Invoke Matlab and go to the ee171 directory under drive D. That is

cd d:\ee171

Type ‘dir’ or ‘ls’ and determine that you have lpc1.mdl, flanger.mdl and reverberation.mdl. Type ‘load imdemos’ and see that you have a number of images. Type ‘who’ or ‘whos’. Type ‘imagesc(variable)’ or ‘image(variable)’. Type ‘colormap(gray)’ to set the gray level.

1. Let signal \( f = [1111] \); Calculate the Fourier coefficients of \( f \) assuming that it is periodic. Verify your results with Matlab:

Command List:  
\[
f = [1 1 1 1] \\
g = \text{fft}(f)
\]

Note that \text{fft} is just fast algorithm for calculating the dft - which is just the same as the Fourier coefficients of a discrete periodic signal.

2. Type ‘tour’. Under Applications, click on Signal Processing. Under ‘Products installed with Demos’, click on Signal Processing. Click on Continuous Fourier Transform and Run it. Look at the Info to see what is happening. Click and drag to see effects.

Repeat for Disceret Fourier Transform.

3. Type ‘flanger’. Run simulate. Speak into the microphone.

4. Type ‘reverberation’. Run simulate. Speak into the microphone.

5. Type ‘lpc1’. Run simulate. Speak into the microphone.

Hand In: 1) Results of dft, fft.
2) Any comments on LPC, Flanger, Reverberation.