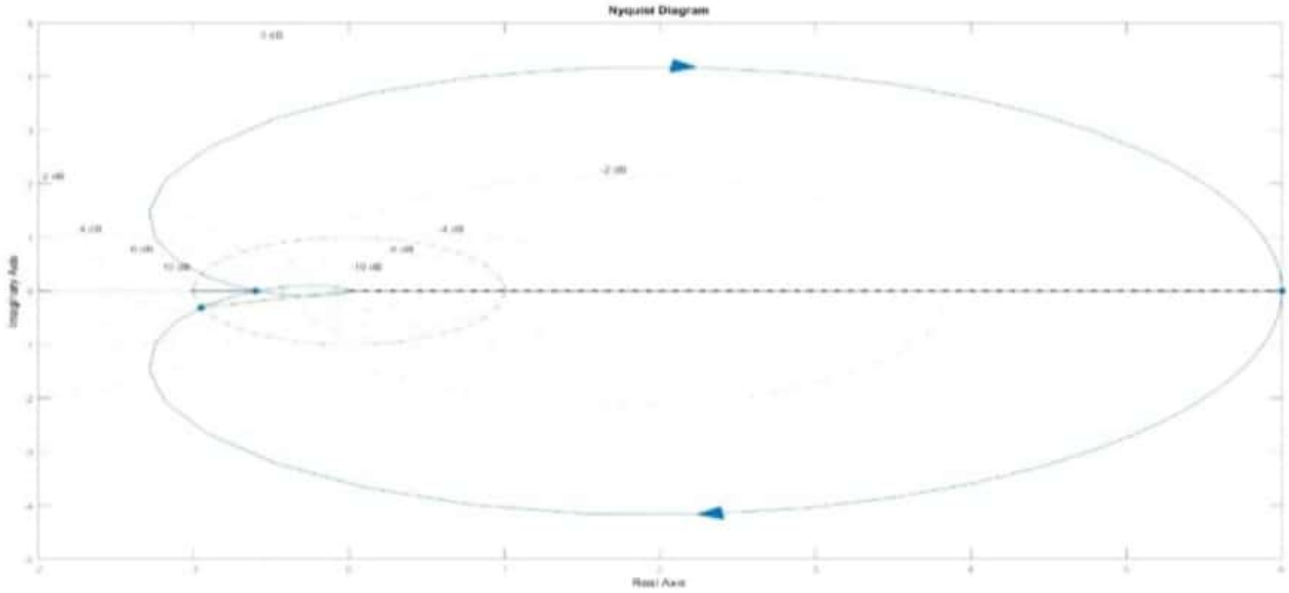
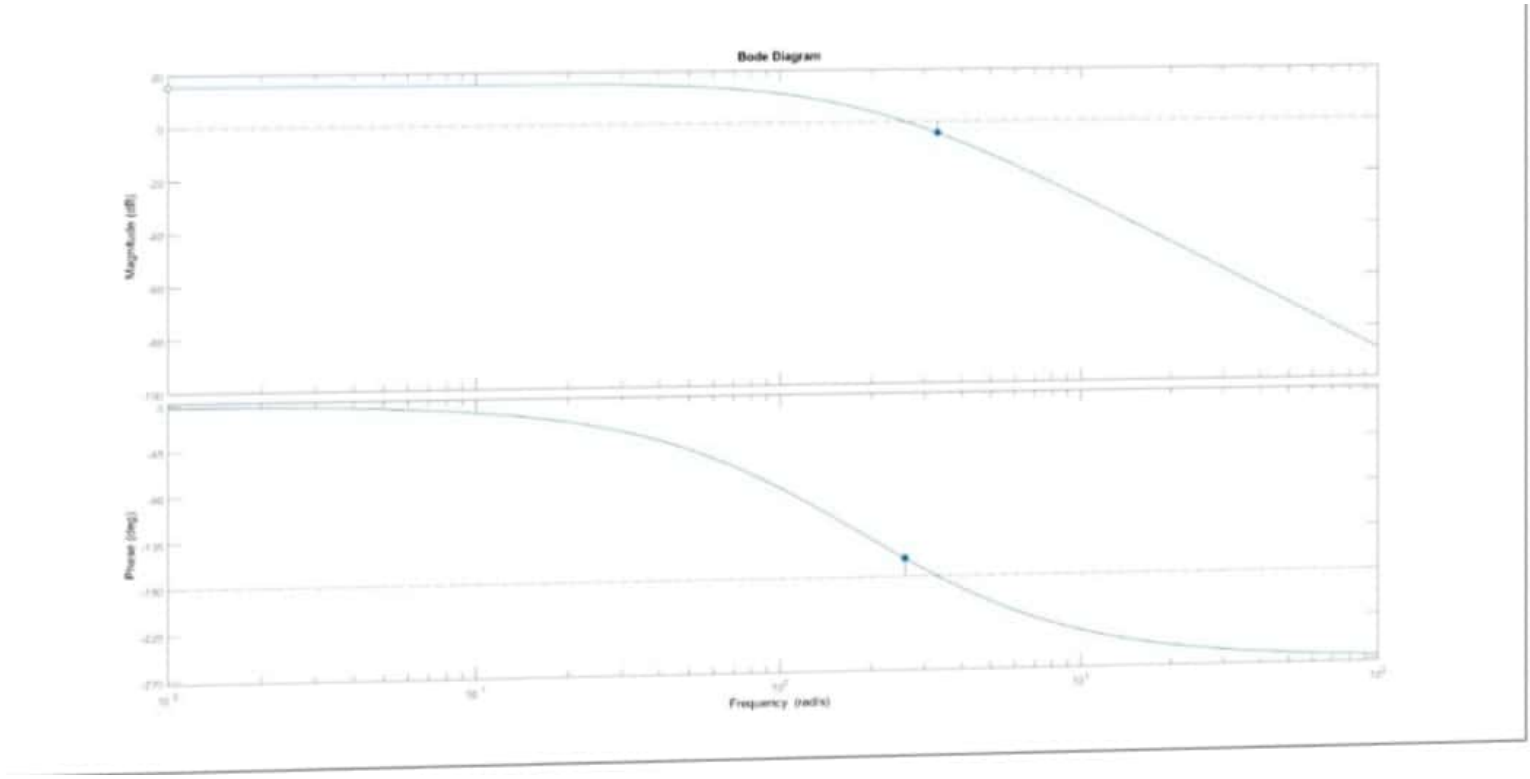
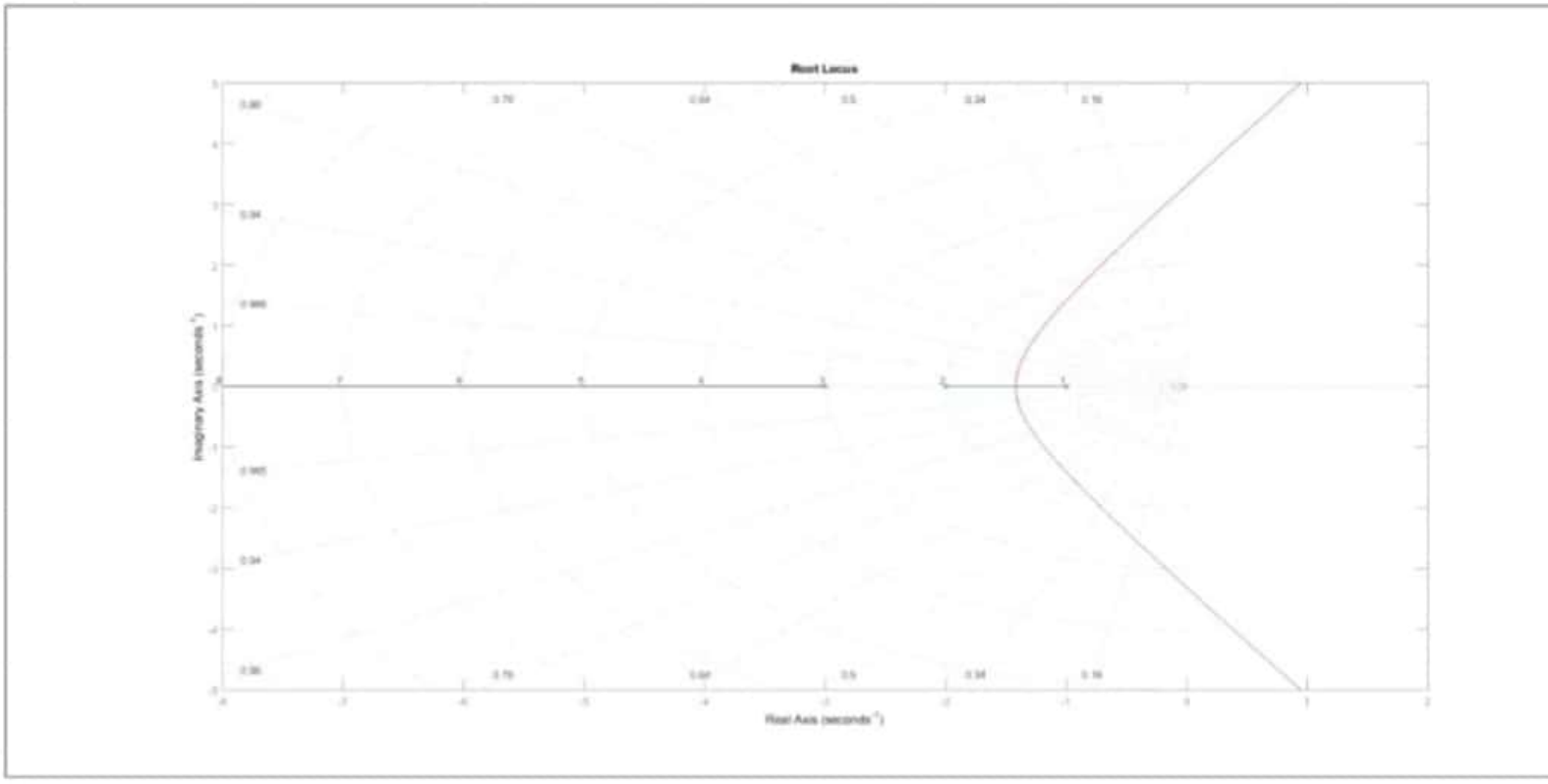
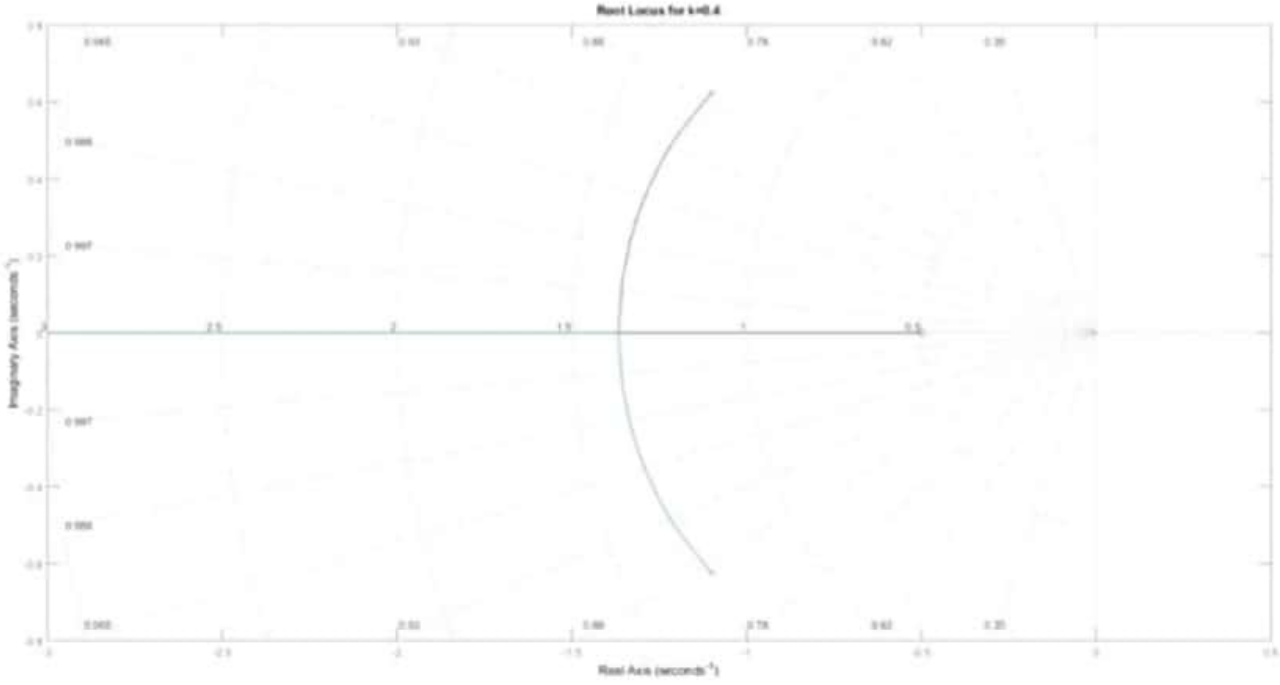
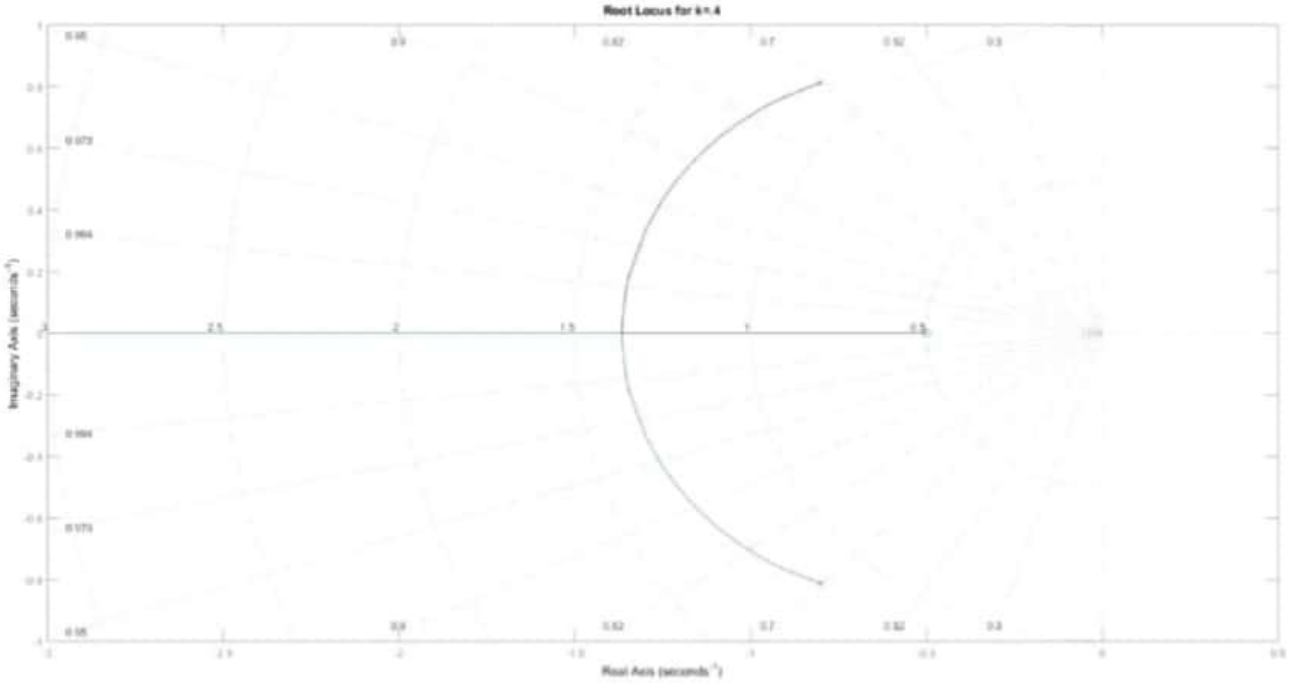




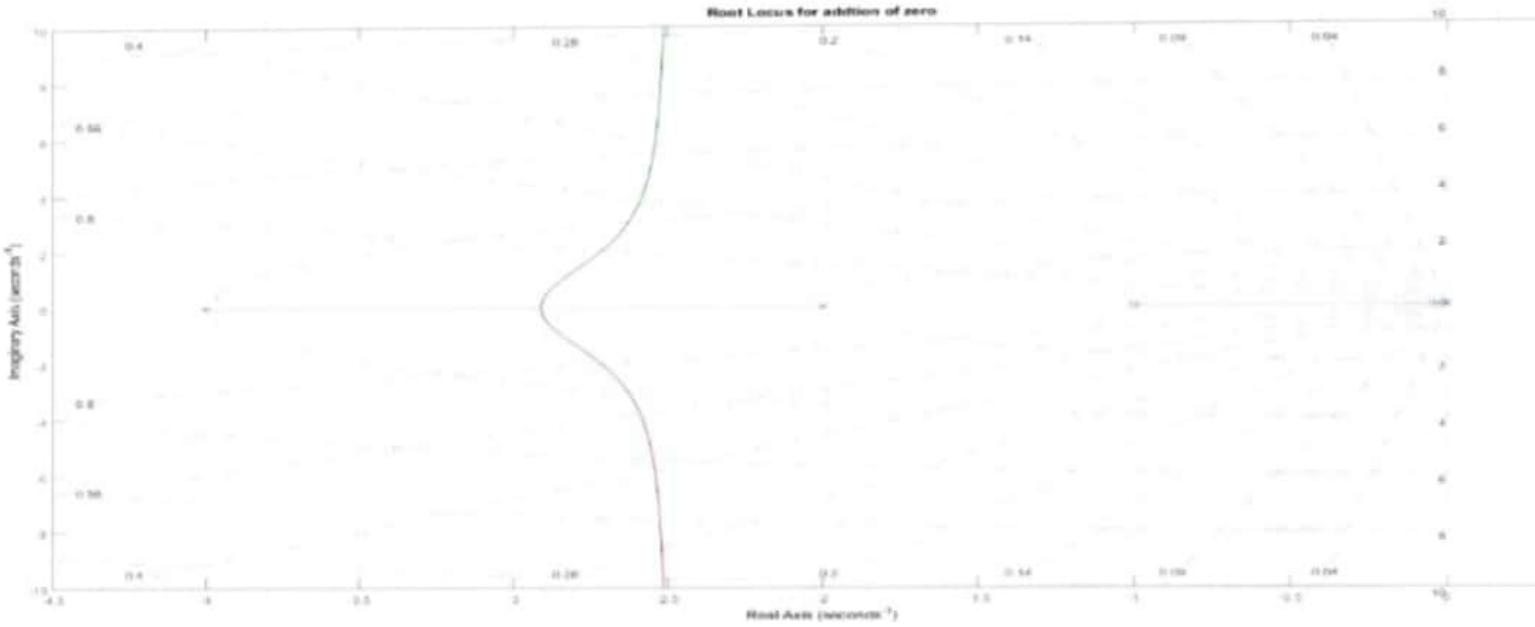


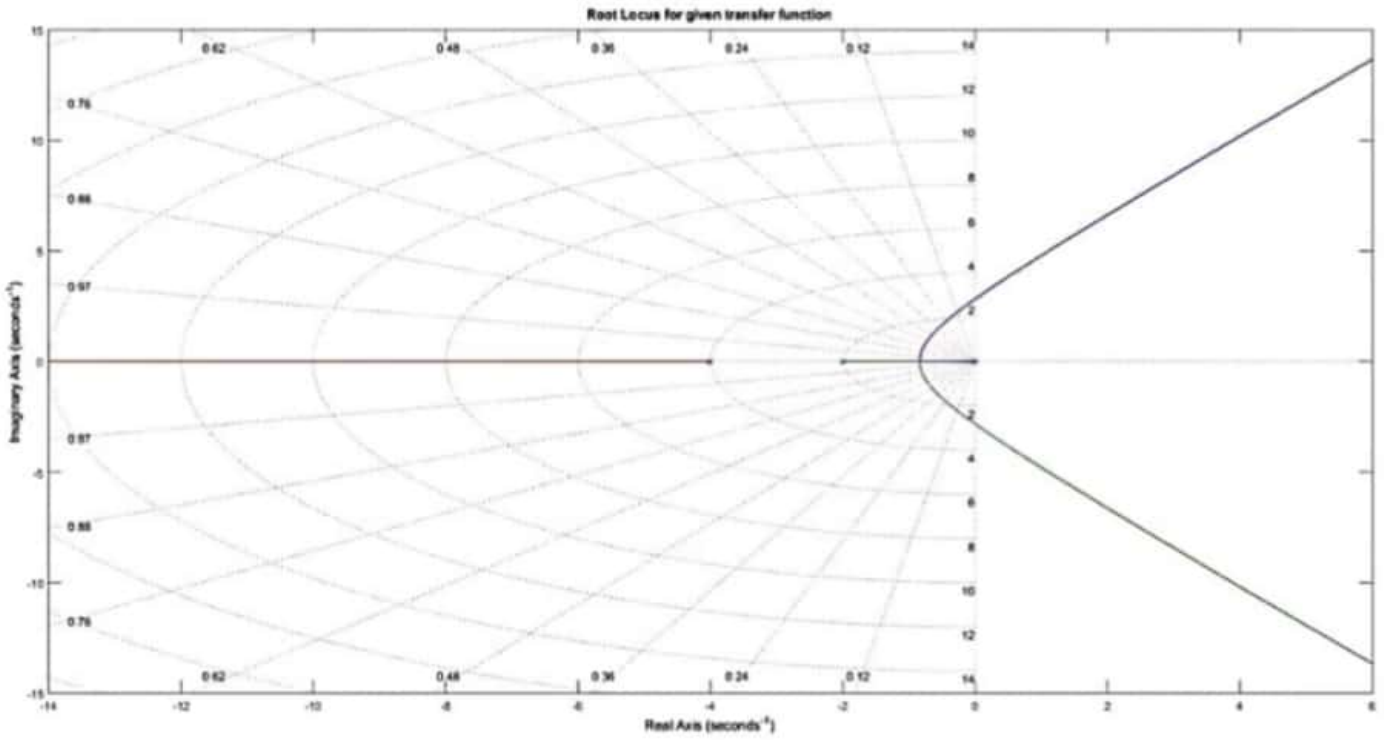
```
%%transfer
p=[0 0 0 36];
q=[1 6 11 6];
sys=tf(p,q);
%%rootlocus
figure(1);
zpk(sys);
rlocus(sys);
%%bodeplot
figure(2);
bode(sys);grid;
%%nyqiust
figure(3);
nyquist(sys);
```

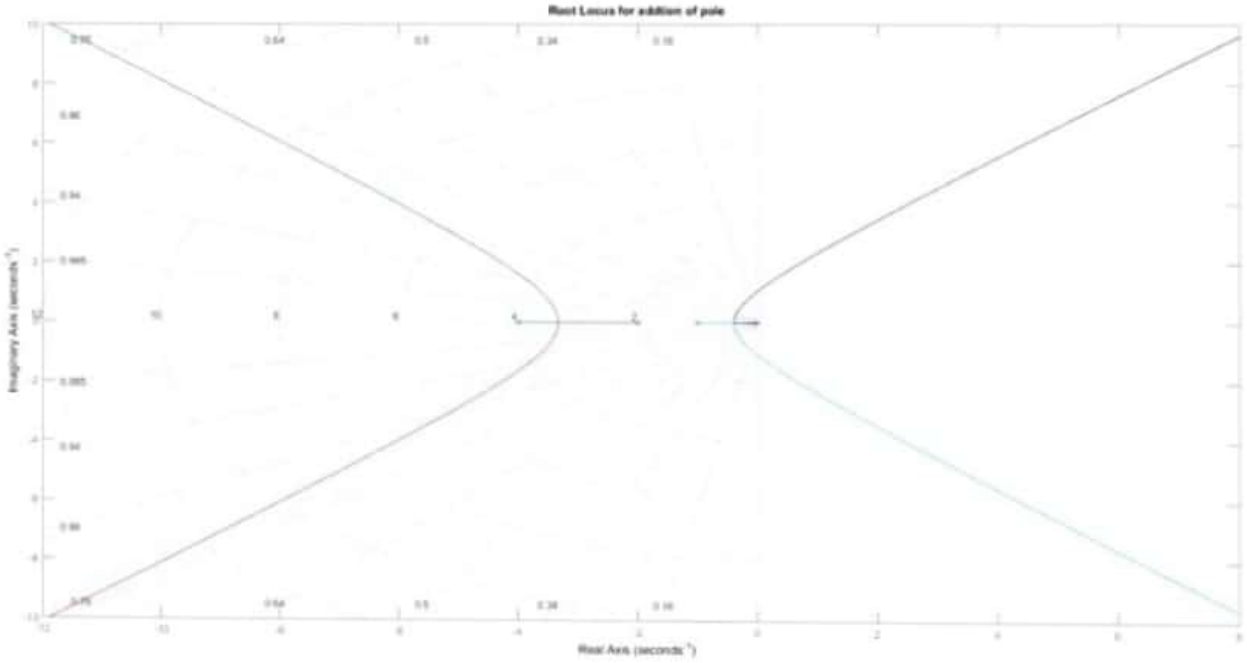




```
%% change in open loop gain
clc;clear;close all;
s=tf('s');
G=(2*s+1)/(s^2+3*s+2)
%%for k=.7
k0=.7
plant=feedback(G*k0,-1);
figure(1);
zpk(plant);
rlocus(plant);
%% for k=.4
k1=.4
plant1=feedback(G*k1,-1);
figure(2);
zpk(plant1);
rlocus(plant1);
```







```
%%root locus for given transfer
function
p=[0 0 0 1];
q=[1 6 8 0 ];
sys=tf(p,q);
figure(1);
zpk(sys);
rlocus(sys);
%%adding pole s=-1 to given transfer
s=tf('s');
sys1=sys*(1/(s+1));
figure(2);
zpk(sys1);
rlocus(sys1);
%%adding zero s=-1 to given transfer
s=tf('s');
sys2=sys*(s+1);
figure(3);
zpk(sys2)
rlocus(sys2)
```