EE675/EE684
RESEARCH PROBLEM 1
REQUIREMENTS

Basic Requirements (70%)

Repeat all the experiments in the sample code and report the results in one OneNote file along with your comments on each.

Additional Requirements (30%)

1. Display the k-space of the MRI data provided.
2. Show the effect of each of the two 'fftshift' functions used in the MRI image reconstruction.
3. Display the phase of the reconstructed MRI image.
4. Show the effect of exchanging the real and imaginary parts of the k-space on the reconstructed image.
5. Show how you can reduce the acquisition time of MRI by a factor of 2 and the resultant image.
6. Download a dicom image from the internet and display its metadata.
7. Download an x-ray or CT image form the internet and process it to show only bones or to enhance soft tissues.
8. For a medical image of your choice, apply 3 different spatial domain filters and display their output.
9. Download the Mini-MIAS databased of Research Problem 2 then extract the cancer region from one image and display it.
10. Starting from a small medical image of your choice, magnify it by factors of 2 and 4.