In [21]:

```
import cv2
import matplotlib.pyplot as plt
import numpy as np
from skimage import io
from skimage.color import rgb2gray

img =
cv2.imread(r'C:\Users\Harsh\Desktop\HP\Python\School_Practicals\CV_Image.jpg')
 #Load path of image and ensure you provide the img name at the end with the
file type(.jpg, .png, etc.)
img1 = rgb2gray(img)  #Grayscale using skimage
img2 =
cv2.imread(r'C:\Users\Harsh\Desktop\HP\Python\School_Practicals\CV_Image.jpg',0
 #Grayscale using cv2

#BGR
plt.imshow(img)
plt.title('BGR')
plt.axis('off')
plt.show()

#RGB
plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
plt.title('RGB')
plt.axis('off')
plt.show()

#Grayscale
#Using skimage conversion
plt.imshow(img1, cmap = plt.cm.gray)
plt.title('Grayscale skimage')
plt.axis('off')
plt.show()
#Using cv2 conversion
plt.imshow(img2, cmap = 'gray') #cmap specifies color mapping, gray in this
case.
plt.title('Grayscale cv2')
plt.axis('off')
plt.show()

print('')
#Size of img
print(img.shape)
```

```
print('')
print(img1.shape)#When loaded as grayscale note there are no color channels
for grayscale img
print('')
#minimum and maximum pixel value present in the image
print (img.min())
print (img.max())
print('')

#Splitting Color Channel
plt.imshow(cv2.cvtColor(img,
cv2.COLOR_BGR2RGB));plt.axis('off');plt.title('RGB')
b = img[:,:,0]
g = img[:,:,1]
r = img[:,:,2]
fig, bgr = plt.subplots(1,3)
bgr[0].imshow(cv2.cvtColor(b,
cv2.COLOR_BGR2RGB));bgr[0].axis('off');bgr[0].set_title('blue');
bgr[1].imshow(cv2.cvtColor(g,
cv2.COLOR_BGR2RGB));bgr[1].axis('off');bgr[1].set_title('green');
bgr[2].imshow(cv2.cvtColor(r,
cv2.COLOR_BGR2RGB));bgr[2].axis('off');bgr[2].set_title('red');
plt.show()

#Resizing
plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
plt.title('Pic')
plt.axis('on')
plt.show()
print('')
roi = img[100:200,300:640] #img[range of y, range of x]
plt.imshow(cv2.cvtColor(roi, cv2.COLOR_BGR2RGB))
plt.title('Resized_Pic')
plt.axis('off')
plt.show()
```

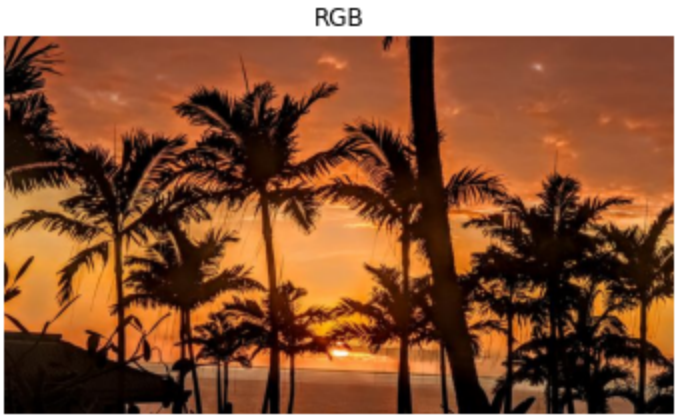
BGR

RGB

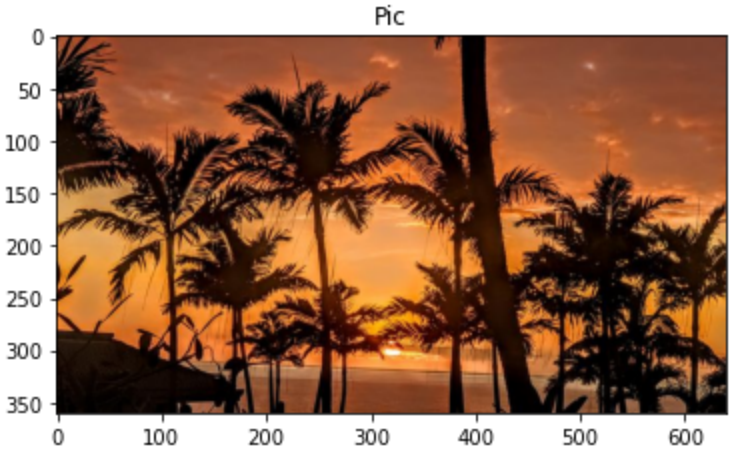
Grayscale skimage

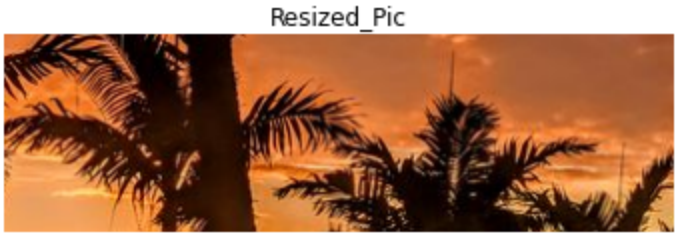
Grayscale cv2

```
(360, 640, 3)

(360, 640)

0
255
```


RGB


blue
green
red


Pic
0
50
100
150
200
250
300
350
0
100
200
300
400
500
600


Resized_Pic

In [ ]: