EE 451: Homework 1

1. #2.1 from textbook

2. #2.15 from textbook (Hint: expand the summation as a series, then multiply both sides by $(1-a)$)

3. #2.19 from textbook

4. #2.24 from textbook

5. #2.37 from textbook

6. Write a MATLAB code to generate the sinusoidal sequence given by

$$x(n) = \cos(\omega_0 n)$$

for

(a) $\omega_0 = 0$
(b) $\omega_0 = 0.1\pi$
(c) $\omega_0 = 0.2\pi$
(d) $\omega_0 = 0.8\pi$
(e) $\omega_0 = 0.9\pi$
(f) $\omega_0 = \pi$
(g) $\omega_0 = 1.1\pi$
(h) $\omega_0 = 1.2\pi$

use the stem function to plot your results and make sure you label all your figures.