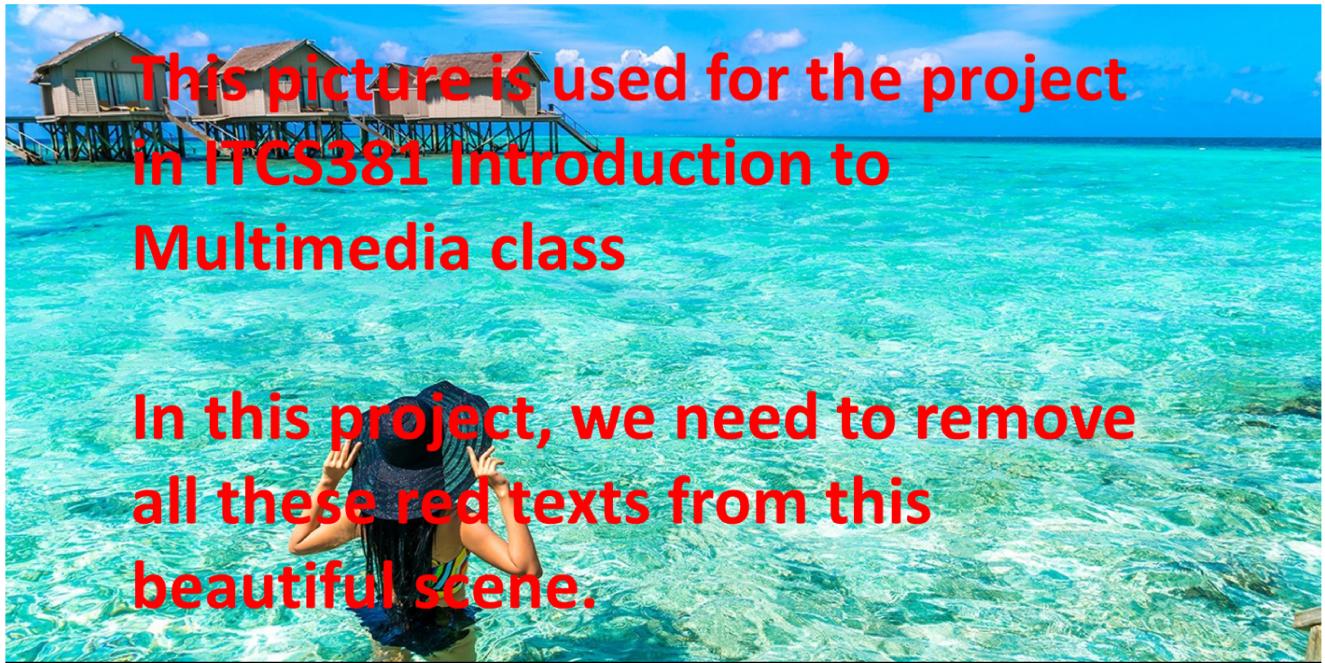


Remove red-text overlay and then remove an object from an image

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.

```
% Create size
```

```

[r,c,ch] = size(img);

% Create black img with 3 channels
black_img = zeros(r,c,ch,"uint8");

% Extract each layer based (RGB) from original img (for checking)
img_red = img(:,:,1);
img_green = img(:,:,2);
img_blue = img(:,:,3);

% Extract each layer based (RGB) from black img (for replacing)
black_red = black_img(:,:,1);
black_green = black_img(:,:,2);
black_blue = black_img(:,:,3);

% Loop to convert red pixel -> white pixel
for i = 1:r
    for j = 1:c
        % If red change to white
        if img_red(i,j,:) == 255 && img_green(i,j,:) == 0 && img_blue(i,j,:) == 0
            black_red(i,j,:) = 255;
            black_green(i,j,:) = 255;
            black_blue(i,j,:) = 255;
        end
    end
end
% Concat three layers
mask_img = cat(3, black_red, black_green, black_blue);

% Expand/imdilate the mask area (square required)
se = strel('square',5);
expand_img = imdilate(mask_img,se);

```

Display original mask and expanded mask.

```
imshowpair(mask_img,expand_img,'montage');
```

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

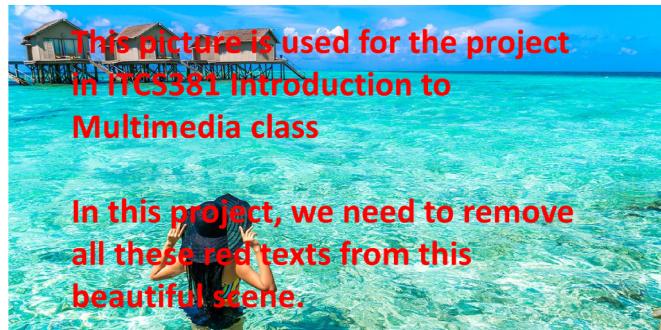
In this project, we need to remove
all these red texts from this
beautiful scene.

**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.

```
imshowpair(img,expand_img,'montage');
```



**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.

```
% Convert type of exp mask from 3D -> 2D (param required this unit)  
cvmask = im2gray(expand_img);
```

```
% Inpaint the original image by removing the overlay text  
coh_img = inpaintCoherent(img,logical(cvmask));
```

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

```
imshowpair(img,coh_img,'montage');
```



Display only the removed-red-text image version.

```
imshow(coh_img);
```

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.

```
% gca - current axes  
drawfh_img = drawfreehand;
```

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

```
mask_img = createMask(drawfh_img);
```

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

```
figure,montage({coh_img,mask_img});
```



```
title('Image to Be Inpainted | Mask for Inpainting')
```

Image to Be Inpainted | Mask for Inpainting



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

```
exemplar_img = inpaintExemplar(coh_img, mask_img);
```

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

```
figure,montage({coh_img,explar_img});  
title('Image to Be Inpainted | Inpainted Image');
```



Display only the final image.

```
imshow(exclar_img);
```

