

EE562 - Digital Signal Processing I Second Semester (212)

## Computer Assignment 4

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```
%Assignment 4
% Done by Mahmoud Yassin Mahmoud
% ID: 202113650
% Submitted To Dr. Wail A. Mousa
% Bism Allah and I will start with
clc;
clear;
%.....
num1 = [2 5 1];% numerator coefficients for H1(z)
den1 = [1 2 3];% denominator coefficients for H1(z)
%-----
num2 = [1];% numerator coefficients for H2(z)
den2 = [1 - 5/6 1/6];% denominator coefficients for H2(z)
%-----
H1 = tf(num1, den1, 0.1) % Transfer Function H1(Z)
sprintf('\n')
H2 = tf(num2, den2, 0.1) % Transfer Function H2(Z)
%-----
% Calculation of poles and zeros for H1(z)
  poles1 = pole(H1)
  zeros1 = zero(H1)
%-----
% Calculation of poles and zeros for H2(z)
   poles2 = pole(H2)
   zeros2 = zero(H2)
%-----
%ploting
figure
subplot(211)
  pzmap(H1)
  title('the pole-zero map for H1(z)')
subplot(212)
  pzmap(H2)
  title('the pole-zero map for H1(z)')
```

H2 =

1 -----z^2 - 0.8333 z + 0.1667

Sample time: 0.1 seconds

Discrete-time transfer function.

poles1 =

-1.0000 + 1.4142i -1.0000 - 1.4142i

zeros1 =

-2.2808

-0.2192

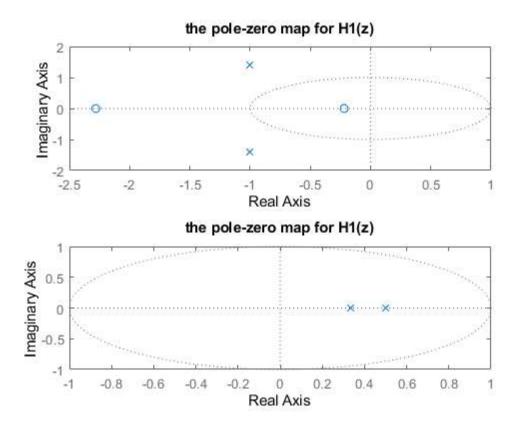
poles2 =

0.5000

0.3333

zeros2 =

0×1 empty double column vector



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