

## Importing req. lib

In [1]:

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

## Image processing

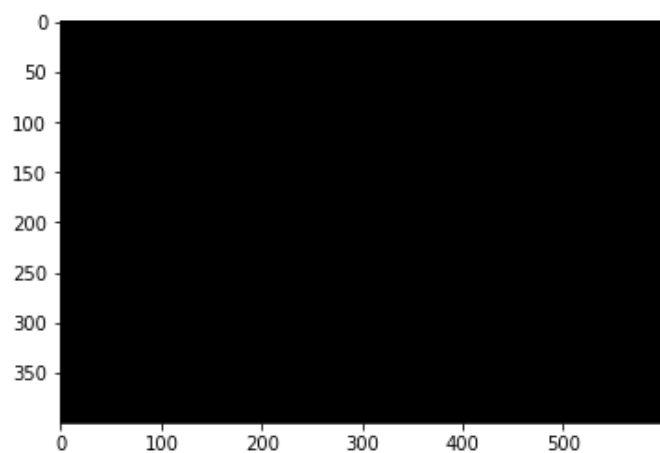
In [2]:

```
# Create a image

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

Out[2]:

<matplotlib.image.AxesImage at 0x7f99e9758950>



In [3]:

```
# Drawing Functions
```

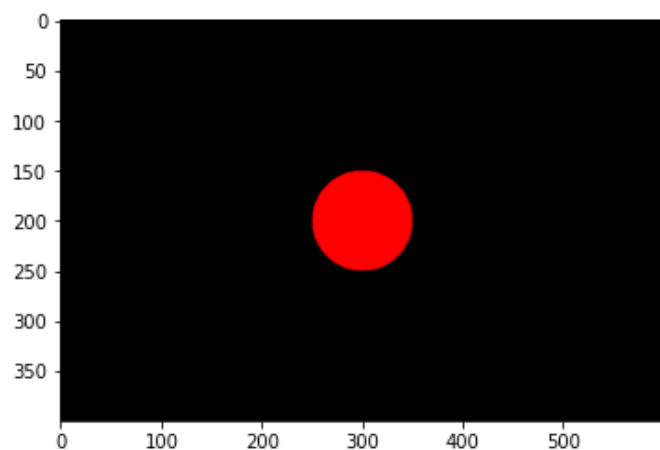
In [4]:

```
# Draw a circle

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

Out[4]:

<matplotlib.image.AxesImage at 0x7f99c7dc4c10>



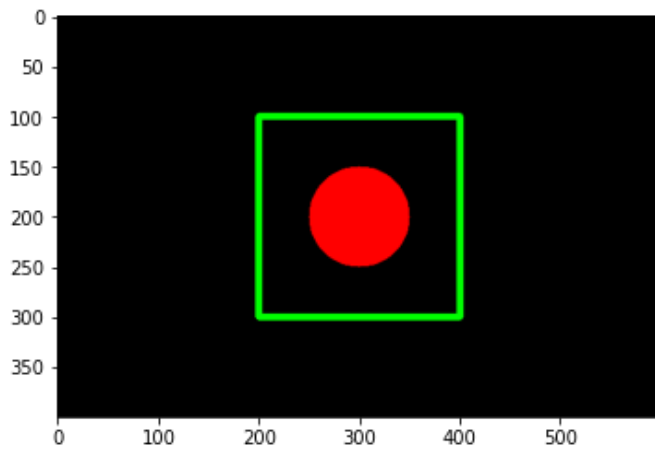
In [5]:

```
# Drawing rectangle
```

```
rectangle = cv2.rectangle(img1, (200,100), (400,300), (0,255,0), 6)
plt.imshow(img1)
```

Out[5]:

<matplotlib.image.AxesImage at 0x7f99c7d40610>



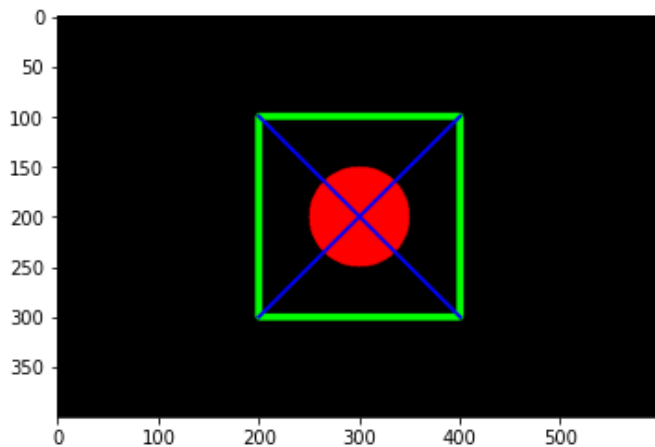
In [6]:

```
# Drawing line
```

```
line1 = cv2.line(img1, (200,100), (400,300), (0,0,255), 4)
line2 = cv2.line(img1, (200,300), (400,100), (0,0,255), 4)
plt.imshow(img1)
```

