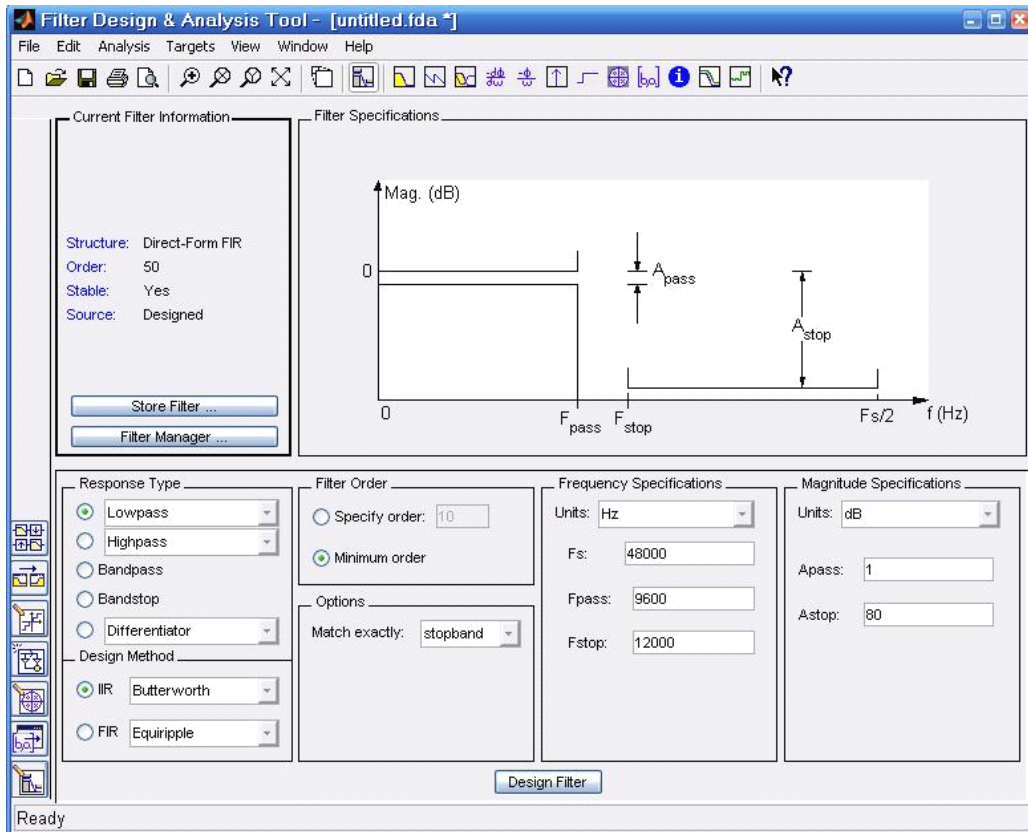
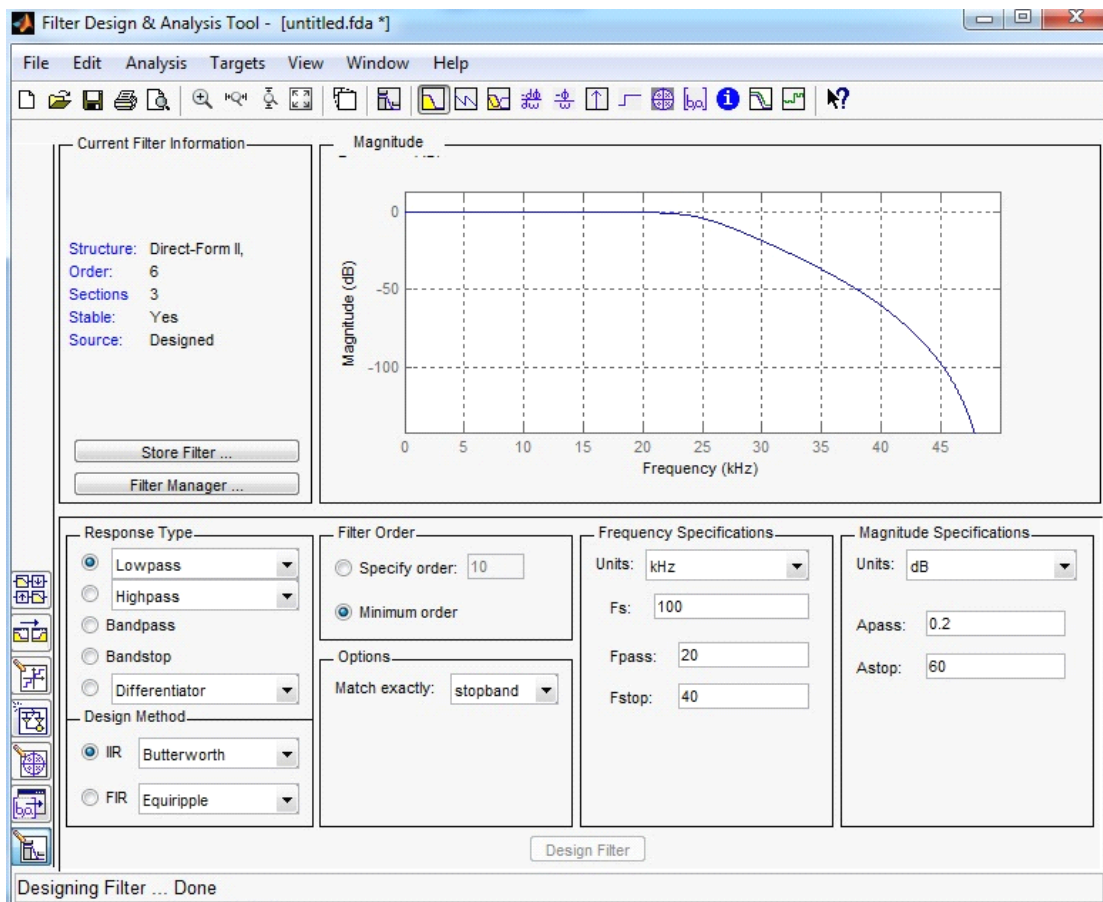


