EE562 - Digital Signal Processing I
Second Semester (212)

Dr. Wail A. Mousa
Department of Electrical Engineering, KFUPM

Computer Assignment/Homework 4

Date: February 9, 2022
Due date: February 16, 2022

Objective:

To perform simple analysis of DT systems in the z-domain using MATLAB.

The required task:

Consider the following transfer functions:

$$H_1(z) = \frac{2 + 5z^{-1} + z^{-2}}{1 + 2z^{-1} + 3z^{-2}}.$$

and

$$H_2(z) = \frac{1}{(z - \frac{1}{3})(z - \frac{1}{2})}$$

Use the MATLAB functions: **roots, ploy** and **zplane** to plot the pole-zero map of the above two systems. Also, for each system, display its zero and pole values.

What to submit?

1. A print of the written MATLAB M-file.
2. The two plots and the zeros and poles values.
3. Your observations if any.

Homework: Solve problems: 3.11, 3.12, 3.16 (b, c) and 3.37.