Algorithm for ECG Filter

1. Load the Signal.
2. Select the lead signal to be filtered.
3. Choose if want to add noise.
4. If yes,
   1. Select the frequency to be added.
   2. Set the amplitude of noise
5. Choose the frequency to be removed
6. Calculate the Fourier transform of
   1. Original Signal
   2. Noisy Signal
7. Calculate the Notch Filter Coefficients
8. Create a Notch Filter from the coefficients obtained.
9. Pass the noisy signal from the Notch Filter created.
10. Calculate the Fourier Transform of the filtered signal.
11. Plot the waveforms of:
    1. Original Signal in Time domain, Frequency Domain.
    2. Noisy Signal in Time domain, Frequency Domain.
    3. Filtered signal in Time domain, Frequency Domain.
    4. Frequency Response of the Notch Filter.