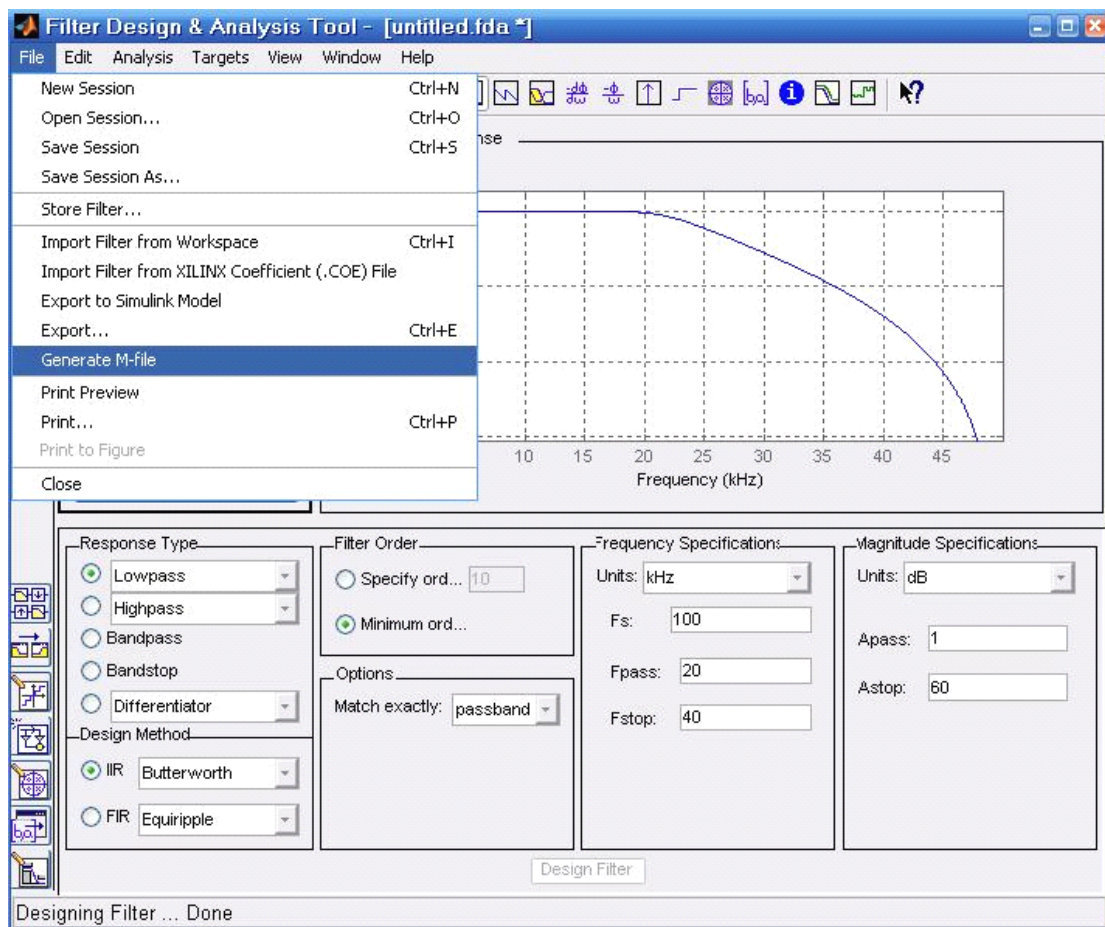
● Matlab: fdatool (Filter Design & Analysis Tool)



