ECE 5554
Theory and Design of Computer Vision Systems
Fall 2005, 3 credits, CRN: 95427
HW#4
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1. Write a report on imaging devices in your selected area with the corresponding illumination requirements.
2. (a) Write software code to calculate DFT and FFT of the image lena.pgm. Print out the magnitude and phases of the Fourier transforms.
   (b) Taking the output from part (a) make the magnitude and phase values above the half of the maximum values of frequencies to be zero, and then apply inverse Fourier transform. Print out the inverse Fourier Transform as an image.
   (c) Taking the output from part (a) make the magnitude and phase values below the half of the maximum values of frequencies to be zero, and then apply inverse Fourier transform. Print out the inverse Fourier Transform as an image.
3. (a)Write software code to perform contrast stretching on the image figure4_2.pgm. Eliminate any outliers in the histogram. Choose a method for eliminating outliers if these are present in the image. (b) Perform histogram equalization on figure4_2.pgm.