Final Project:

A. Submit a Written Report in PDF format + supporting files (in Canvas)   120 points
B. Project presentation, q/a   30 points

Part-1: (**Include in A only**)   (**8*5 = 40 points**)
Run the example shown in Final-Project-Part-1.pdf document. Copy and paste codes in a word document, include output figures, and discuss results for each case.

Part-2:
1. Run the example from below (**Include in both A only, 5 points**)
    https://www.mathworks.com/help/matlab/examples/fft-for-spectral-analysis.html
2. Record the following in your voice: "Light of the Mind, Light of the World." Plot power spectral density similar to above. (**Include in both A** and **B: 15 points** & **5 points**)

Part-3:
1. Recreate image compression using DCT in matlab. Look at the example for a grayscale image. Now recreate image compression for the color image (lena.png). Copy and paste your code in a word document. Also include original and compressed images side by side. (**Include in both A** and **B, 20** & **10 points**)

2. Run DCT for Speech Signal Compression example from the link below. Submit the code in word document and compressed audio signal as a separate file. (**Include in A only, 10 points**)

    https://fr.mathworks.com/examples/signal/mw/signal-ex71591907-dct-for-speech-signal-compression?s_tid=examples_p1_BOTH

Part-4: Find an application of FFT that you find interesting (preferably relevant to your field of study, research, work, or future career) and recreate the implementation in MATLAB. Discuss the application and significance of FFT. Explain the algorithm and recreate the implantation (major concepts) in MATLAB. Submit the code, results, and any relevant input or output files. (**Include both in A** and **B: 30 points** & **15 points**)