

Tune-Up Tuesday for September 26, 2017

Write the MATLAB code for the following:

(a) Generate a chirp signal  $x[n] = \cos(\pi (0.7 \times 10^{-4}) n^2)$  for  $n = 0, 1, \dots, 24000$ .

(b) Plot the spectrogram  $x[n]$  with  $f_s = 8000$  Hz. See slide 4-12.

**fs = 8000;**

**blockSize = 1024; % Slide 4-12**

**shift = 512;**

**spectrogram(x, blockSize, shift, blockSize, fs, 'yaxis');**

(c) Play the audio signal using  $f_s = 8000$  Hz

(d) Using MATLAB comments, describe what you hear.