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```
% BME 350 HW 6
% Mary Oh
% 1208315416

clc;
close all;
clear all;
```

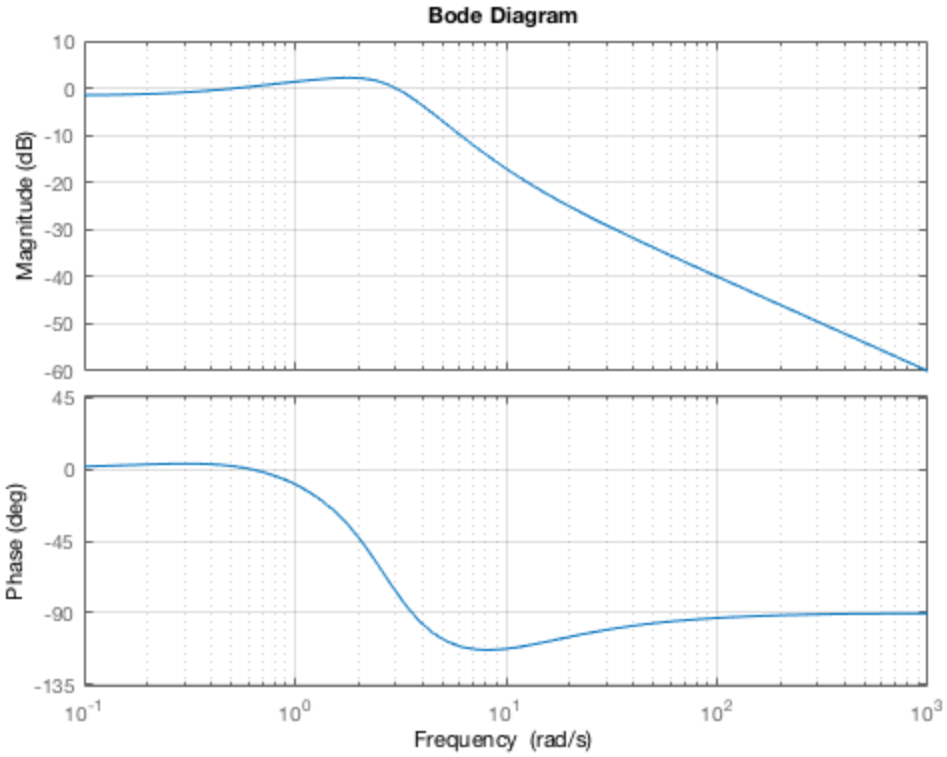
Q6

```
% Transfer Function: H(s) = (s^2+10s+5)/(s^3+4s^2+10s+6)

% Numerator
num = [1 10 5];

% Denominator
den = [1 4 10 6];

% Tranfer function
H = tf(num, den)
```

```
H =

      s^2 + 10 s + 5
  ----------------------
  s^3 + 4 s^2 + 10 s + 6

Continuous-time transfer function.
```

Q6a

```
% Plot frequency response
figure(1)
bode(H), grid
```

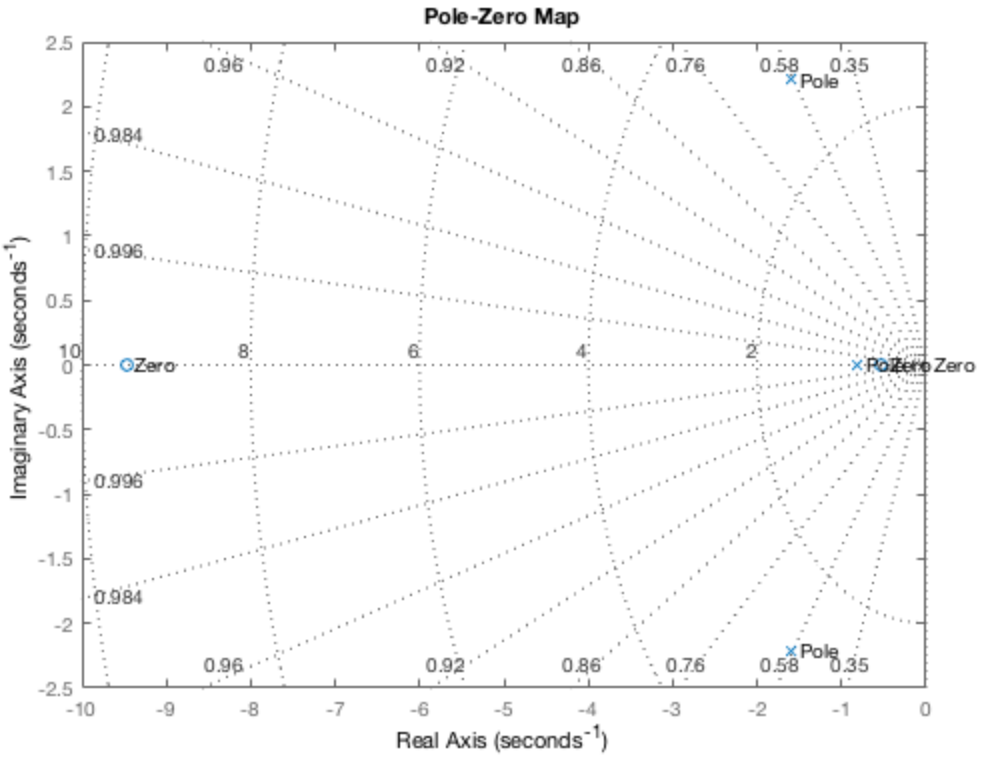


Q6b

