

Task 4

Add to your framework a menu named Frequency Domain that includes the following features:

- 1) The ability to apply Fourier transform to any input signal then display frequency versus amplitude and frequency versus phase relations after asking the user to enter the sampling frequency in HZ. 3
- 2) Allow modification of the amplitude and phase of the signal components. 2
- 3) Allow signal reconstruction using IDFT. 3
- 4) The frequency components should be saved in txt file in polar form (amplitude and phase). 1
- 5) The ability to read a txt file that contains frequency components in polar form and reconstructing the signal by IDFT. 1

(Hint: due to the high similarity between DFT and IDFT try to have one smart code for both ;))