

**Question:**

Write the python program to implement the different modules of reading and displaying the images in with all the techniques that we have learnt during the session **im.read(),im.show() and others** of any image.(format is given below)

**Experiment Title :1****Student Name:Pratibha****UID:18BCS6093****Branch:AIML-1****Section/Group:b****Semester: 5****Date of Performance:****Subject Name:DIP Lab****Subject Code: CSF-336****1. Aim/Overview of the practical:**

WAP to Read, save, display images using the following

- PIL
- Matplotlib
- Scikit Image

**2. The task to be done:**

setting up all the libraries after installing Python.

**3. required libraries or software****4. Algorithm/Flowchart :****5. Theme/Interests definition( For creative domains):**

## 6. Steps for experiment/practical: (Step by step)

```
#!/usr/bin/env python
```

```
# coding: utf-8
```

```
# # <font colour = "red">Python : Reading and displaying the image using different modules</font>
```

```
# ## <font colour = "green">Method 1</font>
```

```
# ## <font colour = "blue">Using Pillow (PIL) module</font>
```

```
# In[1]:
```

```
# Importing PIL Module
```

```
from PIL import Image
```

```
# Read Image, which is in the same folder
```

```
img = Image.open('./morali.jpg')
```

```
# Display the Image
```

```
img.show()
```

```
# ## <font colour = "green">Method 1.2</font>
```

```
# ## <font colour = "blue">Using Pillow (PIL) with matplotlib module</font>
```

```
#
```

```
# In[2]:
```

```
# Importing PIL Module
```

```
from PIL import Image

# Importing Matplotlib module
import matplotlib.pyplot as plt

# Read Image, which is in the same folder
img = plt.imread('./lena image.jpg')

# using matplotlib to display the image
plt.imshow(img)

### <font colour = "green">Mentod 2</font>
### <font colour = "blue">Using Matplotlib module</font>

# In[20]:
```

```
#Importing Matplotlib Module
import matplotlib.pyplot as plt
import matplotlib.image as mpimg

#Read the Image , which is in the same folder
img = mpimg.imread('./morali.jpg')

# Displaying the image using matplotlib
plt.imshow(img)
```

```
### <font colour = "green">Mentod 3</font>
### <font colour = "blue">Using imageio with matplotlib module</font>

# In[4]:
```

```
#Importing imageio module
```

```
import imageio
```

```
# Importing matplotlib module
```

```
import matplotlib.pyplot as plt
```

```
# Read the image using imageio
```

```
img = imageio.imread('./lena image.jpg')
```

```
# Display the image using imageio
```

```
plt.imshow(img)
```

```
### <font colour = "green">Mentod 4</font>
```

```
### <font colour = "blue">Using OpenCV module</font>
```

```
# In[16]:
```

```
# Import OpenCV-Python (cv2) Module
```

```
import cv2 as cv
```

```
# Read the Image
```

```
img = cv.imread('./moralis.jpg',1)
```

```
# NB: 1 IMREAD_COLOUR IMAGE, NB:0 IMREAD_GREYSCALE IMAGE, NB:-1 IMREAD_UNCHANGE  
IMAGE
```

```
# Display the image using openCV
```

```
cv.imshow('windowTitle', img)
```

```
# Display the image until you press any key
```

```
cv.waitKey(0)
```

```
# ## <font colour = "green">Mentod 5</font>
```

```
# ## <font colour = "blue">Using OpenCV with Matplotlib module</font>
```

```
# In[19]:
```

```
# Import OpenCV-Python (cv2) Module
```

```
import cv2 as cv
```

```
# Importing Matplotlib Module
```

```
import matplotlib.pyplot as plt
```

```
# Read the Image in greyscale
```

```
img = cv.imread('./moral.jpg',-1)
```

```
# NB: 1 IMREAD_COLOUR IMAGE, NB:0 IMREAD_GREYSCALE IMAGE, NB:-1 IMREAD_UNCHANGE  
IMAGE
```

```
# Convert GBR colour mode to RGB colour mode
```

```
RGBimg = cv.cvtColor(img, cv.COLOR_BGR2RGB)
```

```
# using matplotlib to display the image
```

```
plt.imshow(RGBimg)
```

```
# In[15]:
```

```
# Import OpenCV-Python (cv2) Module
```

```
import cv2 as cv
```

```
# Importing Matplotlib Module
```

```
import matplotlib.pyplot as plt
```

```
# Read the Image in greyscale
```

```
img = cv.imread('./morali.jpg',1)
```

```
# NB: 1 IMREAD_COLOUR IMAGE, NB:0 IMREAD_GREYSCALE IMAGE, NB:-1 IMREAD_UNCHANGE IMAGE
```

```
#using matplotlib to display the image
```

```
plt.imshow(img)
```

**7. Observations/Discussions(For applied/experimental sciences/materials based labs):**

(if the same concept had to be applied in the real-life where would you choose to apply)

**8. Percentage error (if any or applicable):**

**9. The command that we have learned today in the program :**

**10. Result/Output/Writing Summary of the concept behind the experiment:**

```
im = imread("../images/parrot.png") # read image from disk, provide the correct path
```

```
print(im.shape, im.dtype, type(im))
```

```
hsv = color.rgb2hsv(im) # from RGB to HSV color space
```

```
hsv[:, :, 1] = 0.5 # change the saturation
```

```
im1 = color.hsv2rgb(hsv) # from HSV back to RGB
```

```
imsave('../images/parrot_hsv.png', im1) # save image to disk
```

```
im = imread("../images/parrot_hsv.png")
```

```
plt.axis('off'), imshow(im), show()
```

```
(340, 453, 3) uint8 <class 'numpy.ndarray'>
```

```
C:\Users\Sandipan.Dey\Anaconda\envs\ana41py35\lib\site-packages\skimage\util\dtype.py:130:  
UserWarning: Possible precision loss when converting from float64 to uint8
```

```
.format(dtypeobj_in, dtypeobj_out))
```

**11. Graphs (If Any): Image /Soft copy of graph paper to be attached here**

