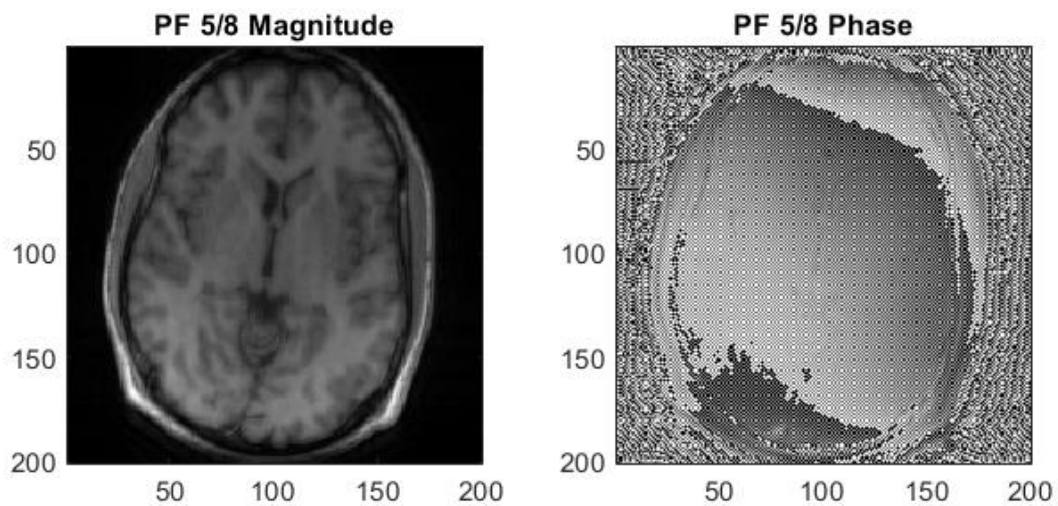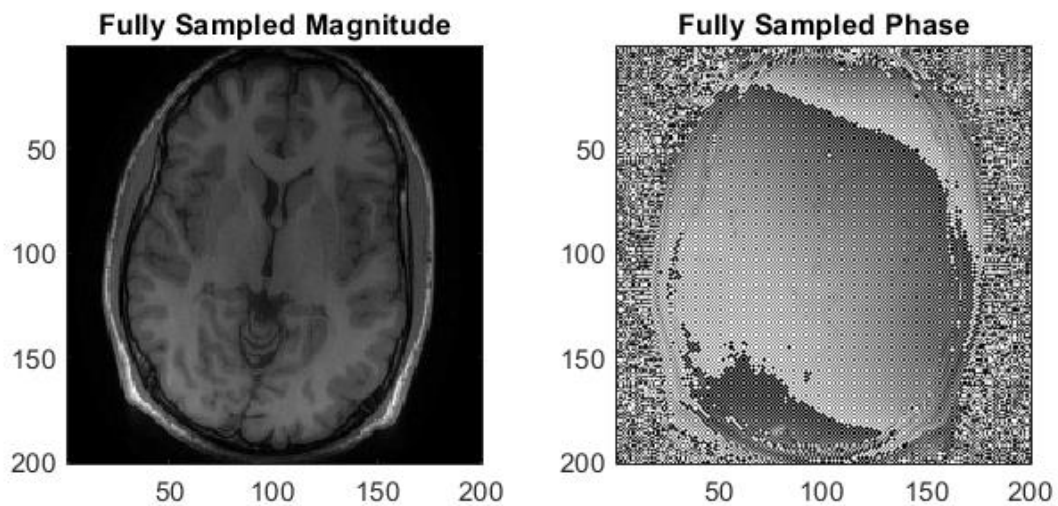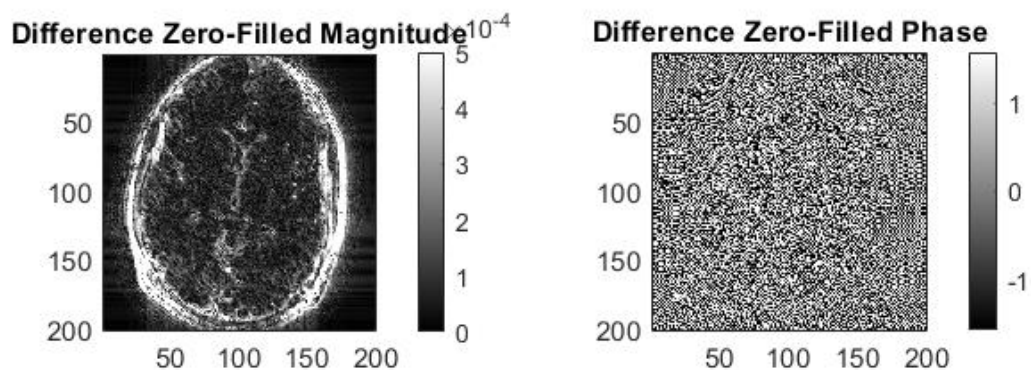# Homework 3

Question 1
Question 1a
See attached code for details (section Question 1). Resultant zero-filled reconstruction on PF 5/8 data:

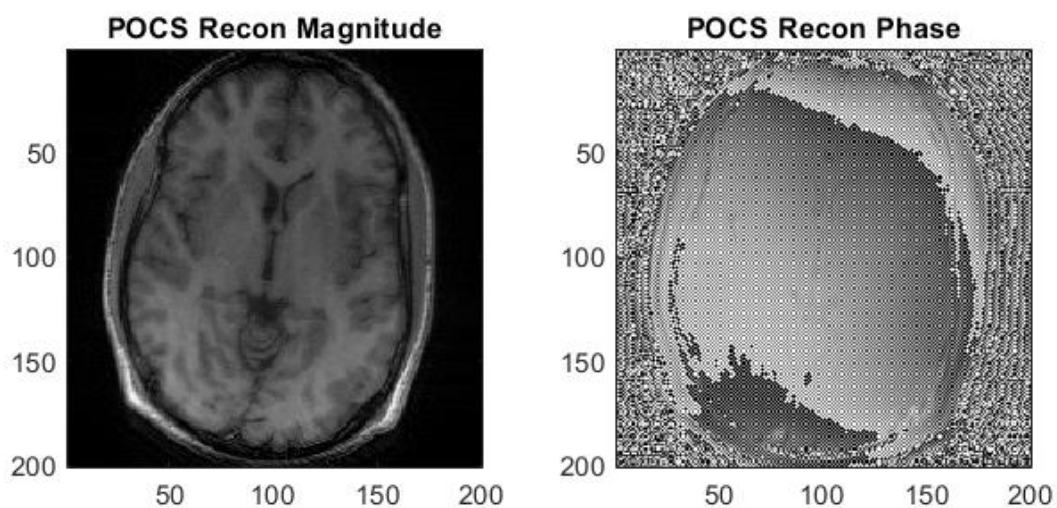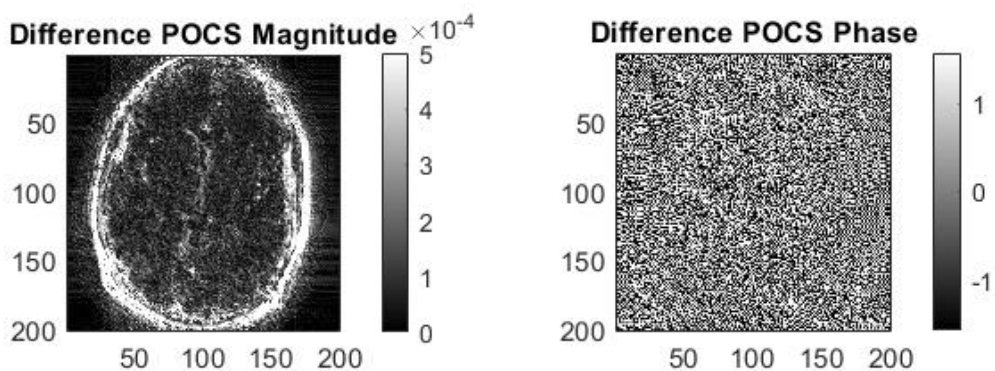The fully sampled image:

The difference between the fully sampled and zero-filled recon:

Difference Zero-Filled Magnitude 10^{-4}

Difference Zero-Filled Phase

Question 1b
See attached code for details (section Question 1). Resultant POCS reconstruction on PF 5/8 data:

POCS Recon Magnitude
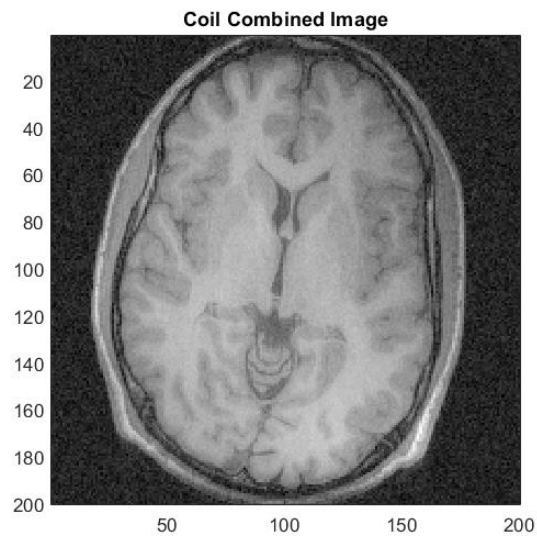
POCS Recon Phase

The difference between the fully sampled and POCS recon:

