Matlab Monday 9/09/2019

In-class practice, not for a grade! But please go through with the assignment to make sure you can do some of the assignments that we will do this year

(1) Using images 01, 02, and 03 do the following:

a. Display a center (or near center) slice through each plane (use the subplot command)
    i. Label the axes with the correct dimensions (Resolution is located in image_0X.dim)
    ii. Adjust aspect ratio using 'axis' command
    iii. Adjust Display range
b. Calculate the cross-sectional area from the central slice (image_0X.im(:,:,central_slice))
c. Read up on the 'montage' command. Then use it to visualize the slices
d. Create a movie to visualize moving through the slices
    i. Use a 'for' loop, 'pause', 'drawnow' commands
e. What do you think this is an image of?

(2) Create a matlab function to calculate the SNR

a. Using 'roipoly', 'mean', and 'std' commands
b. How does the SNR differ between images 01-03?

(3) **Using images 04-10**

a. Describe what the difference is between images 04-06?
b. For image 04
    i. Create a simple threshold to 'mask' out the rat image
c. How does the SNR differ between images 04, 07-09?
    i. Does that threshold still work to segment this image? When does it begin to fail?