Out[6]:

<matplotlib.image.AxesImage at 0x7f99c7d0bcd0>

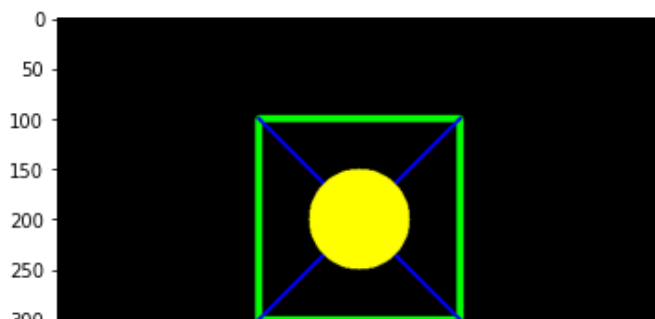


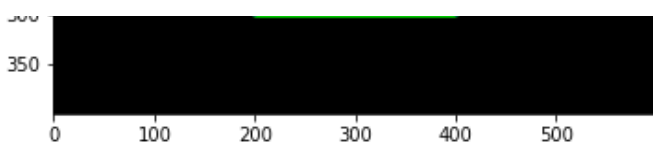
In [7]:

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

Out[7]:

<matplotlib.image.AxesImage at 0x7f99c7c905d0>





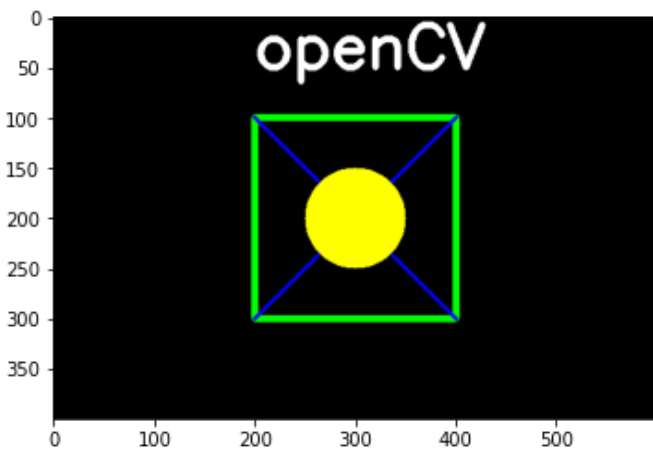
In [8]:

```
# Text on image

text = cv2.putText(img1, 'openCV', (200,50), cv2.FONT_HERSHEY_SIMPLEX, 2, (255,255,255),
5)
plt.imshow(img1)
```

Out[8]:

<matplotlib.image.AxesImage at 0x7f99c7c7fb50>



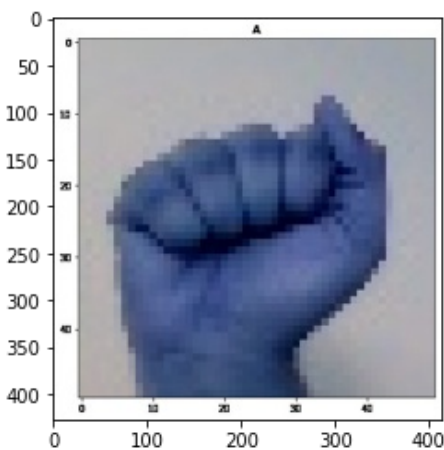
In [10]:

```
# Reading the image

img = cv2.imread('/content/download.jpeg',1)
plt.imshow(img)
```

Out[10]:

<matplotlib.image.AxesImage at 0x7f99c79fc0d0>



In [11]:

