```
!pip install opencv-python
```

```
Requirement already satisfied: opencv-python in /usr/local/lib/python3.10/dist-packages (4.8.0.76)
Requirement already satisfied: numpy>=1.21.2 in /usr/local/lib/python3.10/dist-packages (from opencv-python) (1.23.5)
```

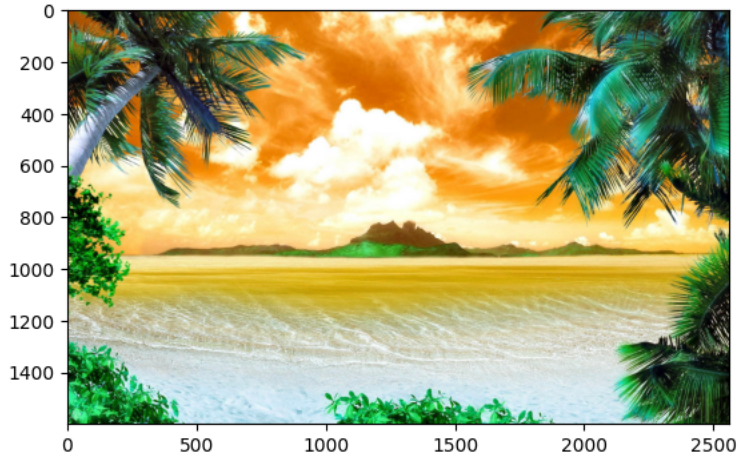
```
import numpy as np
import cv2
import matplotlib.pyplot as plt
```

```
original_image = cv2.imread("/content/pic.jpg")
```

```
original_image
```

```
plt.imshow(original_image)
```

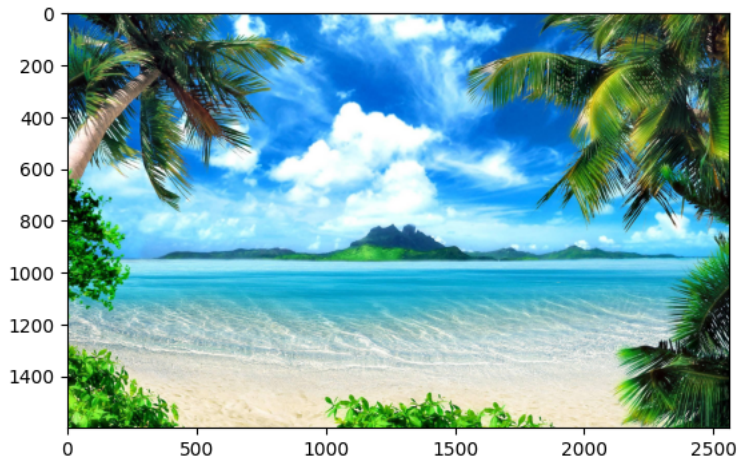
```
<matplotlib.image.AxesImage at 0x79a557e0db70>
```




```
img = cv2.cvtColor(original_image,cv2.COLOR_BGR2RGB)
```

```
plt.imshow(img)
```

```
<matplotlib.image.AxesImage at 0x79a5583c02b0>
```




```
vectorized = img.reshape((-1,3))
```

```
vectorized = np.float32(vectorized)
```

```
criteria = (cv2.TERM_CRITERIA_EPS + cv2.TERM_CRITERIA_MAX_ITER, 10, 1.0)
```

```
K = 3
attempts=10
ret,label,center=cv2.kmeans(vectorized,K,None,criteria,attempts,cv2.KMEANS_PP_CENTERS)


center = np.uint8(center)


res = center[label.flatten()]
result_image = res.reshape((img.shape))


figure_size = 15
plt.figure(figsize=(figure_size,figure_size))
plt.subplot(1,2,1),plt.imshow(img)
plt.title('Original Image'), plt.xticks([]), plt.yticks([])
plt.subplot(1,2,2),plt.imshow(result_image)
plt.title('Segmented Image when K = %i' % K), plt.xticks([]), plt.yticks([])
plt.show()
```


```
K = 5
attempts=10
ret,label,center=cv2.kmeans(vectorized,K,None,criteria,attempts,cv2.KMEANS_PP_CENTERS)


center = np.uint8(center)
res = center[label.flatten()]
result_image = res.reshape((img.shape))


figure_size = 15
plt.figure(figsize=(figure_size,figure_size))
plt.subplot(1,2,1),plt.imshow(img)
plt.title('Original Image'), plt.xticks([]), plt.yticks([])
plt.subplot(1,2,2),plt.imshow(result_image)
plt.title('Segmented Image when K = %i' % K), plt.xticks([]), plt.yticks([])
plt.show()
```

Original Image

Segmented Image when K = 5