IMAGE PROCESSING-I

ASSIGNMENT-3   Date: 15-11-22

Instructions:

- Apply the algorithm to ALL the images provided.
- Write an algorithm illustrating the steps taken to solve each of the questions clearly.
- Write the necessary codes on the Google Colab platform.
- Questions 1 and 2 are to be done by all the group

1) From the given lung CT images: (30)
   - Segment the regions corresponding to gray or white colored patches indicating the diseased tissues within the lungs. Produce a binary mask with pixel value 1 corresponding to the diseased tissues within the lung and 0 for other regions of the entire input image.
   - Produce a RGB mask for the infected region and overlay on the original image to produce a final image having the infected regions highlighted by a different color.

2) From the given eye color fundus images, in two color image model, RGB and YCbCr:

                                                                                   (20)

   - Extract each plane individually.
   - Enhance the extracted planes, and combine planes with one another. For example, combine enhanced Y plane with Cb or Cr, combine R plane with G or B or both.
   - Study as much combinations as possible and write a short paragraph how the region of interest is more enhanced (i.e. more information content is retained).