Objective: For this assignment you will implement the Connected-Component Labeling Algorithm discussed in class, first, on a grayscale image and then on a color image. The test images provided are img_bw.png and img_color.png and can be downloaded from the course website.

For the grayscale image, segment out the white portions of the image. For the color image, pick one of the four colors in the image to segment. Once you have gotten your code working with these images, use your favorite program to generate other images to test your code with. Or try it on an actual image you have chosen.

For your report: Using the \LaTeX algorithms, algorithmic, and/or algorithm2e package, briefly write out your code in pseudocode. Include the results you obtained for img_bw.png and img_color.png, you may want to use Matlab’s imagesc() command to help you plot your results. Also include any other images you used to test your code. Make sure you include both the original and the resulting images. Lastly, submit your code and include a brief description in the report on how to run the code so I can use it on my own images.

Hint: You may want to resize the images, i.e make them smaller, when you are debugging your code. This may help decrease the time necessary to debug your code.