%----------

% Create a list of logarithmically spaced frequencies

%-----------

wmin=1;

wmax=1000;

w = logspace(log10(wmin),log10(wmax))

%------

%calulate network function, magnitude and phase of the network function

%-----

for k=1:length(w)

H(k)=1/((j\*w(k)\*0.020+1)\*(j\*w(k)\*.5+1));

%((j\*w(k)\*0.020+1)\*(j\*w(k)\*.5+1))

%(((1+j\*0.02\*w(k))\*(1+j\*0.075\*w(k)))-(j\*0.025\*w(k)));

gain(k)=abs(H(k));

phase(k)=angle(H(k))\*180/pi;

end

%-----

% plot the bode plot

%--------

subplot(2,1,1), semilogx(w,gain)

xlabel('Frequency,rad/s'),ylabel('Gain,dB')

grid

title('BODE PlOT')

subplot(2,1,2),semilogx(w,phase)

xlabel('Frequency'),ylabel('Phase,deg')

grid