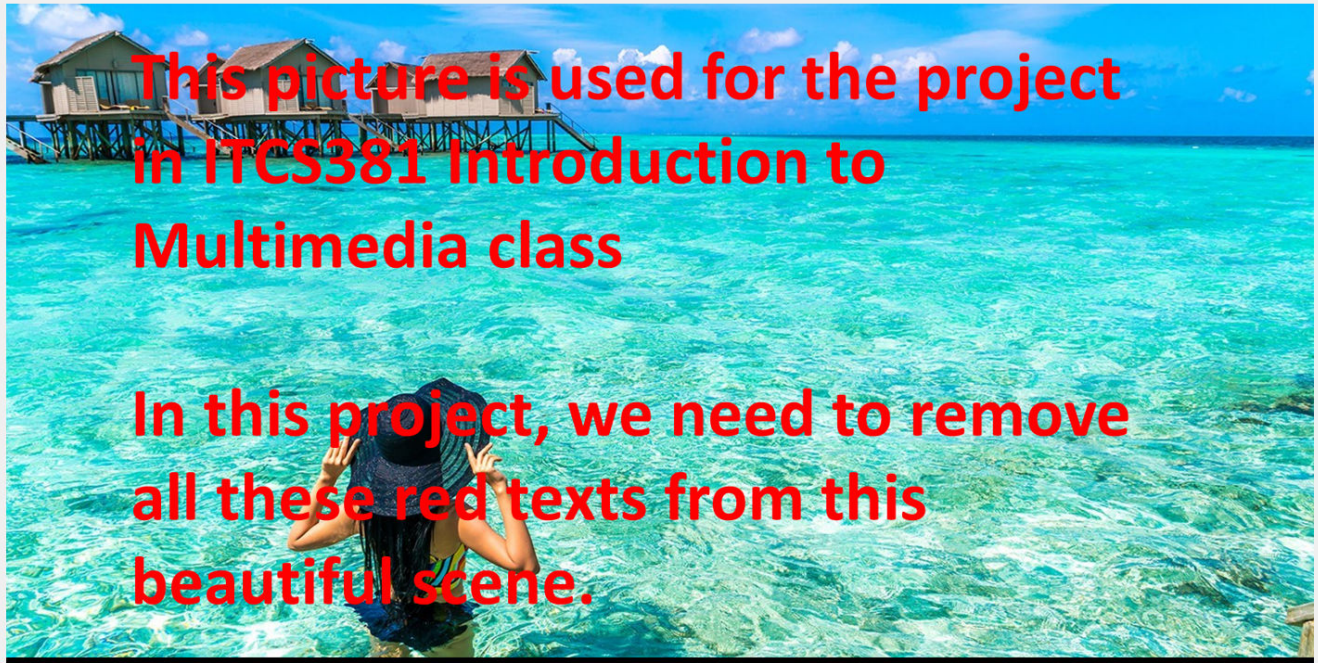


Remove red-text overlay and then remove an object from an image

Read an image "oceanview01_with_text.png" and display it.

```
img=imread("oceanview01_with_text.png");  
imshow(img)
```



Create mask from red-text overlay. In this image, red texts has pure red colors (255, 0, 0). You should also make or expand the mask area to be a bit bigger than the area of red texts. You can use "imdilate" function to expand the mask area a bit.

```
%Convert RGB to CIE 1976 L*a*b*  
l = rgb2lab(img);  
%a*b* color space, your objects are pixels with 'a*' and 'b*' values  
ab = l(:,:,2:3);  
%Convert image to single precision  
ab = im2single(ab);  
nColors = 3;  
% repeat the clustering 3 times to avoid local minima  
%imsegkmeans K-means clustering based image segmentation  
pixel_labels = imsegkmeans(ab,nColors,'NumAttempts',1);  
mask = pixel_labels==2;  
cluster = img .* uint8(mask);  
%remove red color from text  
r=cluster(:,:,1);  
  
se = strel('square',6);  
BW = imdilate(r,se);
```

