MATLAB Final Project (Due on Jan. 4, 2018)

1. Use the Matlab script in Prob. 2.26 to capture a piece of sound from your MP3 player. You can save the sound to a file using the following Matlab script

   ```
   filename='test.wav';
   audiowrite(filename,y,Fs);
   ```

   You can access this file later using the following Matlab script

   ```
   [y,Fs]=audioread(filename);
   ```

   You can play the sound by

   ```
   sound(filename,Fs);
   ```

2. Use the above sound as a message signal for one of your previous Matlab simulations (eg., DSB, AM, SSB, FM). Your simulation should include modulation and demodulation under noisy environment. To demonstrate your result, you should play your message signal and demodulation result to compare their difference. Your should also plot some of your signals in your communication link (waveform and spectrum). This can help you to check the correctness of your Matlab script. You can also change the SNR (eg., 20, 10, 0 dB) to see the effect of noise on the demodulation result.