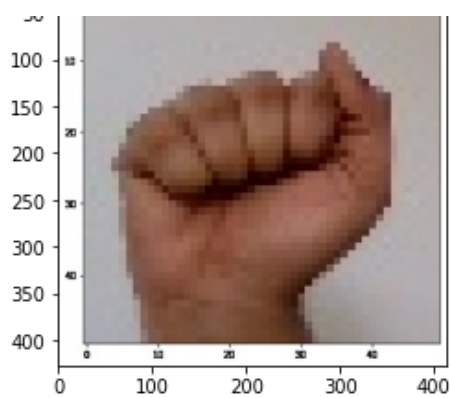
```
# Convert BGR to RGB

img_rgb = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
plt.imshow(img_rgb)
```

Out[11]:

<matplotlib.image.AxesImage at 0x7f99c7968610>





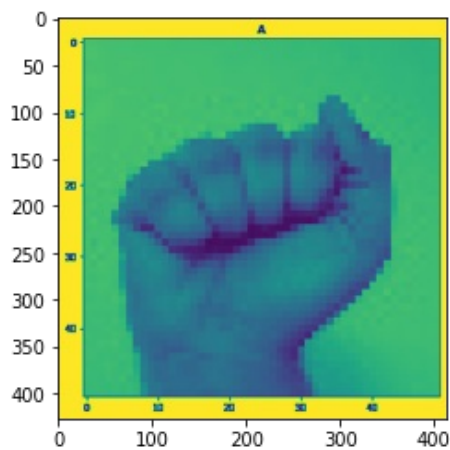
In [12]:

```
# Convert BGR to Gray

img_gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
plt.imshow(img_gray)
```

Out[12]:

<matplotlib.image.AxesImage at 0x7f99c78d6a50>



In [13]:

```
# Finding shape

img_rgb.shape
```

Out[13]:

(427, 414, 3)

In [14]:

```
img_gray.shape
```

Out[14]:

(427, 414)

In [15]:

```
# Resize the image

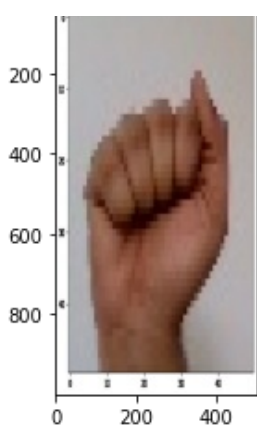
resize = cv2.resize(img_rgb, (500,1000))
print(resize.shape)
plt.imshow(resize)
```

(1000, 500, 3)

Out[15]:

<matplotlib.image.AxesImage at 0x7f99c7856390>



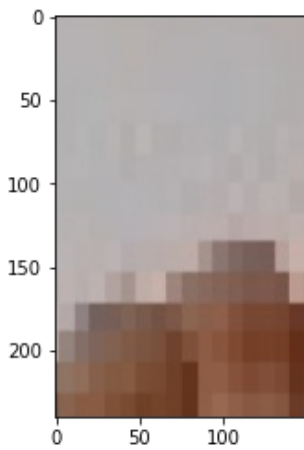


In [16]:

```
# Image crop  
  
crop = resize[130:370,150:300]  
plt.imshow(crop)
```

Out[16]:

<matplotlib.image.AxesImage at 0x7f99c7837f10>

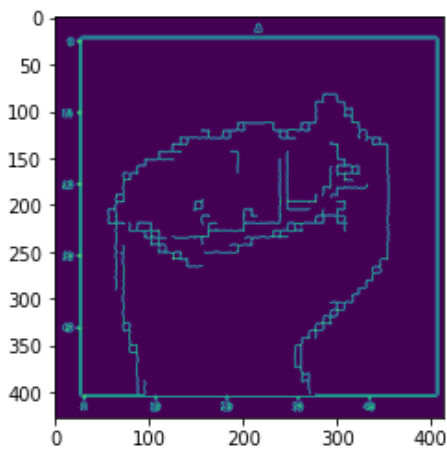


In [17]:

```
# Edge Detection  
  
edge = cv2.Canny(img_rgb,100,200)  
plt.imshow(edge)
```

Out[17]:

<matplotlib.image.AxesImage at 0x7f99c779c650>



In [18]:

```
# Blur image
```

```
r = resize[130:370,150:300]
blur = cv2.GaussianBlur(r, (13,13), cv2.BORDER_DEFAULT)
plt.imshow(resize)
plt.imshow(blur)
```

Out[18]:

<matplotlib.image.AxesImage at 0x7f99c7717410>

