

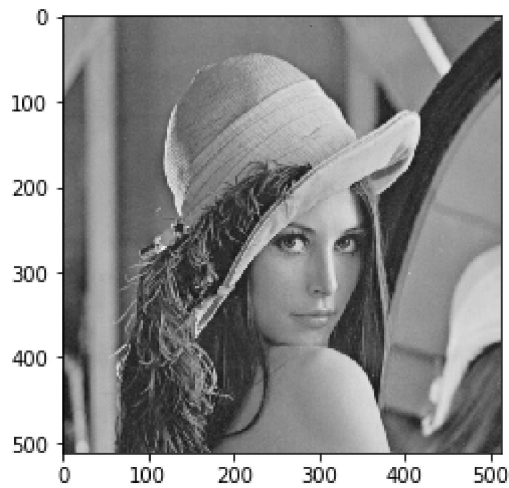
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In [10]:

```
x = imread(path_lena)
```

In [11]:

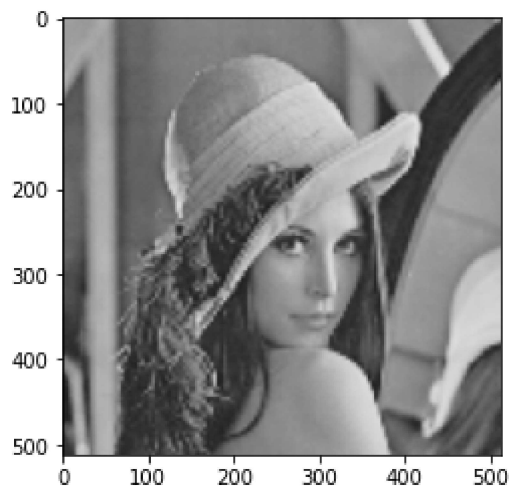
```
imshow(x)
```



In [12]:

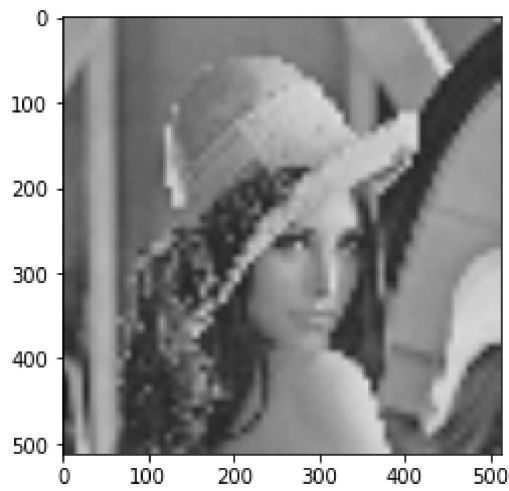
```
x_1_4 = imresize(imresize(x,1/4),4)
```

```
imshow(x_1_4)
```



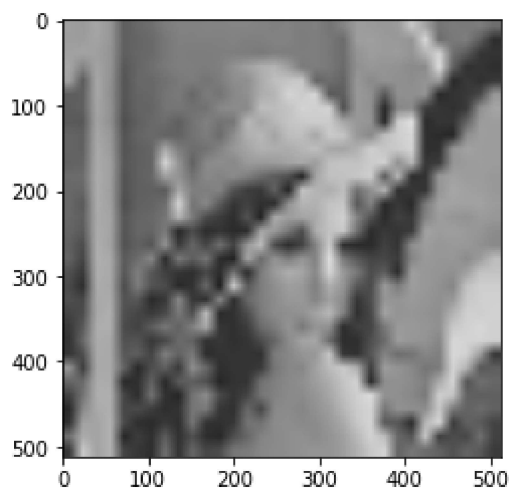
In [13]:

```
x_1_8 = imresize(imresize(x,1/8),8)
imshow(x_1_8)
```