● Butterworth realization example



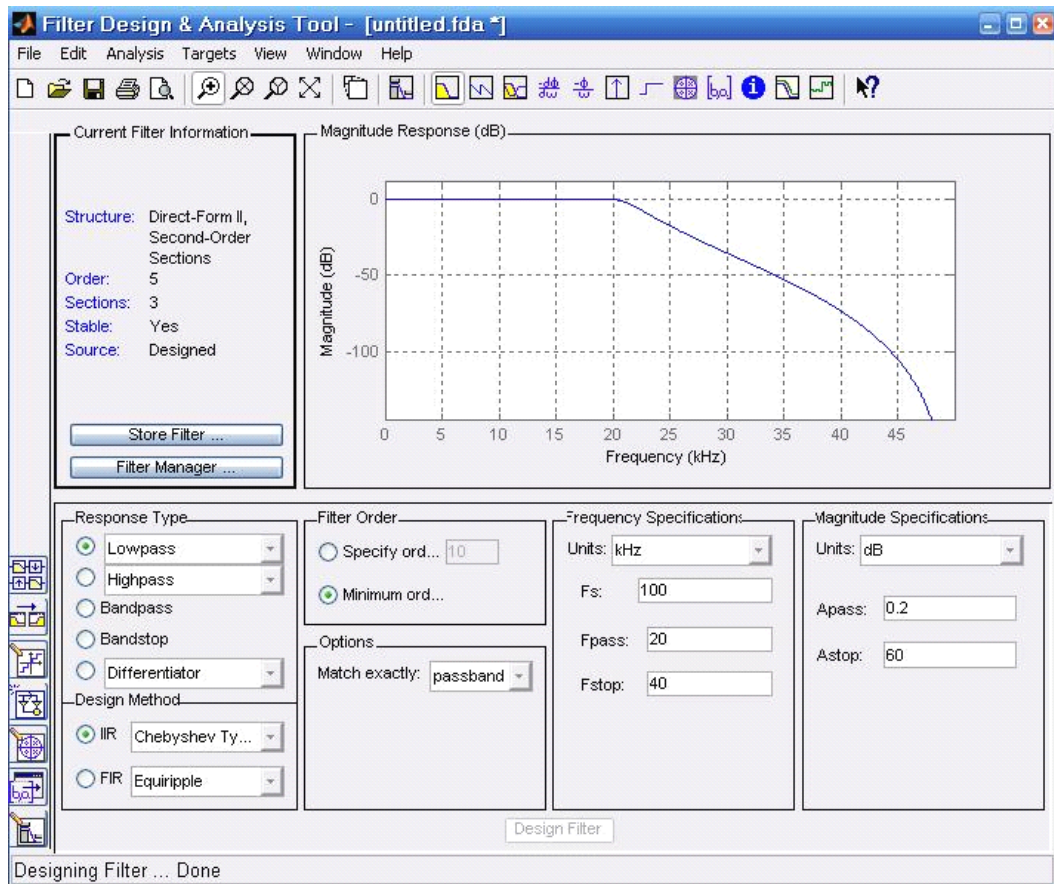
Matlab code generation:



