Image Processing Lab
Sem 1
Lab 5: Image Enhancement - 1
06/09/2018

1.Try to complete the lab questions during the lab time (in lab submission)
2.Please do not copy programs.
3.Please find the required images in the Resources folder.

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1. **Negative of an image**
   Use the mammogram image. Find the negative of an image without using any inbuilt function.

2. **Brightness Enhancement and Brightness Slicing**

   (a) Use 'pollengrains' image and increase the intensity value at each pixel location to obtain a brightness enhanced image.

   (b) Use 'kidney' image and perform brightness enhancement only to pixels with intensity between 100 and 150 ; with and without background subtraction.

3. **Histogram of an image**
   Use the cameraman image.

   (a) Plot the histogram of image.

   (b) Find the cumulative distribution also.

   (c) Is the histogram unimodal or multimodal?

4. **Reducing high frequency noise**
   Use the cameraman image and perform the following:

   (a) Add impulse noise and Gaussian noise to the image using inbuilt functions

   (b) Perform median filtering on both the images with filter size 3x3 , 5x5 and 11x11

   (c) Perform average filtering on both the images with filter size 3x3 , 5x5 and 11x11

   (d) Comment on the results obtained. Which filtering is best for which noise?