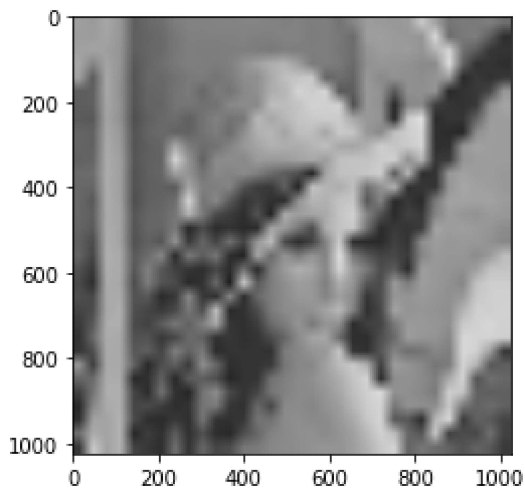
In [14]:

```
x_1_16 = imresize(imresize(x,1/16),16)
imshow(x_1_16)
```



In [15]:

```
x_1_32 = imresize(x,1/16),32)
imshow(x_1_32)
```



不會有相同的結果 縮小放大的倍數越高,看起來越不清楚 因為操作之中會圖像訊息

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In [16]:

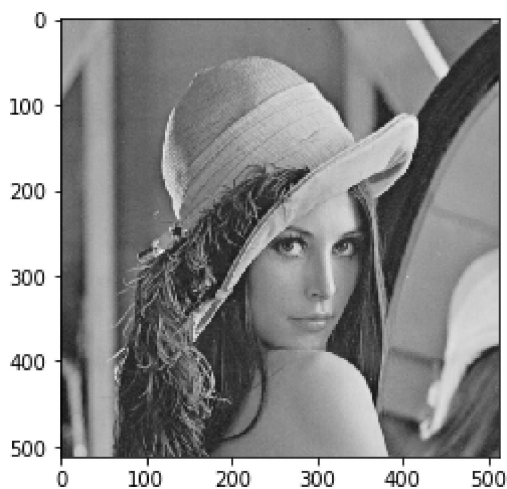
```
c0 = mod (imread('lena.jpg'),2)
c1 = mod(floor(imread('lena.jpg'),2),2)
c2 = mod(floor(imread('lena.jpg'),4),2)
c3 = mod(floor(imread('lena.jpg'),8),2)
c4 = mod(floor(imread('lena.jpg'),16),2)
c5 = mod(floor(imread('lena.jpg'),32),2)
c6 = mod(floor(imread('lena.jpg'),64),2)
c7 = mod(floor(imread('lena.jpg'),128),2)
```

In [17]:

```
recover_image = 2*(2*(2*(2*(2*(2*(2*c7+c6)+c5)+c4)+c3)+c2)+c1)+c0
```

In [18]:

