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Section : 1

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

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

```
Image = imread('oceanview01_with_text.png');
imshow(Image)
```



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.

```
maskText = imread('oceanview01_with_text.png');
[rowsm, columnsm, numberofColorChannelsm] = size(maskText)
```

```
rowsm = 713
columnsm = 1410
numberofColorChannelsm = 3
```

```
%Use the createMask function to generate a mask from the selected
%Source https://www.mathworks.com/help/images/ref/inpaintcoherent.html
mask = 255 * zeros(rowsm, columnsm, 'logical');
for i = 1:rowsm
    for j = 1:columnsm
        if (maskText(i,j,1) == 255 && maskText(i,j,2) == 0 && maskText(i,j,3) == 0)
            mask(i,j,1) = 255;
        end
    end
end

%Create a vertical line shaped structuring element
%Source https://www.mathworks.com/help/images/ref/imdilate.html
mask_expanded = imdilate(mask, strel('sphere', 2));
imshow(mask_expanded)
```

**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 mask and expanded mask.

```
montage({mask, mask_expanded})
```

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

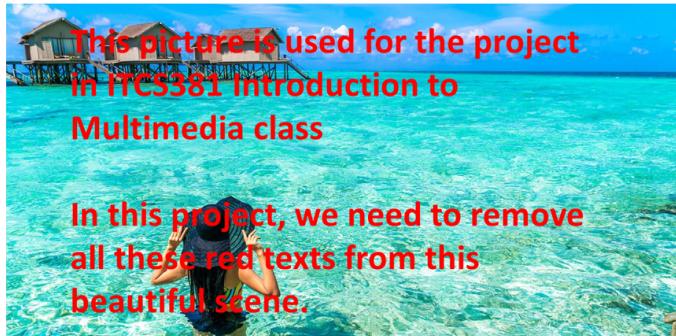
**In this project, we need to remove
all these red texts from this
beautiful scene.**

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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({Image, mask_expanded})
```



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**In this project, we need to remove
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beautiful scene.**

Using inpaintCoherent function to remove red-text overlay.

```
newMask = mask_expanded == 255;  
textRemoved = inpaintCoherent(Image, newMask);
```

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

```
montage({Image, textRemoved})
```



Display only the removed-red-text image version.

```
imshow(textRemoved)
```

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.

```
ROI = drawfreehand;
```



Use the [createMask](#) function to generate a mask from the selected ROIs.

```
ROIMask = createMask(ROI);
```

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

```
montage({textRemoved, ROIMask})
```



Remove objects in the ROI by using the inpaintExemplar function.

```
Image_without_woman = inpaintExemplar(textRemoved, ROIMask);
```

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

```
montage({textRemoved, Image_without_woman})
```



Display only the final image.

```
imshow(Image_without_woman)
```

