

1. image read, display

In [1]:



```
import cv2

imageFile = './data/lena.jpg'
img = cv2.imread(imageFile) # cv2.IMREAD_COLOR
print(img.shape)

img2 = cv2.imread(imageFile, 0) # cv2.IMREAD_GRAYSCALE
print(img2.shape)

cv2.imshow('Lena color',img)
cv2.imshow('Lena grayscale',img2)

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

```
(512, 512, 3)
(512, 512)
```

2. image save

In [2]:



```
imageFile = './data/lena.jpg'
img = cv2.imread(imageFile) # cv2.imread(imageFile, cv2.IMREAD_COLOR)

cv2.imwrite('./out/Lena.bmp', img)
cv2.imwrite('./out/Lena.png', img)
cv2.imwrite('./out/Lena2.png',img, [cv2.IMWRITE_PNG_COMPRESSION, 9])
cv2.imwrite('./out/Lena2.jpg', img, [cv2.IMWRITE_JPEG_QUALITY, 90])
```

Out[2]:

True

3. color image display

In [5]:



```
from matplotlib import pyplot as plt

imageFile = './data/lena.jpg'
imgBGR = cv2.imread(imageFile) # cv2.IMREAD_COLOR
plt.axis('off')

imgRGB = cv2.cvtColor(imgBGR, cv2.COLOR_BGR2RGB)
plt.imshow(imgRGB)
#plt.imshow(imgBGR)
plt.show()
```



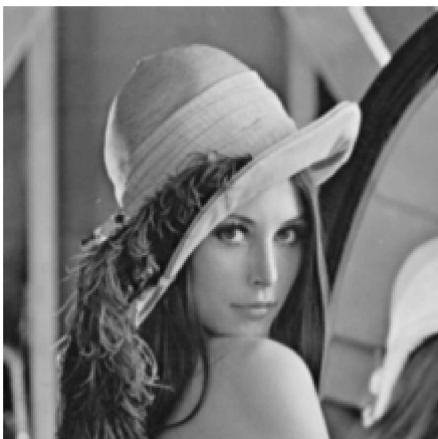
4. gray image display

In [6]:



```
imgGray = cv2.imread(imageFile, cv2.IMREAD_GRAYSCALE)
plt.axis('off')

plt.imshow(imgGray, cmap = "gray", interpolation='bicubic')
plt.show()
```



5. margin, image save

In [7]:



```
imageFile = './data/lena.jpg'  
imgGray = cv2.imread(imageFile, cv2.IMREAD_GRAYSCALE)  
  
plt.figure(figsize=(4,4))  
plt.subplots_adjust(left=0, right=0.5, bottom=0, top=0.5)  
plt.imshow(imgGray, cmap = 'gray')  
  
plt.axis('off')  
plt.show()
```



6. subplot image display

In [8]:

```
path = './data/'

imgBGR1 = cv2.imread(path+'lena.jpg')
imgBGR2 = cv2.imread(path+'apple.jpg')
imgBGR3 = cv2.imread(path+'baboon.jpg')
imgBGR4 = cv2.imread(path+'orange.jpg')

# 컬러 변환: BGR -> RGB
imgRGB1 = cv2.cvtColor(imgBGR1, cv2.COLOR_BGR2RGB)
imgRGB2 = cv2.cvtColor(imgBGR2, cv2.COLOR_BGR2RGB)
imgRGB3 = cv2.cvtColor(imgBGR3, cv2.COLOR_BGR2RGB)
imgRGB4 = cv2.cvtColor(imgBGR4, cv2.COLOR_BGR2RGB)

fig, ax = plt.subplots(2, 2, figsize=(5,5), sharey=True)

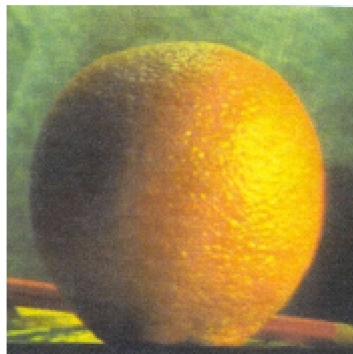
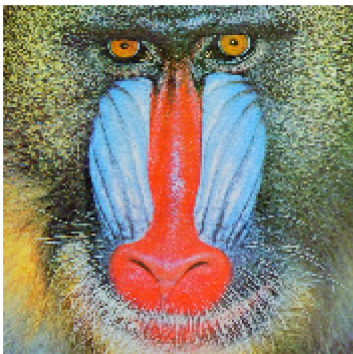
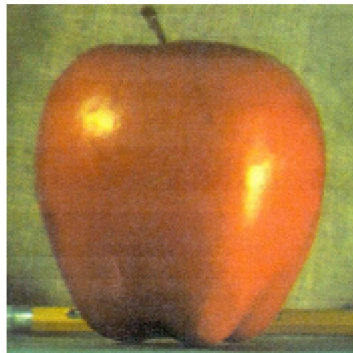
ax[0][0].axis('off')
ax[0][0].imshow(imgRGB1, aspect = 'auto')

ax[0][1].axis('off')
ax[0][1].imshow(imgRGB2, aspect = 'auto')

ax[1][0].axis("off")
ax[1][0].imshow(imgRGB3, aspect = "auto")

ax[1][1].axis("off")
ax[1][1].imshow(imgRGB4, aspect = 'auto')

plt.subplots_adjust(left=0, bottom=0, right=1, top=1, wspace=0.05, hspace=0.05)
plt.show()
```



In []:

