```
import numpy as np
import cv2
from google.colab.patches import cv2_imshow
img=cv2.imread("/content/penguinn.jpg")
cv2_imshow(img)
```

Height

```
print('Height: \n',img.shape[0])
```

```
Height:
 400
```

Width

```
print('Width: \n',img.shape[1])
```

```
Width:
 372
```

Chanell

```
print('Chanel: \n',img.shape[2])
```

```
Chanel:
 3
```

Resize Image

```
r_img=cv2.resize(img,(100,100))
cv2_imshow(r_img)
```

Converting into grey

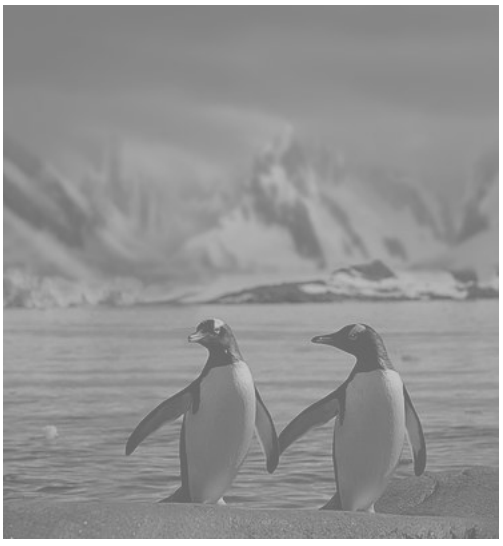
```
img_gr= cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)
cv2_imshow(img_gr)
```

Decreasing the lightness

```
im= 255.0*(img_gr/255.0)**2
cv2_imshow(im)
```

Brightening the image

```
im1= (100/255)*img_gr+100
cv2_imshow(im1)
```



Inversing the image

```
im_in =255- img_gr
cv2_imshow(im_in)
```

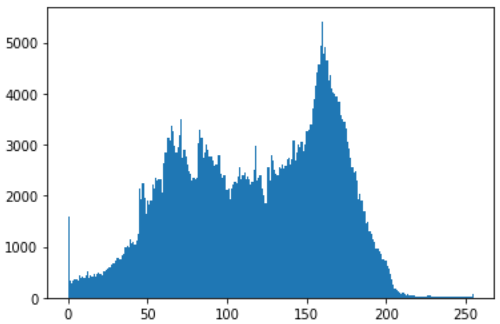
Convertitng image into blur

```
img_blr= cv2.GaussianBlur(img_gr,(3,3),0)
cv2_imshow(img_blr)
```

Histogram for each type of image

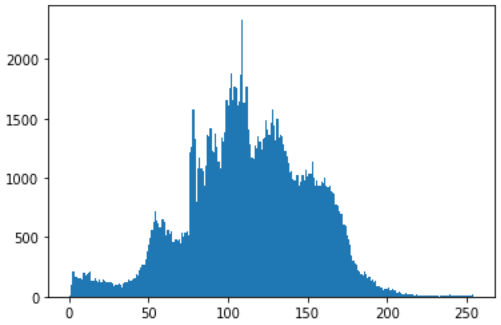
Histogram for normal image

```
import matplotlib.pyplot as plt
#Histogram
plt.hist(img.ravel(),bins=256,range=[0,255])
plt.show()
```



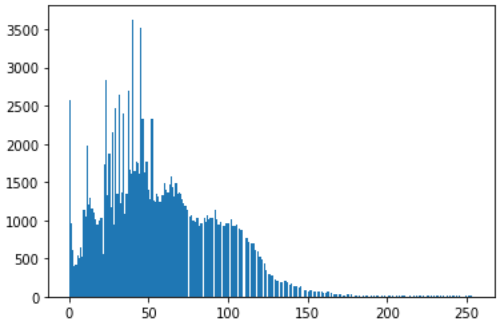
Histogram for grey image

```
plt.hist(img_gr.ravel(),bins=256,range=[0,255])
plt.show()
```



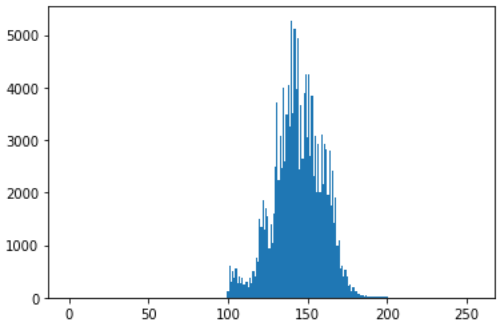
Histogram for low lighter image

```
plt.hist(im.ravel(),bins=256,range=[0,255])
plt.show()
```



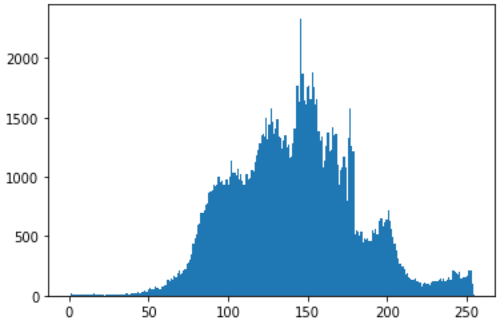
Histogram for Brighter image

```
plt.hist(im1.ravel(),bins=256,range=[0,255])
plt.show()
```



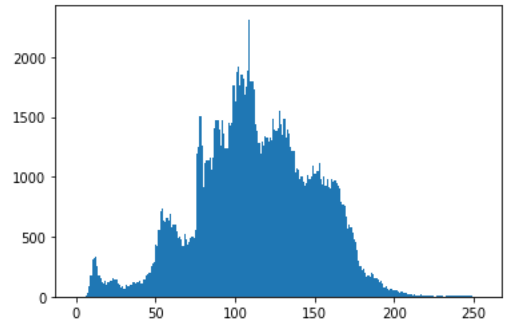
Histogram for Inverse image

```
plt.hist(im_in.ravel(),bins=256,range=[0,255])
plt.show()
```



Histogram for blur image

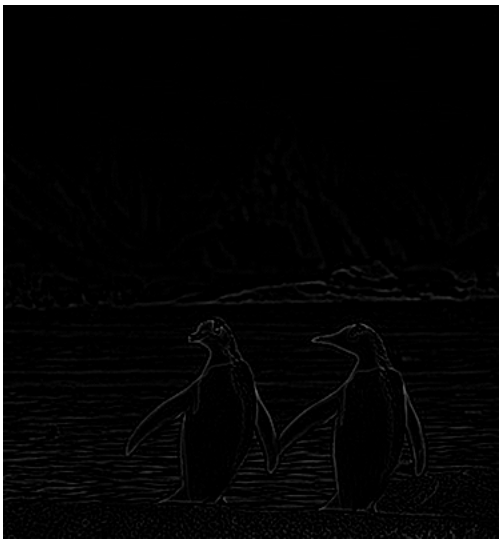
```
plt.hist(img_blr.ravel(),bins=256,range=[0,255])
plt.show()
```




```
cv2_imshow(img_blr)
```

Edge of the Image

```
laplacian=cv2.Laplacian(img_blr,cv2.CV_64F)
cv2_imshow(laplacian)
```



```
sobelx =cv2.Sobel(img,cv2.CV_64F,1,0,ksize=5) #x
cv2_imshow(sobelx)
```

```
sobely=cv2.Sobel(img,cv2.CV_64F,0,1,ksize=5) #y
cv2_imshow(sobely)
```