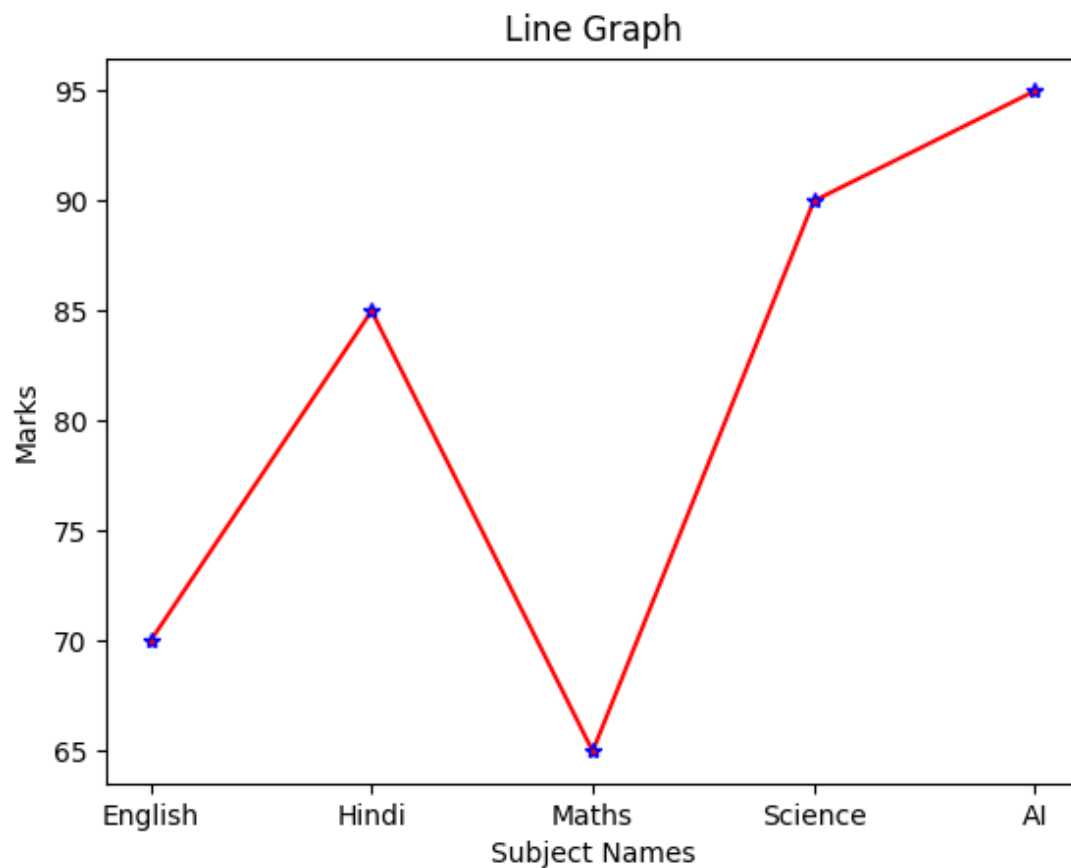Aim: To write a program to draw line chart using matplotlib library

Source code:

import matplotlib.pyplot as plt

import numpy as np

marks = np.array([70, 85, 65, 90,95])

subjects=['English','Hindi','Maths','Science','AI']

plt.plot(subjects,marks, color = 'r', marker='*',markeredgecolor='blue')

plt.xlabel('Subject Names')

plt.ylabel('Marks')

plt.title('Line Graph')

plt.show( )

Result:

The Program was executed successfully and output obtained

Output:

8. Draw bar chart using matplotlib library

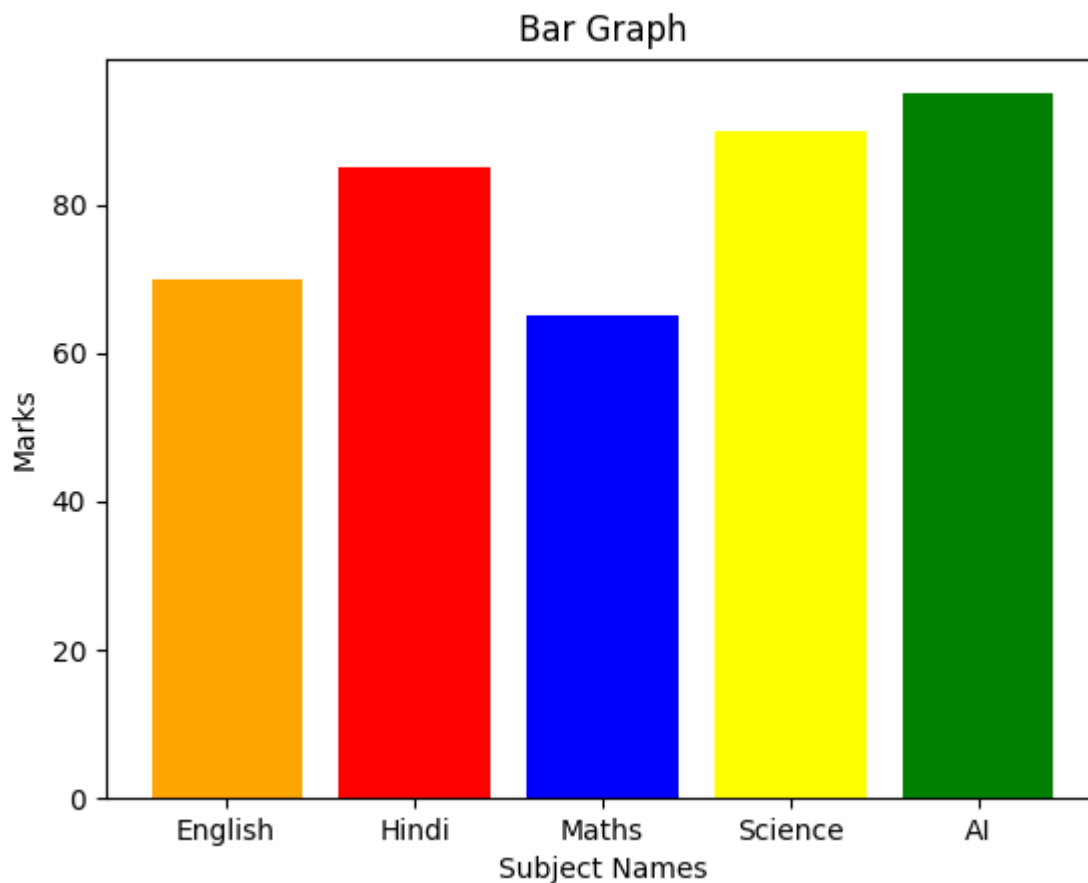Aim: To write a program to draw bar chart using matplotlib library

