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| Assignment date | 12/10/2022 |
| Name | Ishwarya M |
| Team ID | PNT2022TMID04956 |
| Maximum Marks | 2 Marks |

**ASSIGNMENT 3**

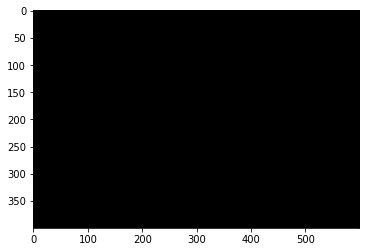
# Importing required lib.

import cv2  
import numpy as np  
import matplotlib.pyplot as plt

# Create black image

img1 = np.zeros((400,600,3),np.uint8)  
plt.imshow(img1)

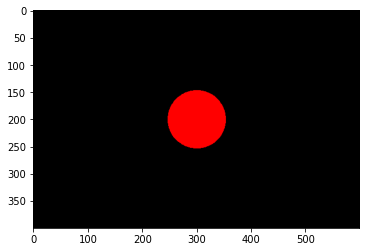
<matplotlib.image.AxesImage at 0x7fc494447490>



# Drawing functions

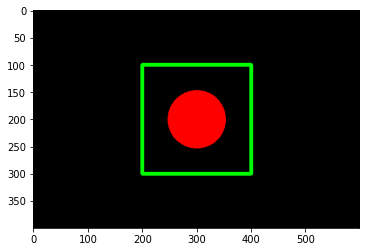
# Drawing circle  
  
circle = cv2.circle(img1,(300,200),50,(255,0,0),-1) #(0,0,0)-->(R,G,B)  
plt.imshow(img1)

<matplotlib.image.AxesImage at 0x7fc494252ad0>



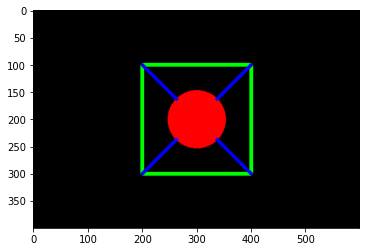
# Drawing rectangle  
  
rectangle = cv2.rectangle(img1,(200,100),(400,300),(0,255,0),5)  
plt.imshow(img1)

<matplotlib.image.AxesImage at 0x7fc4941d9fd0>



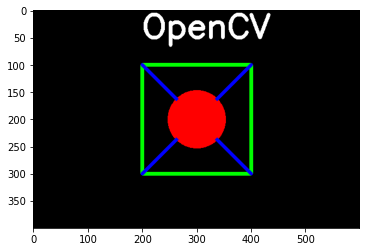
# Drawing lines  
  
line1 = cv2.line(img1,(200,100),(400,300),(0,0,255),5)  
line2 = cv2.line(img1,(400,100),(200,300),(0,0,255),5)  
circle = cv2.circle(img1,(300,200),50,(255,0,0),-1)  
plt.imshow(img1)

<matplotlib.image.AxesImage at 0x7fc494055210>



# Writing text on image  
  
text = cv2.putText(img1,'OpenCV',(200,50),cv2.FONT\_HERSHEY\_SIMPLEX,2,(255,255,255),5)  
plt.imshow(img1)

<matplotlib.image.AxesImage at 0x7fc4940b4550>



# Save the image  
  
cv2.imwrite('output.jpg',img1)

True

# Reading the image  
  
img = cv2.imread('/content/cat.jpg')  
plt.imshow(img)

<matplotlib.image.AxesImage at 0x7fc4935bfe10>



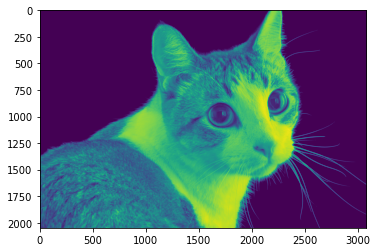
# Coverting color (BGR to RGB)  
  
img\_rgb = cv2.cvtColor(img,cv2.COLOR\_BGR2RGB)  
plt.imshow(img\_rgb)

<matplotlib.image.AxesImage at 0x7fc4935431d0>



# Coverting color (BGR to Gray)  
  
img\_gray = cv2.cvtColor(img,cv2.COLOR\_BGR2GRAY)  
plt.imshow(img\_gray)

<matplotlib.image.AxesImage at 0x7fc492cd9650>



# Visualizing the shape  
  
img\_rgb.shape

(2048, 3072, 3)

# Reshape image  
  
img\_resize = cv2.resize(img\_rgb,(500,400))  
plt.imshow(img\_resize)

<matplotlib.image.AxesImage at 0x7fc492cb5050>



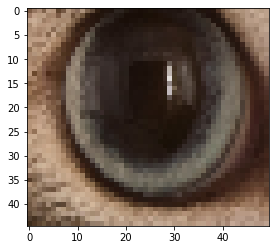
# Rotate image  
  
img\_rotate = cv2.rotate(img\_resize,cv2.ROTATE\_90\_CLOCKWISE)  
plt.imshow(img\_rotate)

<matplotlib.image.AxesImage at 0x7fc492c0c650>



# Image crop  
  
img\_crop = img\_resize[175:220,250:300]  
plt.imshow(img\_crop)

<matplotlib.image.AxesImage at 0x7fc48a417390>



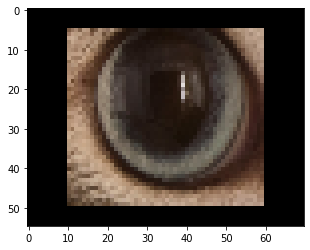
# Image Blur  
  
img\_blur = cv2.GaussianBlur(img\_resize,(11,11),cv2.BORDER\_ISOLATED)  
plt.imshow(img\_blur)

<matplotlib.image.AxesImage at 0x7fc48a21c490>



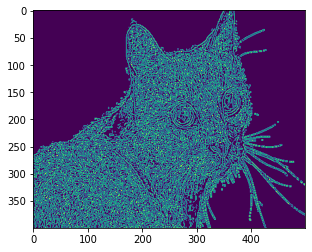
# Creating Border  
  
im=cv2.copyMakeBorder(img\_crop,5,5,10,10,cv2.BORDER\_CONSTANT)  
plt.imshow(im)

<matplotlib.image.AxesImage at 0x7fc48a1fb4d0>



# Edge detection  
  
img\_canny = cv2.Canny(img\_resize,20,20)  
plt.imshow(img\_canny)

<matplotlib.image.AxesImage at 0x7fc489fb9d90>



# Edge detection  
  
img2 = cv2.imread('/content/Hyundai\_KONA-EV\_Side-Profile\_640x331.png')  
img2\_canny = cv2.Canny(img2,150,150)  
plt.imshow(img2\_canny)

<matplotlib.image.AxesImage at 0x7fc48a0e3050>



plt.imshow(img2)

<matplotlib.image.AxesImage at 0x7fc48a4dba10>

