In [ ]:

```
import cv2
import numpy as np
from   matplotlib import pyplot as plt
```

In [ ]:

```
src = np.array([[0, 0, 0, 0],
                [1, 1, 3, 5],
                [6, 1, 1, 3],
                [4, 3, 1, 7]
              ], dtype=np.uint8)

dst = cv2.equalizeHist(src)
print('dst =', dst)
```

In [ ]:

```
src = cv2.imread('./data/lena.jpg', cv2.IMREAD_GRAYSCALE)
dst = cv2.equalizeHist(src)
cv2.imshow('src',  src)
cv2.imshow('dst',  dst)
cv2.waitKey()
cv2.destroyAllWindows()
```

In [ ]:

```
plt.title('Grayscale histogram of lena.jpg')

hist1 = cv2.calcHist(images=[src], channels=[0], mask=None,
                     histSize=[256], ranges=[0, 256])
plt.plot(hist1, color='b', label='hist1 in src')

hist2 = cv2.calcHist(images=[dst], channels=[0], mask=None,
                     histSize=[256], ranges=[0, 256])
plt.plot(hist2, color='r', alpha=0.7, label='hist2 in dst')
plt.legend(loc='best')
plt.show()
```

In [ ]:

```
src = cv2.imread('./data/lena.jpg')

#1
hsv = cv2.cvtColor(src, cv2.COLOR_BGR2HSV)
h, s, v = cv2.split(hsv)
v2 = cv2.equalizeHist(v)
hsv2 = cv2.merge([h, s, v2])
dst  = cv2.cvtColor(hsv2, cv2.COLOR_HSV2BGR)

#2
yCrCv = cv2.cvtColor(src, cv2.COLOR_BGR2YCrCb)
y, Cr, Cv = cv2.split(yCrCv)
y2 = cv2.equalizeHist(y)
yCrCv2 = cv2.merge([y2, Cr, Cv])
dst2    = cv2.cvtColor(yCrCv2, cv2.COLOR_YCrCb2BGR)

cv2.imshow('src',  src)
cv2.imshow('dst',  dst)
cv2.imshow('dst2',  dst2)
cv2.waitKey()
cv2.destroyAllWindows()
```

In [ ]: