Contours

In [1]:
```
import cv2
import numpy as np

gmb= cv2.imread('gambar/shape_img.jpg')
cv2.imshow('gambar bentuk',gmb)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [2]:
```
#grayscale
gray = cv2.cvtColor(gmb,cv2.COLOR_BGR2GRAY)

# Find Canny edges
edged = cv2.Canny(gray,80,100)
cv2.imshow('Canny Edge', edged)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [3]:
```
#Finding Contours
edged01,c, h = cv2.findContours(edged, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_NONE)
#cv2.imshow('Canny edges before countouring',edged)
cv2.imshow('Canny edges after countouring',edged01)
cv2.waitKey(0)

print('Number of contour =' +str(len(c)))
cv2.destroyAllWindows()
```

```
Number of contour =6
```

In [4]:
```
# Draw all contours
# Use '-1' as the 3rd parameter to draw all

imgA=cv2.drawContours(gmb,c,-1,(0,255,0),3)

#print(c[0])

cv2.imshow('Contour',imgA)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [5]:
```
rA=cv2.rectangle(gmb, (74, 272), (142, 340), (0,0,255), 2)
cv2.imshow('Contour00',rA)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [29]:
```
cv2.contourArea(c[0])
```

Out[29]:
```
3867.0
```

In [1]:
```
import cv2
import numpy as np

def get_contour_areas(c):
    all_areas =[]
    for nc in range(len(c)):
        area =cv2.contourArea(c[nc])
        all_areas.append(area)
    return all_areas
```

In [2]:
```
# load our image
image = cv2.imread('gambar/shape_img.jpg')
original_image = image

#grayscale
gray = cv2.cvtColor(image,cv2.COLOR_BGR2GRAY)
```

In [3]:
```
# Find Canny edges
edged = cv2.Canny(gray,80,100)
edged01,c, h = cv2.findContours(edged, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_NONE)


print('Contour areas before shorting', get_contour_areas(c))
```

```
Contour areas before shorting [3867.0, 2250.0, 2597.5, 2298.0, 1624.5, 3024.5]
```

In [ ]:
```
# sort contours large to small
sc = sorted(c, key =cv2.contourArea, reverse = True)

print('Contour areas after shorting', get_contour_areas(sc))

cv2.drawContours(original_image, sc,1,(255,0,0),3)

cv2.imshow('Contours by area',original_image)
#for nc in range (len(sc)):
#    cv2.drawContours(original_image, sc,nc,(255,0,0),3)
#    cv2.waitKey(0)
#    cv2.imshow('Contours by area',original_image)

cv2.waitKey(0)
cv2.destroyAllWindows()
```

```
Contour areas after shorting [3867.0, 3024.5, 2597.5, 2298.0, 2250.0, 1624.5]
```