Assignment 3: SPATIAL FILTERING

1. The image in 4_1.asc was created by corrupting a clean image with salt-and-pepper noise. A uniform noise within the range [-50, 50] was added to each pixel value at a 15% probability. The perturbed intensity values are clipped to [0, 255]. Use two different filters to remove the noise, and then show the original image and both of the results. Comment about them.

HINTS: 1. Use low pass filter and median filter.
2. You can use load to read asc files. Other useful commands are median, conv2

2. Write a program to sharpen 4_2.bmp using a high boost filter. You can choose the scale factor by yourself.

HINT: 1. Useful MATLAB commands: rgb2hsv, hsv2rgb, (so that only process the graylevel intensity.), and conv2 to do convolution.