```
% Compute and plot poles and zero
[num, den] = eqtflength(num, den);
[z,p,k] = tf2zp(num, den)

figure(2)
pzplot(H), grid
text(real(z)+.1,imag(z),'Zero')
text(real(p)+.1,imag(p),'Pole')
```

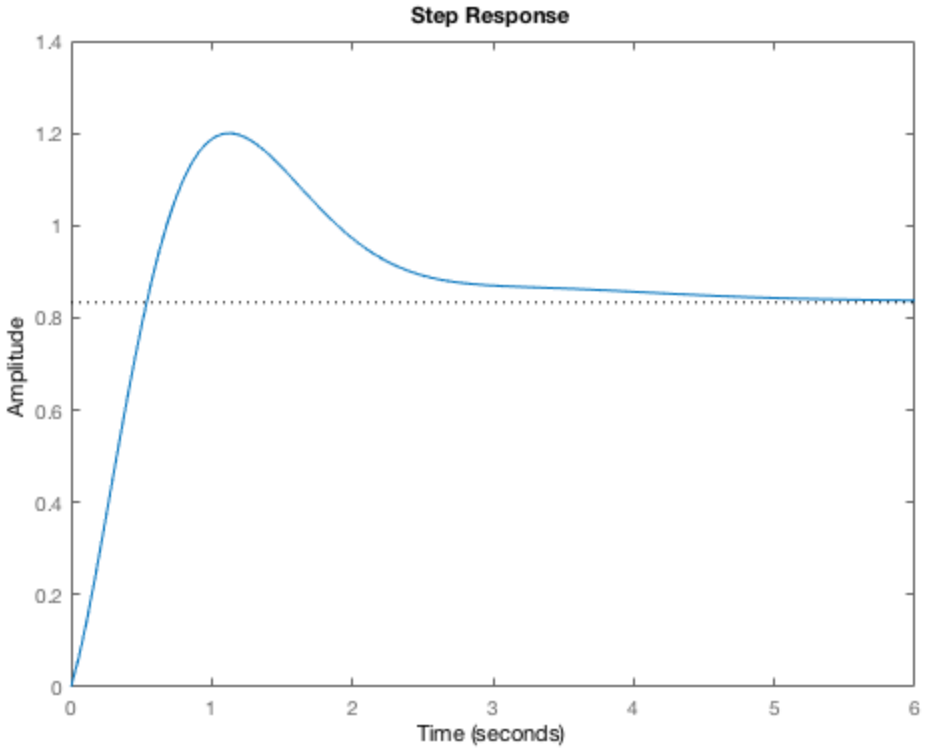
```
z =

         0
   -9.4721
   -0.5279


p =

  -1.5956 + 2.2075i
  -1.5956 - 2.2075i
  -0.8087 + 0.0000i
```

```
k =

     1
```



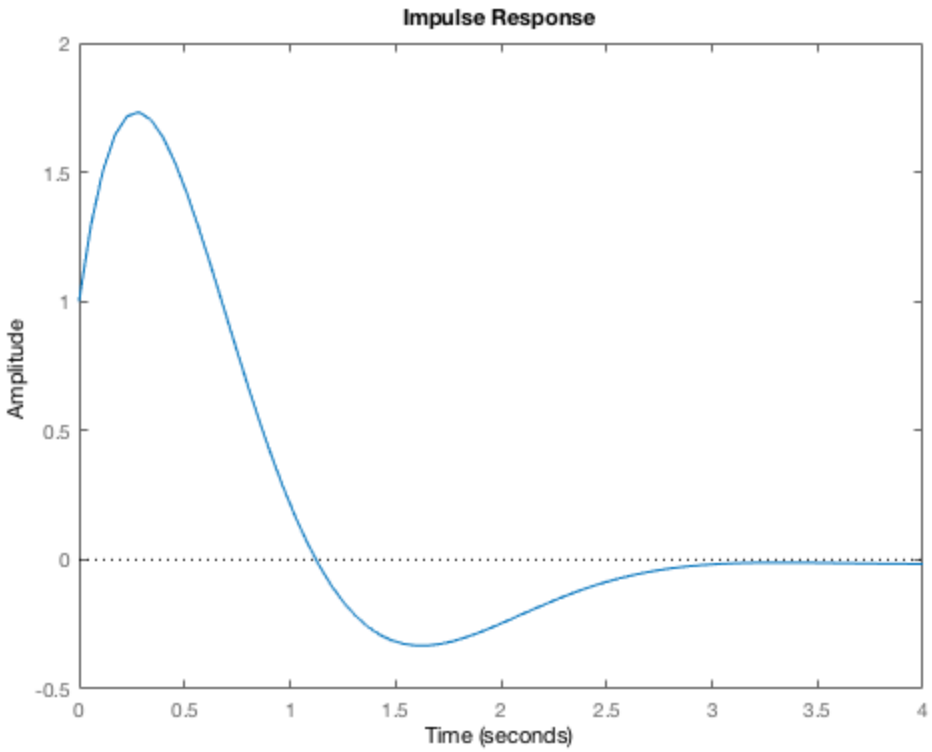
Q6c

```
% Compute and plot step response
figure(3)
step(H)
```



Q6d

```
% Compute and plot impulse response
figure(4)
impulse(H)
```



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