Display original mask and expanded mask.

```
montage({r,BW})
```

**This picture is used for the project
in ITCS381 Introduction to
Multimedia class**

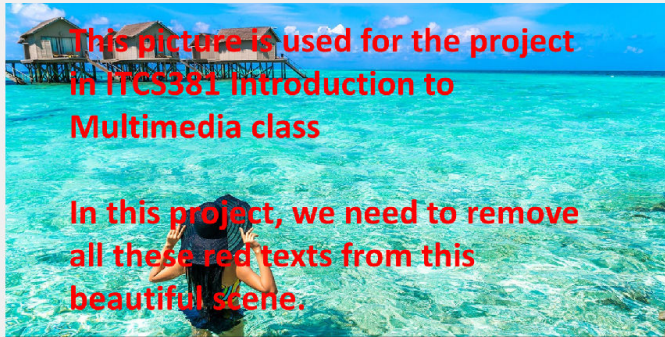
**In this project, we need to remove
all these red texts from this
beautiful scene.**

**This picture is used for the project
in ITCS381 Introduction to
Multimedia class**

**In this project, we need to remove
all these red texts from this
beautiful scene.**

Display original red-text image and expanded mask.

```
montage({img,BW})
```



**This picture is used for the project
in ITCS381 Introduction to
Multimedia class**

**In this project, we need to remove
all these red texts from this
beautiful scene.**

Using inpaintCoherent function to remove red-text overlay.

```
logi=logical(BW);  
JI = inpaintCoherent(img,logi);
```

Display the original red-text image and the removed-red-text image version.

```
montage({img,JI})
```

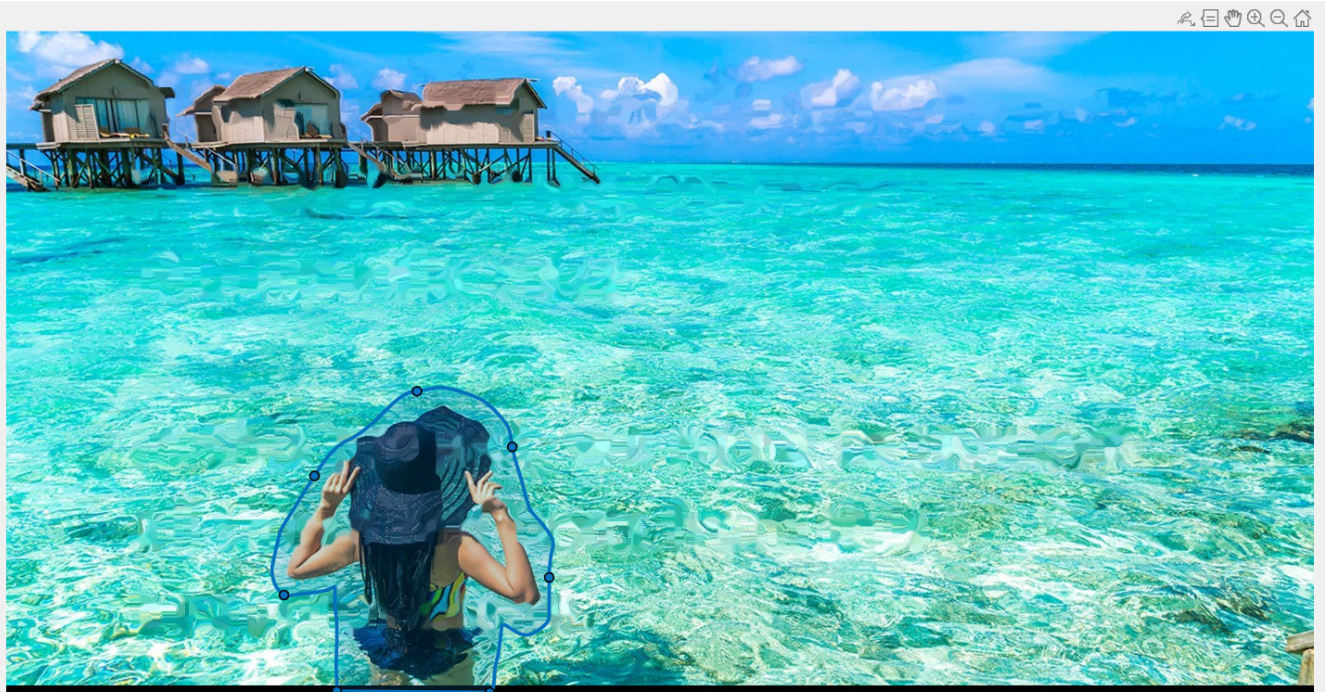



Display only the removed-red-text image version.

```
imshow(JI)
```

Use the `drawfreehand` function to select a region of interest (ROI) for inpainting. In this task, you will remove the woman out from the image.

```
h = drawfreehand;
```

