

**Ex:**

Write a Matlab® script file that does the following:

- i) Loads the sound file for Handel's Messiah into variable *y*.
- ii) Extracts the second second of sound from *y* and puts the result in *y2*. (Assume the sampling rate is 8192 samples per second.)
- iii) Computes the Fast Fourier Transform (FFT) of *y2* and stores it in *yfft*. (The values in *yfft* represent frequency content for frequencies 0 to 8191 Hz.)
- iv) Deletes every other sample of *yfft*, saving the result in *dfft*.
- v) Takes the inverse FFT of *dfft* and stores it in *yfast*.
- vi) Plays the sound in *yfast*, after taking the magnitude of each sample.

SOL'N:

```
% ECE1250S13_FinalExp6.m

% i)
load handel          % or load('handel')

% ii)
y2 = y(8193:16384); % starts at 8192+1

% iii)
yfft = fft(y2);

% iv)
dfft = yfft(1:2:end);

% v)
yfast = ifft(dfft);

% vi)
sound(abs(yfast))    % absolute value is magnitude in Matlab®
```