Assignment 2
EEL715
Due Date (27/1/19, 23:59)

1. Take any 8 bit gray image of 100x100 size of your choice, add Gaussian noise of such that SNR is 0, 10, 20 30 dB respectively. Plot all the images.
   Apply smoothing operation using 5x5, 7x7 and 9x9 smoothing filters and evaluate the mean square error in all cases.

2. Image denoted as f(x, y), is transformed to image g(x,y). g(x,y) is 3 times larger along y-aixs and 2 times larger along x-axis than f(x, y). Also g(x,y) is at 6 units horizontal and 7 units vertical distance from f(x,y).
   Write a code to do this. Show f(x,y) and g(x,y)
   Computer h(x,y) third image by rotating pixels of image 2 g(x,y) by 75∘ degrees counter clockwise.
   Write a code to do this. Show f(x,y), g(x,y) and h(x,y).

3. Take an 8-bit gray scale image and perform the following operations using MATLAB,
   (a) –ve of the image, log and antilog of the image
   (b) Apply Gamma correction for gamma=0.4, 2.5, 10, 25 and 100
   (c) 2,3,4 power of image
   (d) Plot Bit-planes of image(show all the 8-plane images)
   (e) Plot the histogram of original image and apply Histogram equalization and plot the resulted image
   (f) Apply a transformation that highlights range [120,200] but preserves all other levels.