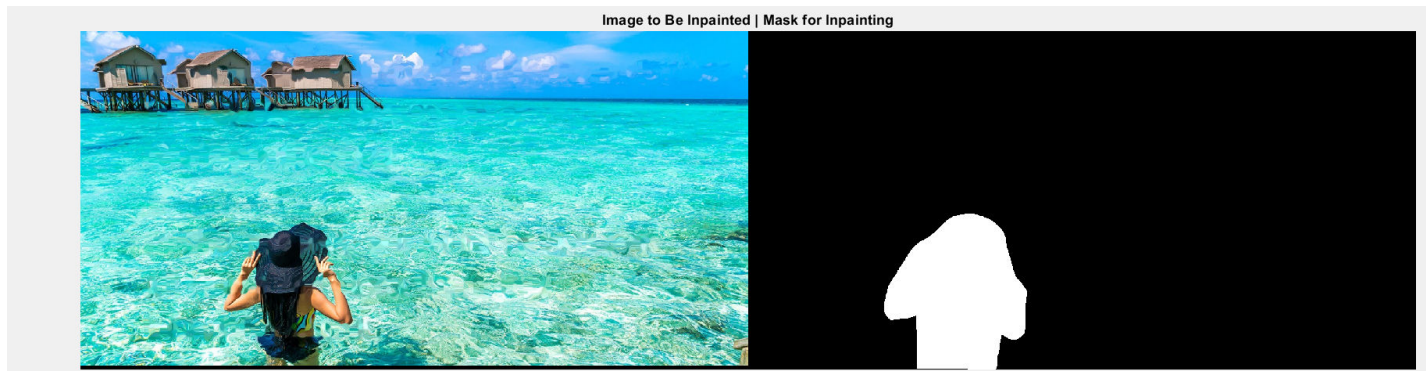


Use the `createMask` function to generate a mask from the selected ROIs.

```
mask = createMask(h);
```

Display the image to be inpainted (the removed-red-text image) and its corresponding mask image.

```
montage({JI,mask})
title(['Image to Be Inpainted',' | ','Mask for Inpainting'])
```

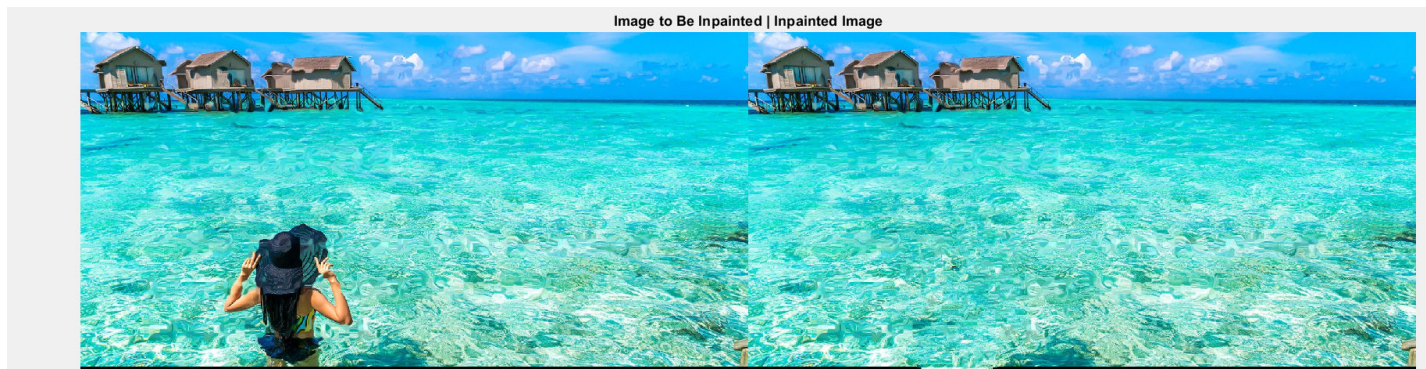


Remove objects in the ROI by using the `inpaintExemplar` function.

```
JE = inpaintExemplar(JI,mask);
```

Display the removed-red-text image and the inpainted or the removed-woman image.

```
montage({JI,JE})
title(['Image to Be Inpainted',' | ','Inpainted Image'])
```



Display only the final image.

```
imshow(JE)
```