Difference POCS Magnitude $\times 10^{-4}$
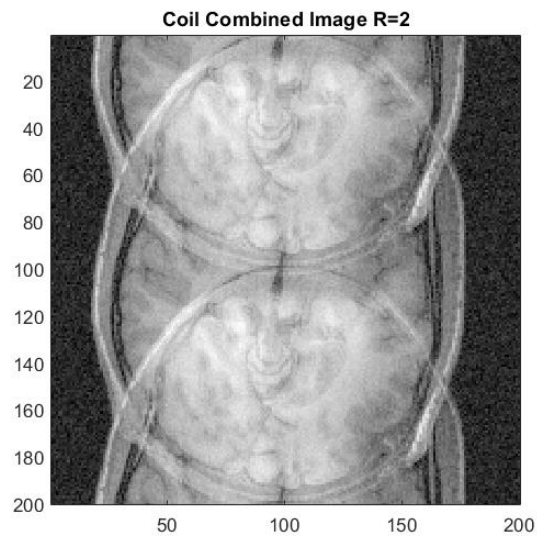
Difference POCS Phase
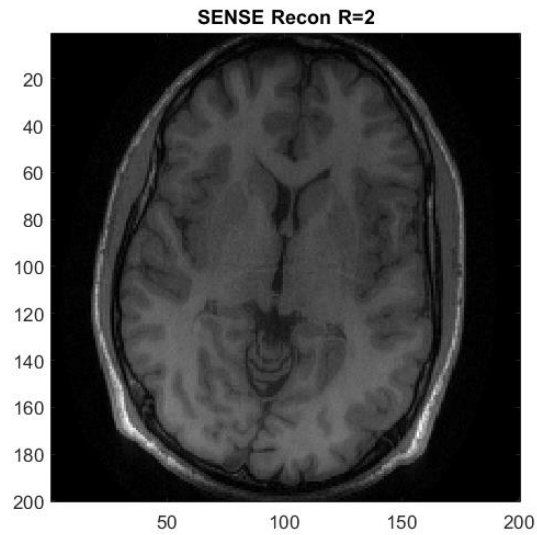
Question 2

Question 2a

See attached code for details (section Question 2). The fully sampled coil-combined image:
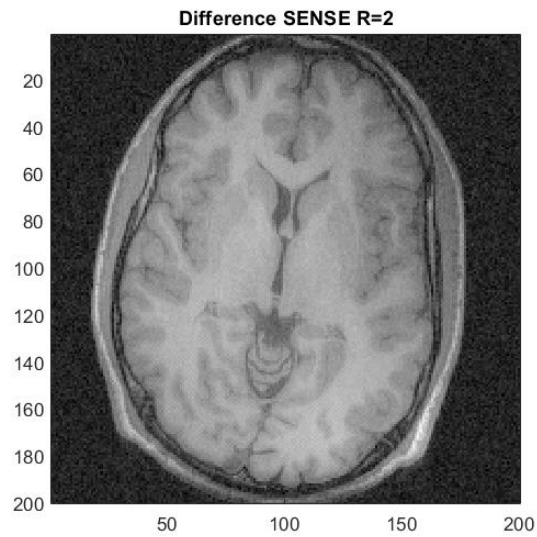

Question 2b

See attached code for details (section Question 2). The under sampled, R=2, coil-combined image:

Question 2c

See attached code for details (section Question 2). The under sampled, R=2, SENSE reconstructed image:
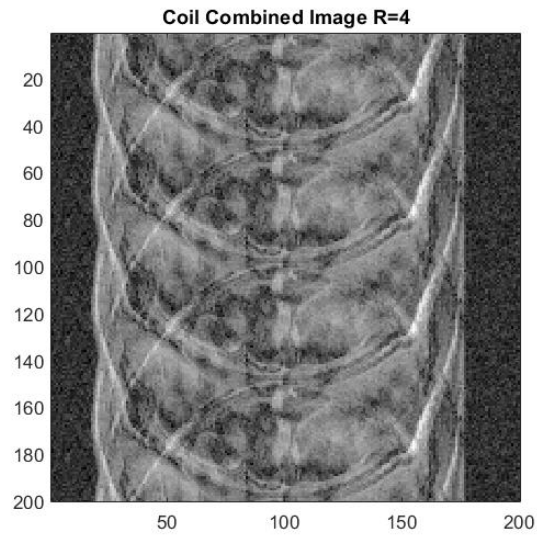
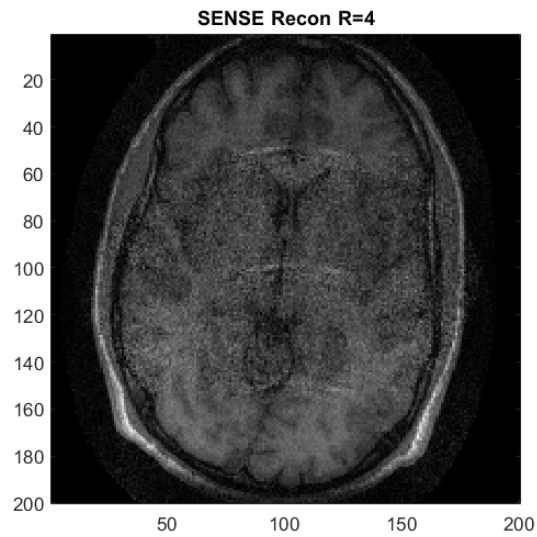The difference between the fully sampled and SENSE reconstructed image:

Question 2d
See attached code for details (section Question 2). The under sampled, R=4, coil-combined image:

Coil Combined Image R=4

The under sampled, R=4, SENSE reconstructed image:

SENSE Recon R=4

The difference between the fully sampled and SENSE reconstructed image:

Difference SENSE R=4