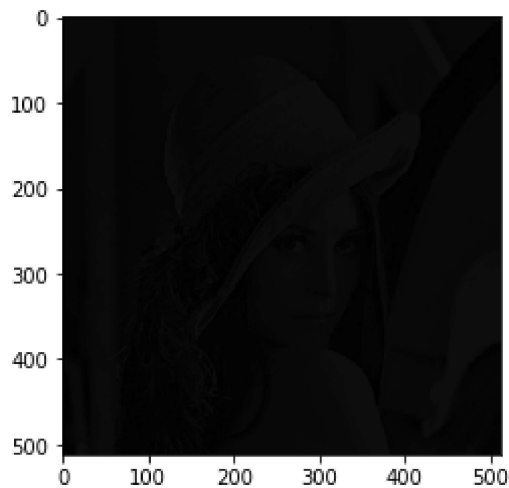
```
imshow(recover_image)
```



In [19]:

```
# C4 to C7
c4_to_c7 = (2*(2*(2*c7+c6)+c5)+c4)
imshow(c4_to_c7)
```

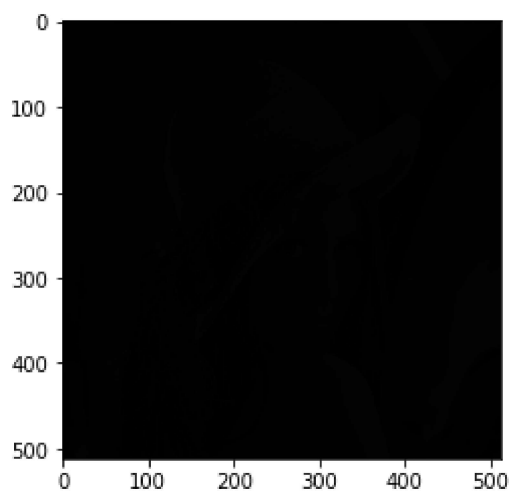
#C4到C7的還原，只能非常勉強的看出原來影像的輪廓，



In [20]:

```
# c6 to c7
c6_to_c7 = (2*c7+c6)
imshow(c6_to_c7)
```

#幾乎看不到



第三題

In [21]:

```
p = cv.imread('pollen.tif')
p = cv.cvtColor(p, cv.COLOR_BGR2GRAY)
```

In [22]:

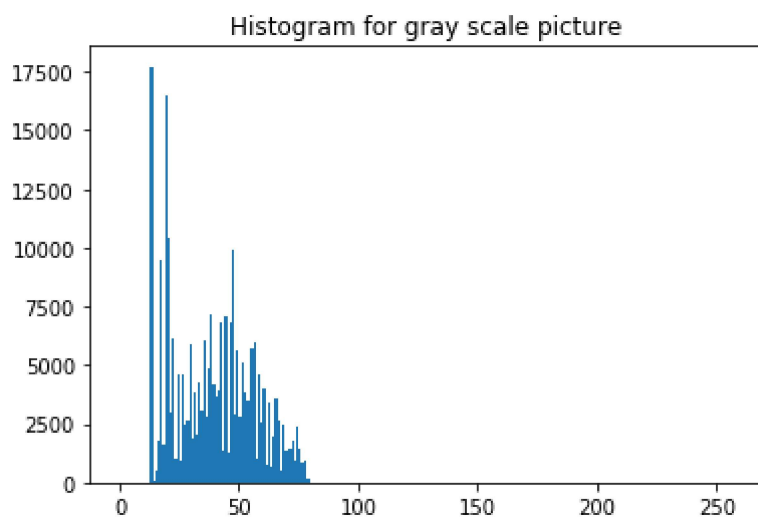
```
cv.imshow("equalizeHist", p)  
cv.waitKey(0)
```

Out[22]:

-1

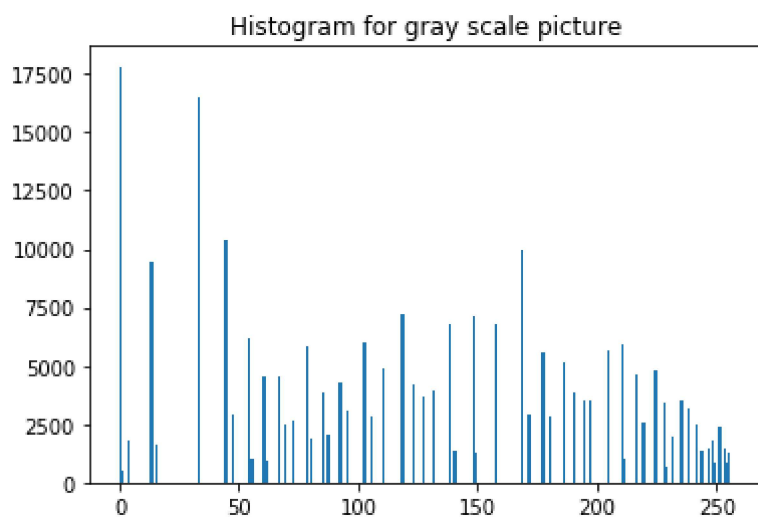
In [23]:

```
imhist(p)
```



In [24]:

```
p = imread('pollen.tif')  
p_hist_eq = histeq(p)  
imhist(p_hist_eq)
```



第四題