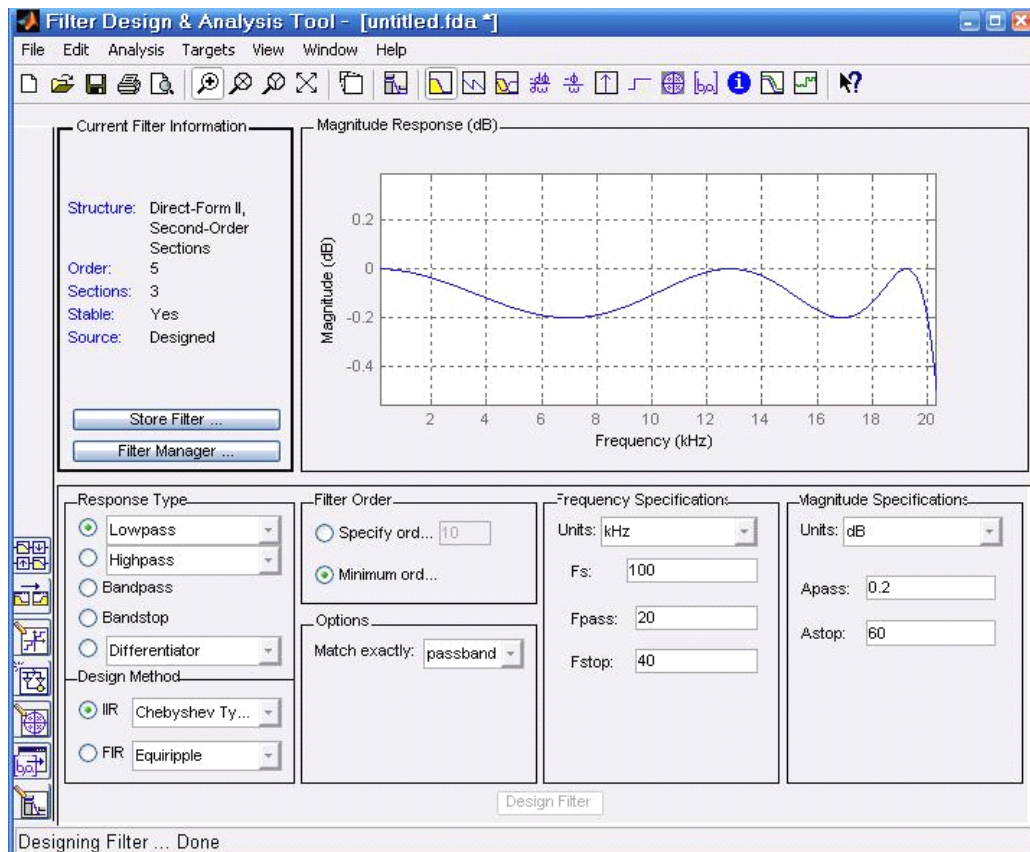
```
function Hd = fdatool1
%FDATool1 Returns a discrete-time filter object.
% M-File generated by MATLAB(R) 7.1 and the Signal Processing Toolbox 6.4.
%
% Generated on: 07-Nov-2011 00:02:44
%
% Butterworth Lowpass filter designed using FDESIGN.LOWPASS.
% All frequency values are in kHz.
Fs = 100; % Sampling Frequency
Fpass = 20; % Passband Frequency
Fstop = 40; % Stopband Frequency
Apass = 1; % Passband Ripple (dB)
Astop = 60; % Stopband Attenuation (dB)
match = 'passband'; % Band to match exactly

% Construct an FDESIGN object and call its BUTTER method.
h = fdesign.lowpass(Fpass, Fstop, Apass, Astop);
Hd = butter(h, 'MatchExactly', match);
% [EOF]
```

