In [8]:
```
import cv2
import numpy as np
import matplotlib.pyplot as plt
```

In [49]:
```
img = cv2.imread('C:\\Users\\sayak\\anaconda3\\mandril_gray.tif', 0)
```

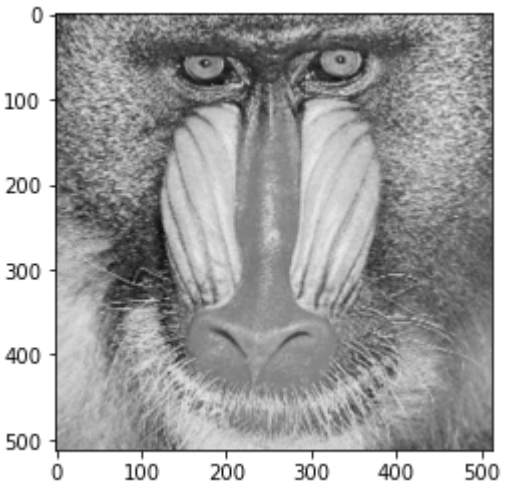
In [50]:
```
img.shape
```

Out[50]:
```
(512, 512)
```

In [51]:
```
img.dtype
```

Out[51]:
```
dtype('uint8')
```

In [52]:
```
plt.imshow(img, 'gray')
plt.show()
```



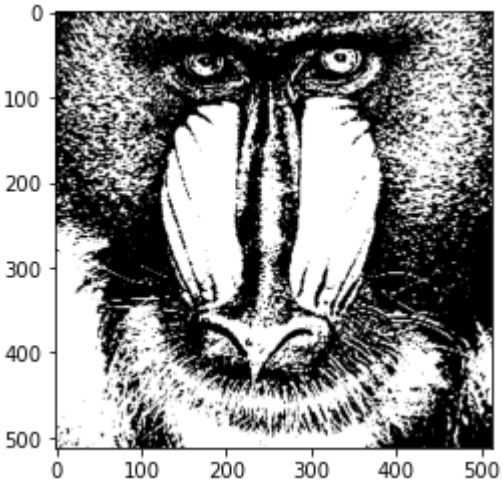
In [53]:
```
arr = []
for i in range(img.shape[0]):
    for j in range(img.shape[1]):
        arr.append(np.binary_repr(img[i][j], width = 8))
```

In [54]:
```
eight = (np.array([int(i[0]) for i in arr]) * 128).reshape(img.shape[0],img.shape
seven = (np.array([int(i[1]) for i in arr]) * 64).reshape(img.shape[0],img.shape[
six = (np.array([int(i[2]) for i in arr]) * 32).reshape(img.shape[0],img.shape[1]
five = (np.array([int(i[3]) for i in arr]) * 16).reshape(img.shape[0],img.shape[1
four = (np.array([int(i[4]) for i in arr]) * 8).reshape(img.shape[0],img.shape[1]
three = (np.array([int(i[5]) for i in arr]) * 4).reshape(img.shape[0],img.shape[1
two = (np.array([int(i[6]) for i in arr]) * 2).reshape(img.shape[0],img.shape[1])
one = (np.array([int(i[7]) for i in arr]) * 1).reshape(img.shape[0],img.shape[1])
```

In [55]:
```
print(((np.array([int(i[0]) for i in arr])*128).reshape(img.shape[0],img.shape[1]
```

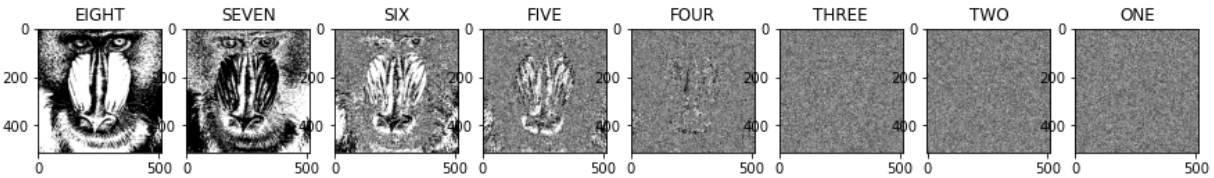
```
(512, 512)
```

In [56]:
```
plt.imshow(eight, 'gray')
plt.show()
```



In [57]:
```
plt.figure(figsize=(15,15))
plt.subplot(1,8,1)
plt.imshow(eight, 'gray')
plt.title('EIGHT')
plt.subplot(1,8,2)
plt.imshow(seven, 'gray')
plt.title('SEVEN')
plt.subplot(1,8,3)
plt.imshow(six, 'gray')
plt.title('SIX')
plt.subplot(1,8,4)
plt.imshow(five, 'gray')
plt.title('FIVE')
plt.subplot(1,8,5)
plt.imshow(four, 'gray')
plt.title('FOUR')
plt.subplot(1,8,6)
plt.imshow(three, 'gray')
plt.title('THREE')
plt.subplot(1,8,7)
plt.imshow(two, 'gray')
plt.title('TWO')
plt.subplot(1,8,8)
plt.imshow(one, 'gray')
plt.title('ONE')
```

Out[57]:
```
Text(0.5, 1.0, 'ONE')
```



In [58]:
```
newimg = eight+seven+six+five
plt.imshow(newimg, 'gray')
plt.show()
```