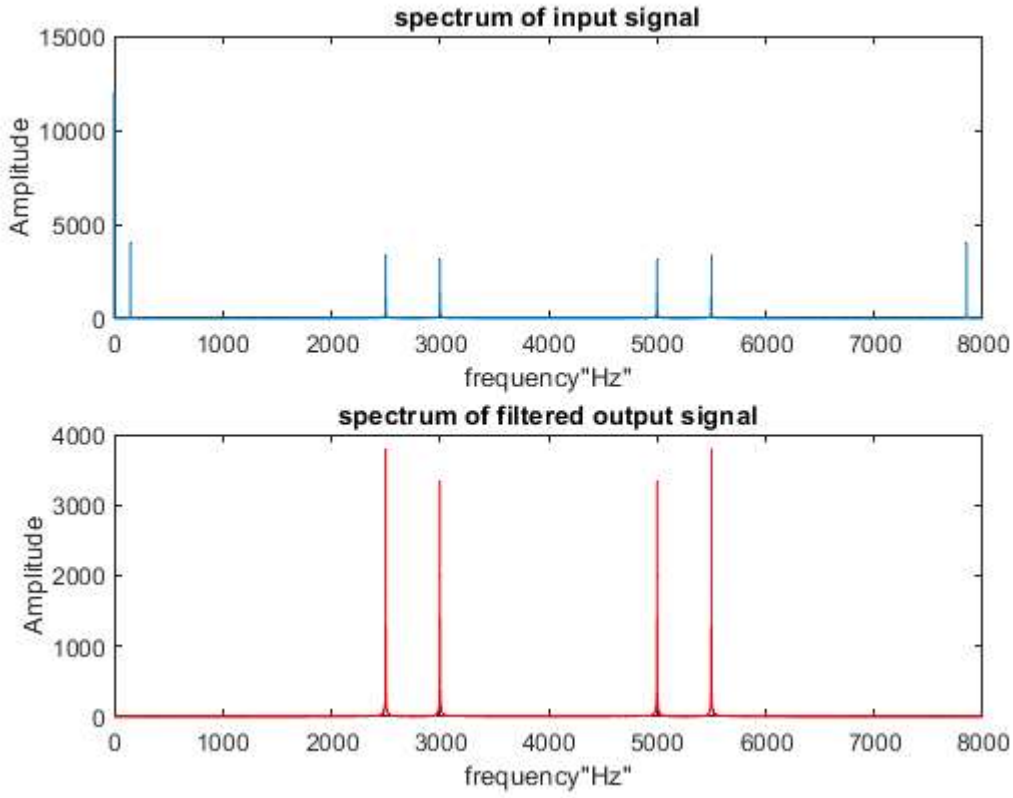
```
clc;
clear;
close all;
fs=8000;
t=0:1/fs:1;
x=1.5+(sin(2*pi*150*t)+sin(2*pi*2500*t)+sin(2*pi*3000*t));
N=length(x);

b1=0.344.*[1 -2 1];
a1=[1 -0.064 0.313];
y=filter(b1,a1,x);
f=fs*(0:N-1)/N;
X=fft(x);
Y=fft(y);

figure
subplot(2,1 ,1)
plot(f, abs(X)),title('spectrum of input signal'),xlabel('frequency"Hz"'),
ylabel('Amplitude')

subplot(2,1 ,2)
plot(f, abs(Y),'r'),title('spectrum of filtered output signal'),xlabel('frequency"Hz"'),
ylabel('Amplitude')

soundsc(x,fs);
pause(5);
soundsc(y,fs);
pause(5);
soundsc(y,fs);
```



Published with MATLAB® R2023b