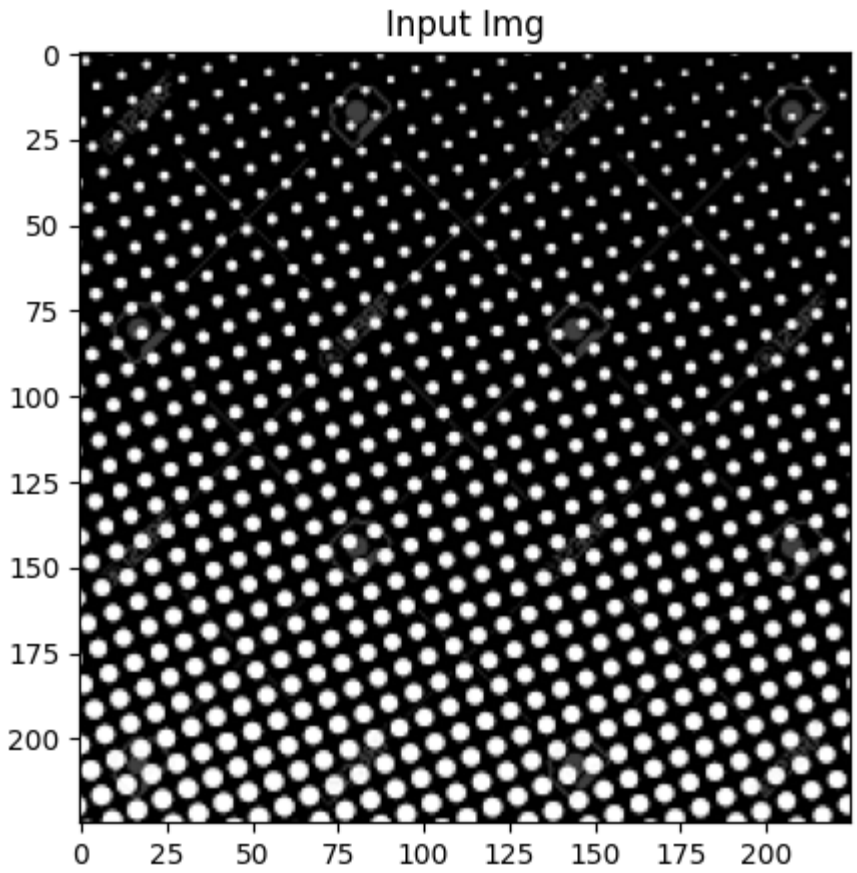
Avinash_1102244010

Assgn_05

Count white dots on a black background

Count the white dots in the image

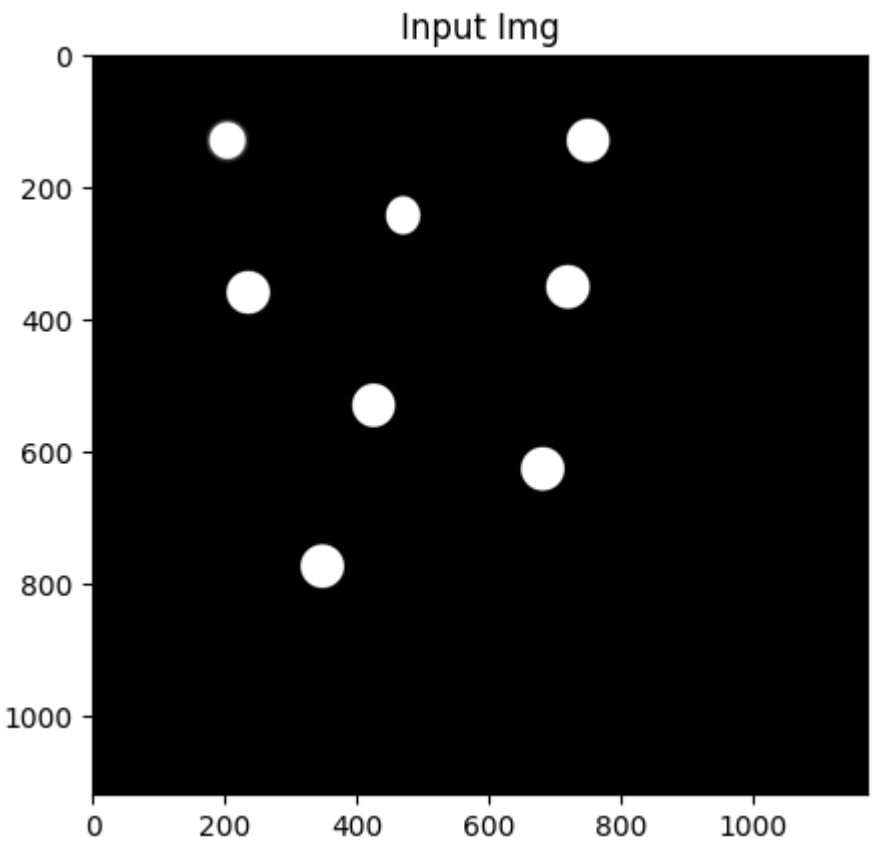
In [39]:
```
import cv2
from matplotlib import pyplot as plt

path ="./images/white-dot.png"
gray = cv2.imread(path, 0)

plt.figure(figsize=(5, 5))
plt.imshow(gray, cmap='gray'),plt.axis('on'),plt.title('Input Img')
plt.show()
```



In [40]:
```
# Invert the image (making black dots white and vice versa)
inverted = cv2.bitwise_not(gray)

# Apply threshold to the inverted image
th, threshed = cv2.threshold(inverted, 100, 255, cv2.THRESH_BINARY | cv2.THRESH_OTSU)

# Find contours on the thresholded image
cnts = cv2.findContours(threshed, cv2.RETR_LIST, cv2.CHAIN_APPROX_SIMPLE)[-2]

# Filter contours by area (adjust the area thresholds as needed)
s1 = 3
s2 = 1000
xcnts = []

for cnt in cnts:
    if s1 < cv2.contourArea(cnt) < s2:
        xcnts.append(cnt)

print("\nBlack Dots number: {}".format(len(xcnts)))
```

```
Black Dots number: 762
```

In [41]:
```
import cv2
from matplotlib import pyplot as plt

path ="./pic.png"
gray = cv2.imread(path, 0)

plt.figure(figsize=(5, 5))
plt.imshow(gray, cmap='gray'),plt.axis('on'),plt.title('Input Img')
plt.show()
```



In [43]:
```
# Invert the image (making black dots white and vice versa)
inverted = cv2.bitwise_not(gray)

# Apply threshold to the inverted image
th, threshed = cv2.threshold(inverted, 100, 255, cv2.THRESH_BINARY | cv2.THRESH_OTSU)

# Find contours on the thresholded image
cnts = cv2.findContours(threshed, cv2.RETR_LIST, cv2.CHAIN_APPROX_SIMPLE)[-2]

# Filter contours by area (adjust the area thresholds as needed)
s1 = 3
s2 = 10000
xcnts = []

for cnt in cnts:
    if s1 < cv2.contourArea(cnt) < s2:
        xcnts.append(cnt)

print("\nBlack Dots number: {}".format(len(xcnts)))
```

```
Black Dots number: 8
```