Homework #5: Chapter 2 (due Oct. 2, 2015)

Preliminary

- Textbook reading Ch. 2.4 - 3.2 (pp. 116 - 186)
- As a reminder, EE312 office hours are on Wed. from 9:00-10:00am and Thu. from 3:00-4:00pm.
- Please direct all email to pdeleon@nmsu.edu (do not send email via Canvas). All requests for bonus points will receive a confirmation email within 48 hours.
- In order to receive full credit for homework problems, you must provide a detailed solution. Simply writing a few, summarized steps toward the answer will result in minimal credit.
- All problems are worth +10 points unless otherwise noted.

Textbook Problems

2.31

2.33(a) only (ii)

2.38(a)

2.39(a)

Software Problems

Using `impz(b,a)` in MATLAB, we can numerically compute and plot the impulse response. For more information, please see

http://www.mathworks.com/help/signal/ref/impz.html

1. Reconsider the system in Homework #4 Problem 2.30: $y[n]+2y[n-1]=x[n]$. As described in (2.113) in the text, we can place the LCCDE coefficients for feedback and feedforward into vectors `a = [1;2]` and `b = [1]`. Use the following MATLAB code to plot the impulse response and print (in a list) the values, $h[n]$ for $0 \leq n \leq 10$.

```
N = 10;
a = [1;2]; % feedback coefs
b = [1]; % feedforward coefs
h = impz(b,a,N+1);
[[0:N]' h] % list the values
plotdsig(h); % use tool for quick DT plot
axis([0 10 -1024 1024]);
ylabel('h[n]');
```