Source code:

```
import matplotlib.pyplot as plt

import numpy as np

marks = np.array([70, 85, 65, 90,95])

subjects=['English','Hindi','Maths','Science','AI']

plt.bar(subjects,marks, color = ['orange','red','blue','yellow','green'])

plt.xlabel('Subject Names')

plt.ylabel('Marks')

plt.title('Bar Graph')

plt.show( )
```

Result:

The Program was executed successfully and output obtained

OUTPUT:

9. Write a program to draw pie chart using matplotlib library.

Aim: To Write a program to draw pie chart using matplotlib library

Source Code:

import matplotlib.pyplot as plt

import numpy as np

marks = np.array([70, 85, 65, 90,95])

subjects=['English','Hindi','Maths','Science','AI']

colors = ['orange','red','blue','yellow','hotpink']

explode=[0,0,0,0,0.2]

plt.pie(marks,labels=subjects,colors=colors,explode=explode,shadow=True)

plt.title(' Pie chart-Subjectwise Marks')

plt.show( )

Result:

The Program was executed successfully and output obtained

Output:
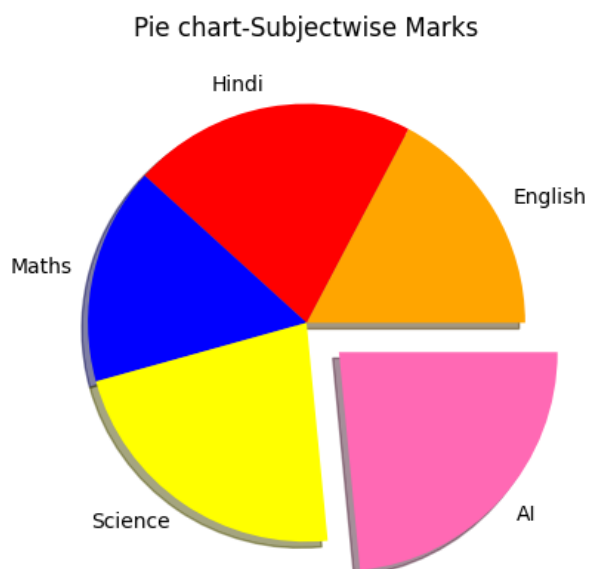
10. Write a program to read and display image using opencv cv2 library.

Note: Before going to execute computer vision examples we need to execute opencv library command. i.e. 'pip install opencv-python'. This will install opencv-python library in your computer

Aim: Write a program to read and display image using opencv cv2 library.

Source Code:

import cv2

import matplotlib.pyplot as plt

img = cv2.imread(r'C:\Users\acer\Desktop\hvf.jpeg') #Load the image file into memory

plt.imshow(img)

plt.title('School')

plt.axis('off')

plt.show( )

Note: BGR stands for Blue (255, 0, 0), Green (0, 255, 0), Red (0, 0, 255). OpenCV uses BGR color as a default color space to display images, when we open an image in openCV using cv2. imread( ) it display the image in BGR format. And it provides color-changing methods using cv2.

Result: Thus, the program to read and display image using opencv cv2 library has been created and executed successfully

Output:

School

11. Write a program to read and display original image using opencv cv2 library.

Aim: To Write a program to read and display original image using opencv cv2 library.

Source Code:

import cv2

import matplotlib.pyplot as plt

img = cv2.imread(r'C:\Users\acer\Desktop\hvf.jpeg') #Load the image file into memory

plt.imshow(img)

plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))

plt.title('School')

plt.axis('off')

plt.show( )

Result: Thus, the program to read and display image using opencv cv2 library has been created and executed successfully

Output:

12. Write a program to crop the image using opencv cv2 library.

Aim: To write a program to crop the image using opencv cv2 library.

Source Code:

import cv2

import matplotlib.pyplot as plt

img = cv2.imread(r'C:\Users\acer\Desktop\flower.png')

roi = img[10:300,10:300] #img[range of y, range of x]

plt.imshow(cv2.cvtColor(roi, cv2.COLOR_BGR2RGB))

plt.title('Flower')

plt.axis()

plt.show( )

Result: Thus, the program to read ,crop and display image using opencv cv2 library has been created and executed successfully

Output: