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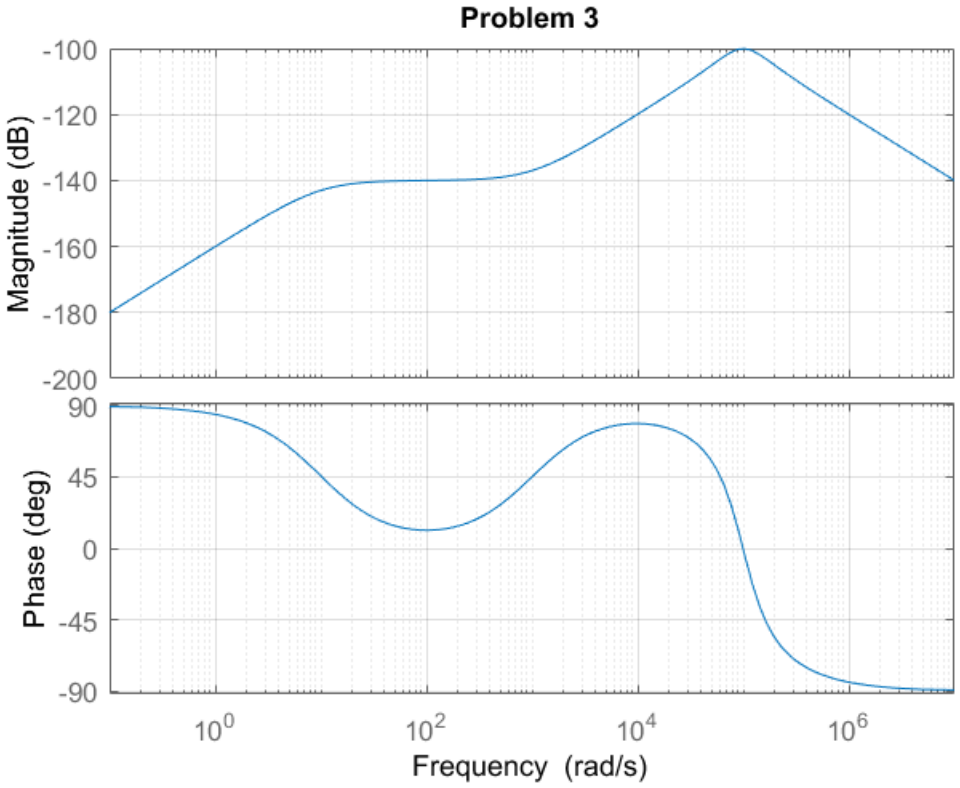
```
clear all;
close all;
clc
```

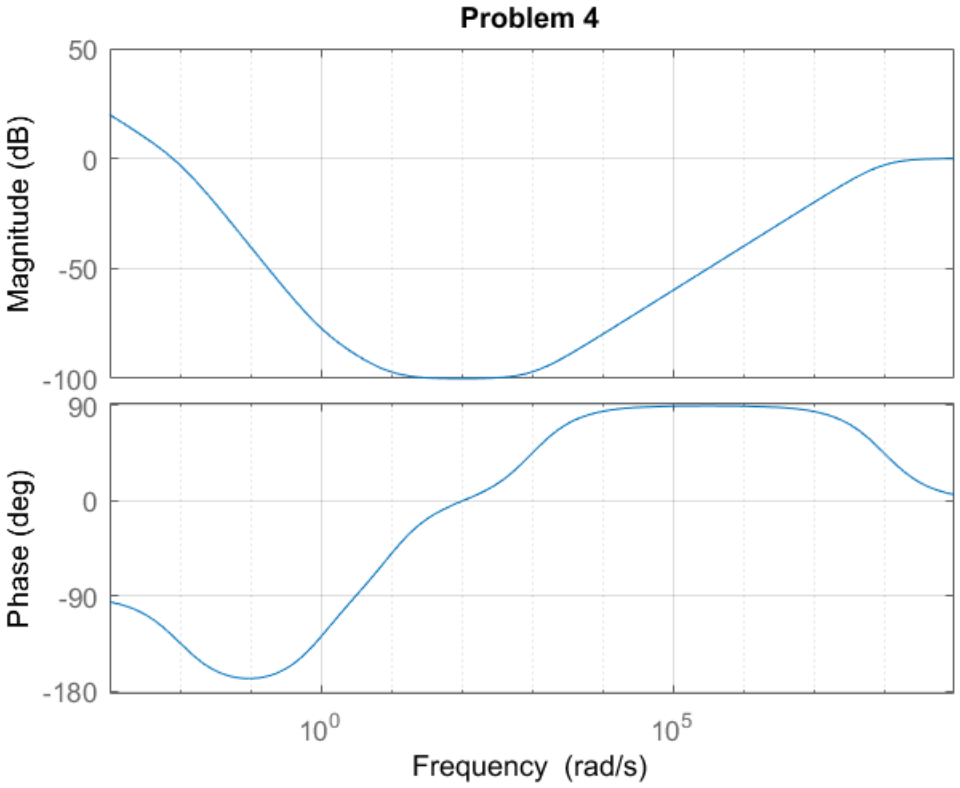
Question 3

```
num3=conv([1 0], [1 1000]);
den3=conv([1 10], [1 10^5 10^10]);
% den3=conv(den31, [1 1000]);
tf3=tf(num3,den3);
bode(tf3)
grid minor
title('Problem 3')
w3=10^5;
mag3=(w3*sqrt(w3^2+1000^2))/(sqrt(w3^2+10^2)*sqrt((10^5*w3)^2+(10^10-
w3^2)^2));
dB3=20*log10(mag3);
phase3=(90+atand(w3/1000))-(atand(w3/10)+atand((w3*10^5)/(10^10-
w3^2)));
```



Question 4

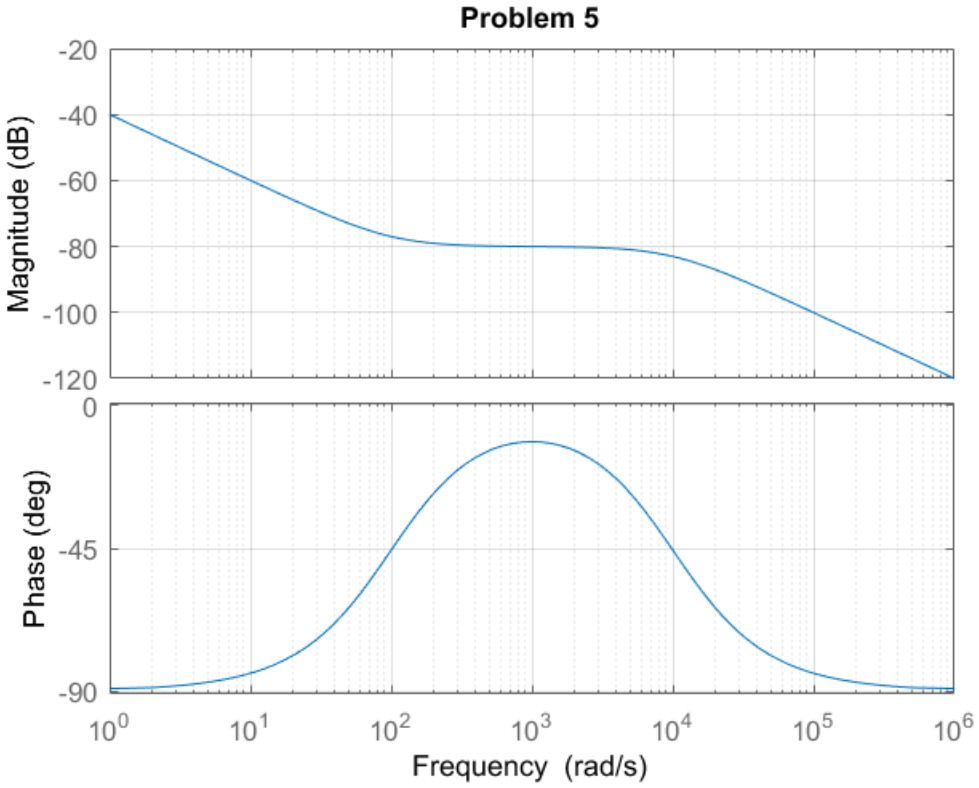
```
figure
num4=conv([1 1], [1 10^3 10^4]);
den41=conv([1 0], [1, 10^-2]);
den4=conv(den41, [1, 10^8]);
tf4=tf(num4, den4);
bode(tf4, {10^-3, 10^9})
grid minor
title('Problem 4')
w4=10^3;
mag4=(sqrt(w4^2+1)*sqrt(w4^2+(10^3-w4^2)^2))/
(w4*sqrt(w4^2+(10^(-2))^2)*sqrt(w4^2+(10^8)^2));
dB4=20*log10(mag4);
phase4=(atand(w4)+atand((w4*10^3)/(10^4-w4)))-
(90+atand(w4/10^-2)+atand(w4/10^8));
%
%
```



Try 5

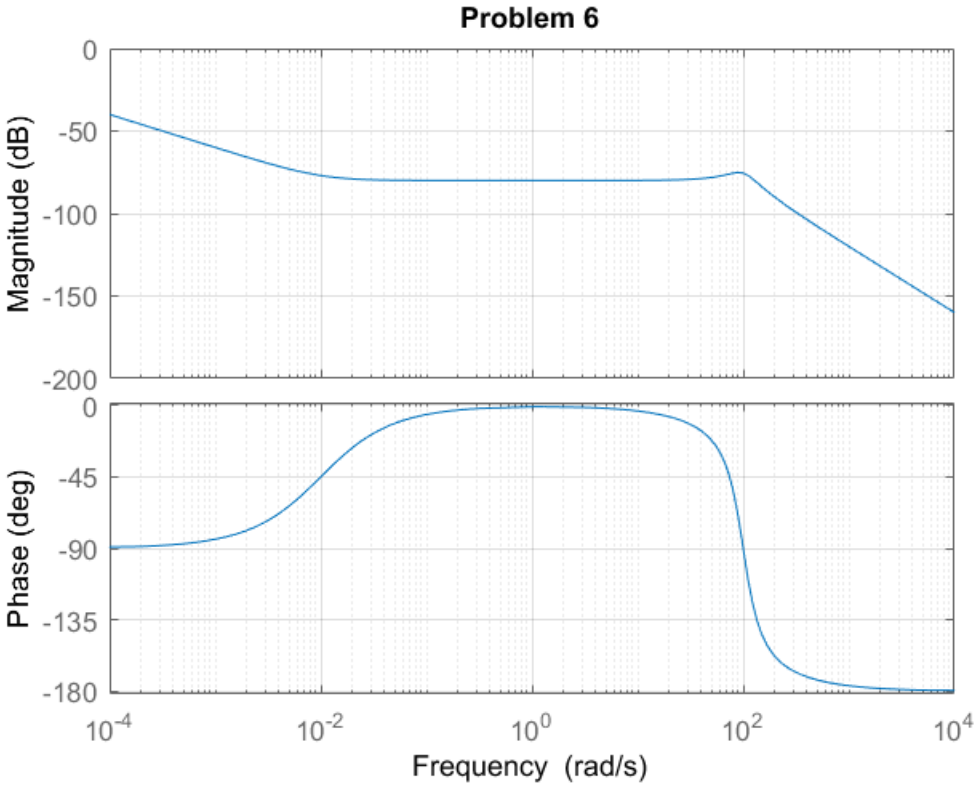
```
num5=[1 100];
den5=conv([1 0], [1 10000]);
tf5=tf(num5,den5);

figure
bode(tf5)
grid minor
title('Problem 5')
```



6

```
figure
num6=[1 10^-2];
den6=conv([1 0], [1 60 10^4]);
tf6=tf(num6,den6);
bode(tf6)
title('Problem 6')
grid minor
```



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