- Chebyshev I realization

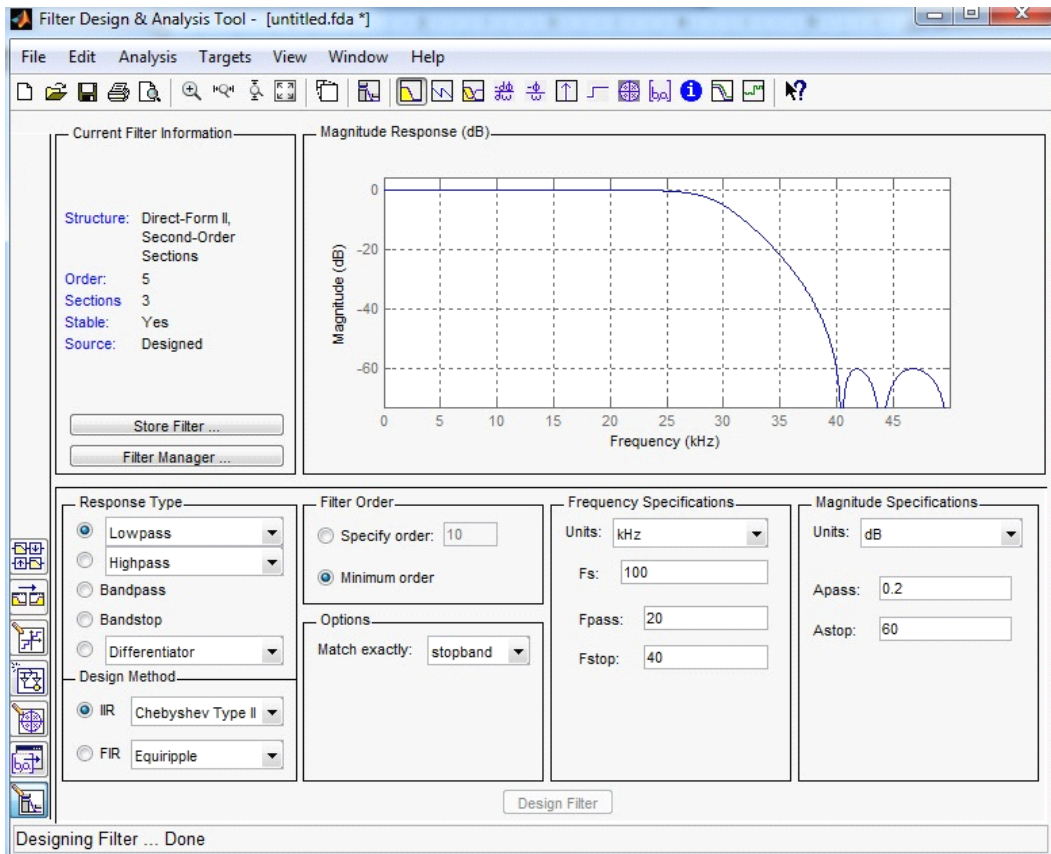


Passband ripple

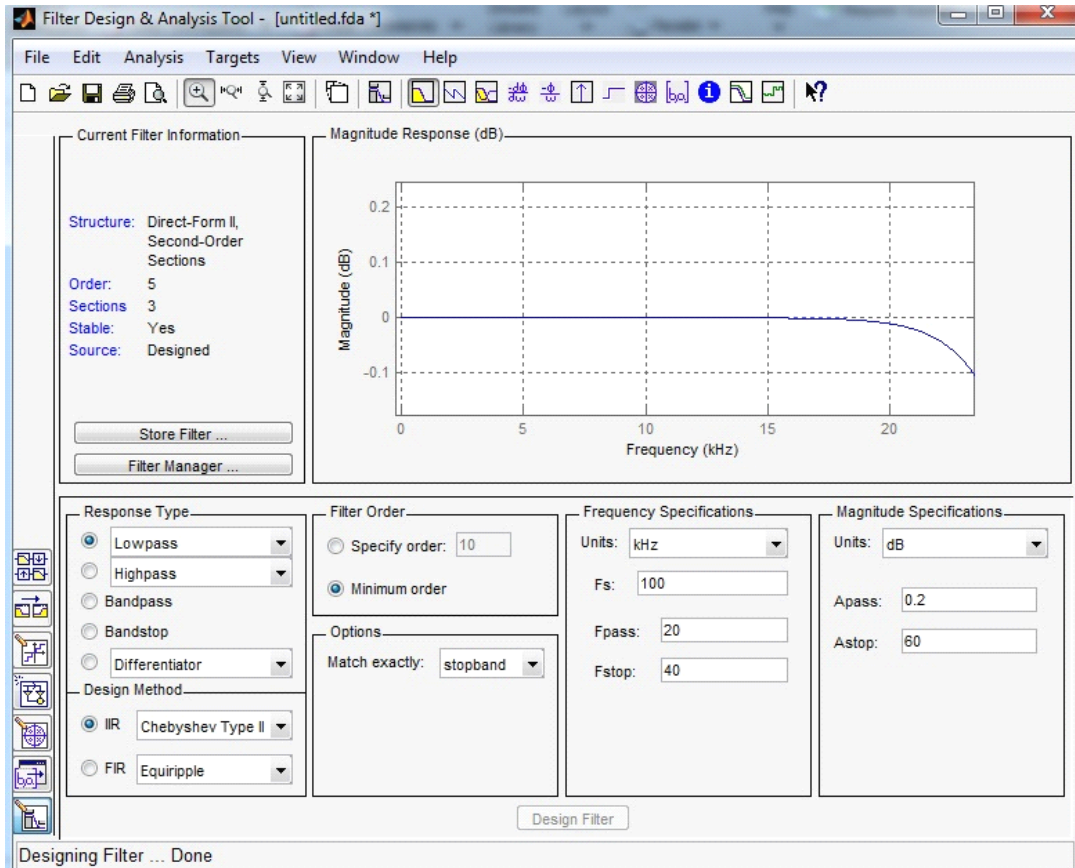




