

- **PROGRAM 1:**

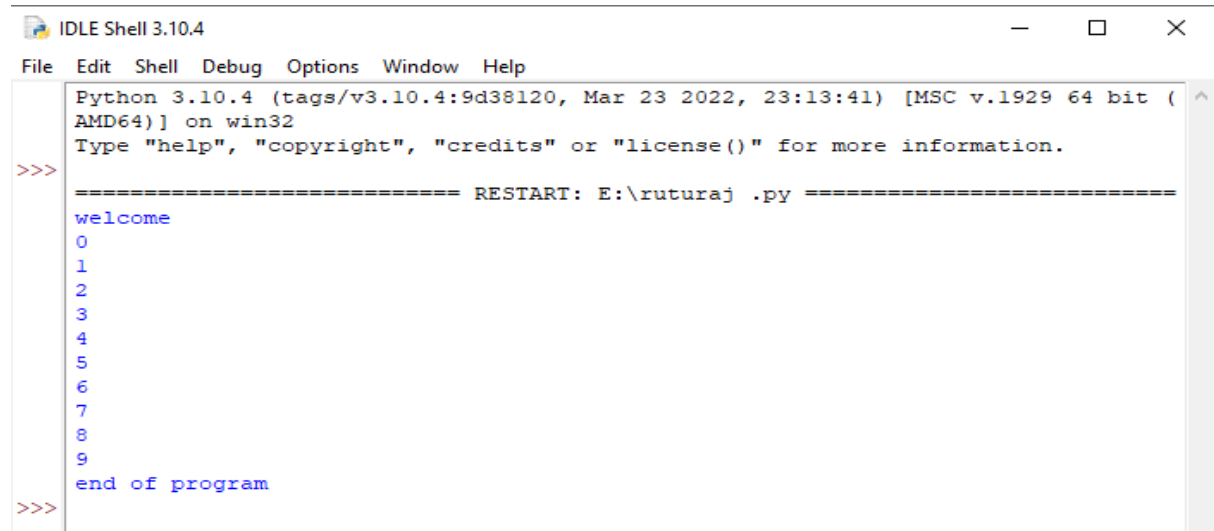
```
print('welcome')
```

```
for i in range (10):
```

```
    print(i)
```

```
print ('end of program')
```

OUTPUT:



```
IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\ruturaj .py =====
welcome
0
1
2
3
4
5
6
7
8
9
end of program
>>>
```

- **PROGRAM 2:**

Program 2A:

```
import cv2
```

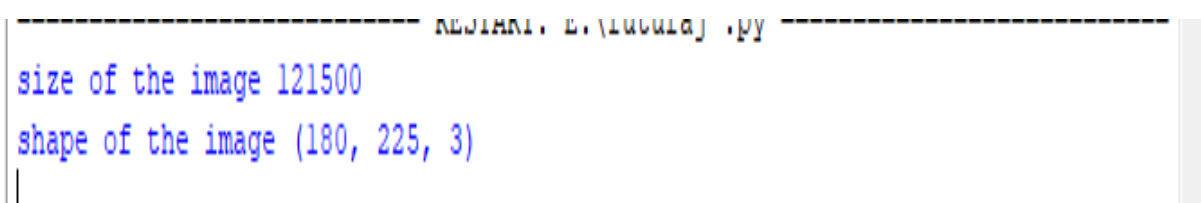
```
xyz=cv2.imread('bike.jpeg',1)
```

```
cv2.imshow('image',xyz)
```

```
print('size of the image',xyz.size)
```

```
print('shape of the image',xyz.shape)
```

OUTPUT 1:



```
===== RESTART: E:\ruturaj .py =====
size of the image 121500
shape of the image (180, 225, 3)
```

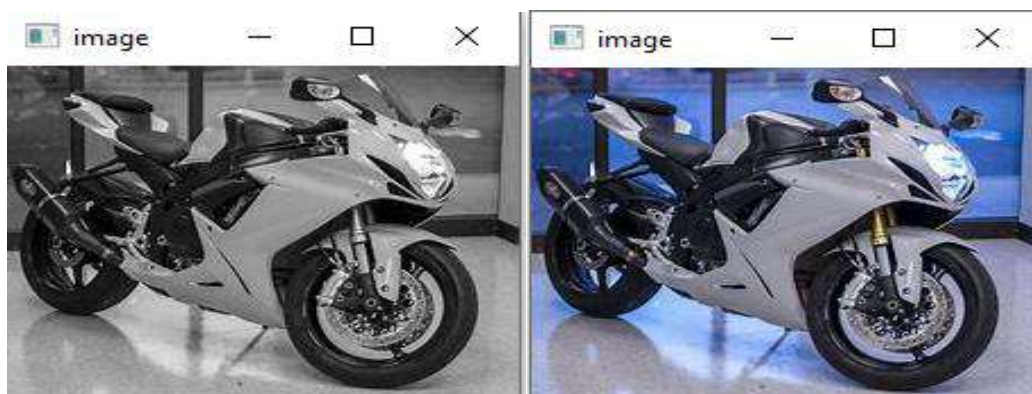


Program 2B:

```
import cv2
xyz=cv2.imread('bike.jpeg',1)
xyzr=cv2.imread('bike.jpeg',0)
cv2.imshow('image',xyz)
cv2.imshow('image',xyzr)
print('size of the image',xyz.size)
print('size of the grey image',xyzr.size)
print('shape of the image',xyz.shape)
print('shape of the grey image',xyzr.shape)
```

OUTPUT 2:

```
===== RESIAKI: E:\ruturaj .py =====
size of the image 121500
size of the grey image 40500
shape of the image (180, 225, 3)
shape of the grey image (180, 225)
```



- **PROGRAM 3:**

```
import cv2
xyz=cv2.imread('bike.jpeg',1)
cv2.imshow('image',xyz)

print('size of the image',xyz.size)
print('shape of the image',xyz.shape)

cv2.waitKey()
cv2.destroyAllWindows

print("\n brightness of image:",xyz[100,100,1])
p=xyz[100,100]
print('\n display 100 th pixel intensity:',p)
a=xyz[0:100,0:100]
cv2.imshow('crop image',a)

b=xyz[5,5,2]
print('\n one pixel intensity:',b)

print('\n display first five rows and columns of image: ')
print(xyz[0:5,0:5,1])
```

OUTPUT:

```
size of the image 121500
shape of the image (180, 225, 3)

brightness of image: 147

display 100 th pixel intensity: [161 147 148]

one pixel intensity: 60

display first five rows and columns of image:
[[74 80 90 84 63]
 [73 79 90 89 73]
 [71 76 86 91 84]
 [63 66 72 77 76]
 [63 67 70 72 68]]
>>>
```

