OBJECT COUNTING USING OPENCV

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5 sem Btech(CSE)

In [5]:

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

In [6]:

```
!pip install opencv-python
```

```
Collecting opencv-python
  Downloading https://files.pythonhosted.org/packages/33/c9/484c03aa576f2e
0ad4d1e8b98128b376c13698e729cb875003730dd648f7/opencv_python-4.4.0.46-cp37
-cp37m-win_amd64.whl (33.5MB)
Requirement already satisfied: numpy>=1.14.5 in c:\users\kamesh upmanyu\ap
pdata\local\continuum\anaconda3\lib\site-packages (from opencv-python) (1.
16.5)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.4.0.46
```

In [6]:

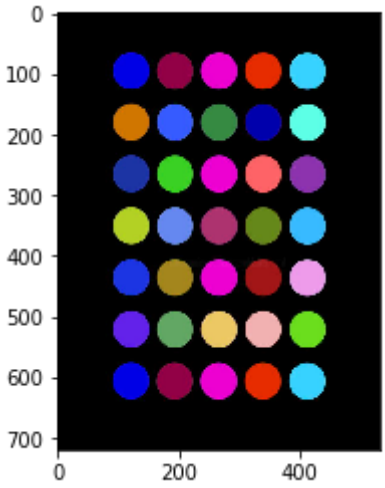
```
import cv2
import numpy as np
import matplotlib.pyplot as plt
```

In [50]:

```
image=cv2.imread('circles.jpg')
plt.imshow(image)
```

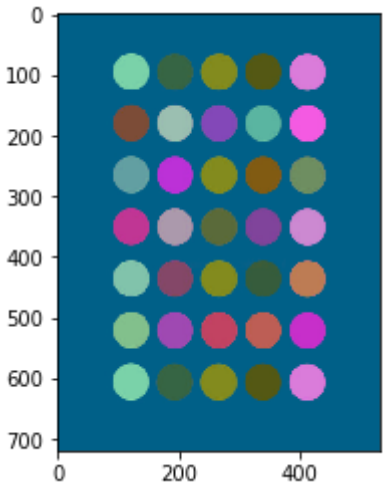
Out[50]:

```
<matplotlib.image.AxesImage at 0x1e26802a408>
```



In [83]:

```
gray=cv2.cvtColor(image,cv2.COLOR_BGR2LUV)
plt.imshow(gray,cmap='gray');
```

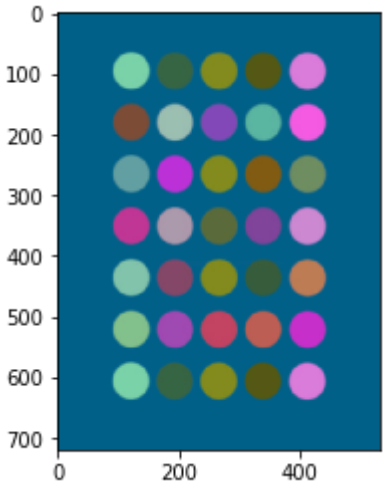


In [84]:

```
blur=cv2.GaussianBlur(gray, (7,7),0)
plt.imshow(blur,cmap='gray')
```

Out[84]:

```
<matplotlib.image.AxesImage at 0x1e269c6f508>
```

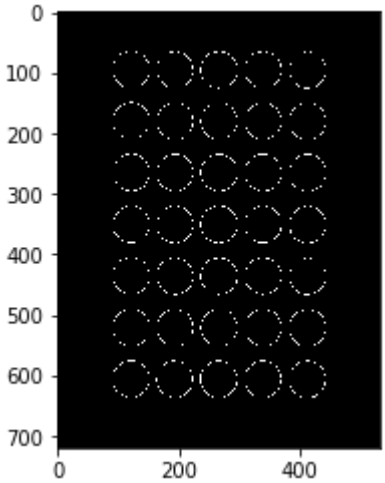


In [85]:

```
canny=cv2.Canny(blur,30,150,3)
plt.imshow(canny,cmap='gray')
```

Out[85]:

```
<matplotlib.image.AxesImage at 0x1e269cc8e88>
```

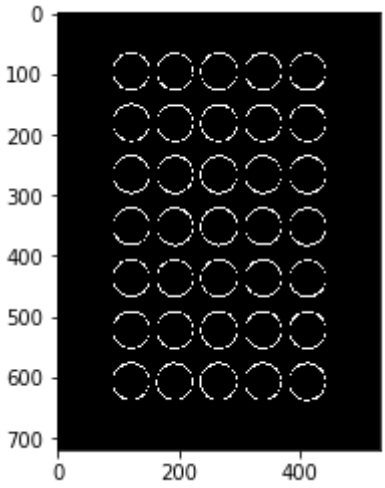


In [86]:

```
dilated=cv2.dilate(canny,(1,1),iterations=2)
plt.imshow(dilated,cmap='gray')
```

Out[86]:

```
<matplotlib.image.AxesImage at 0x1e269d2af08>
```

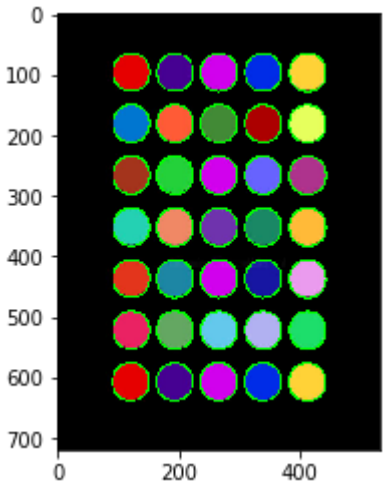


In [87]:

```
(cnt,heirarchy)=cv2.findContours(dilated.copy(),cv2.RETR_EXTERNAL,cv2.CHAIN_APPROX_NONE
)
rgb=cv2.cvtColor(image,cv2.COLOR_BGR2RGB)
cv2.drawContours(rgb,cnt,-1, (0,255,0),2)
plt.imshow(rgb)
```

Out[87]:

```
<matplotlib.image.AxesImage at 0x1e26a931388>
```



In [88]:

```
print('Coins in the image: ',len(cnt))
```

```
Coins in the image:  35
```

In [ ]:

```

```

In [ ]:

```

```