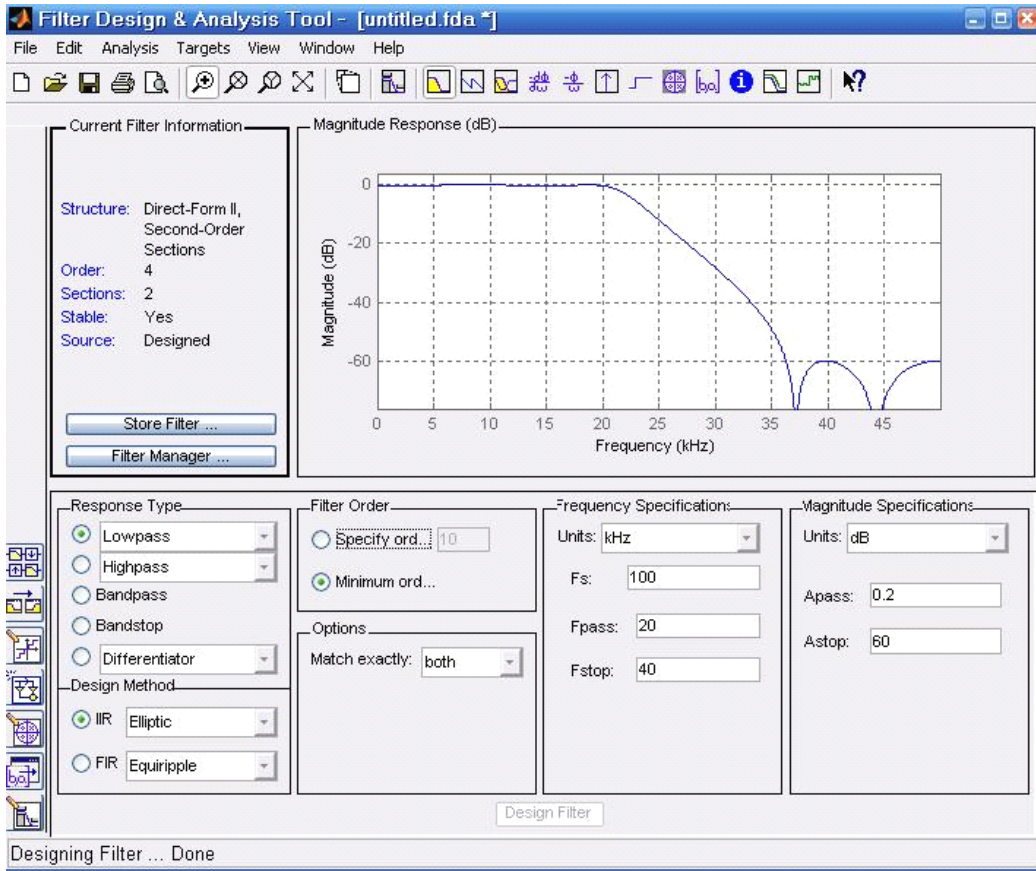
- Chebyshev II realization



- Passband ripple



● Elliptical realization



Passband ripple

