Digital Signal Processing Project

Application of FIR filters to filter audio signals.

Design an FIR bandpass filter to filter the audio signal attached with the document. The specification of the required filter are;

The project report should include

1. The frequency domain plot of the audio signal, X (K).
2. The time domain and frequency domain (H()) plot of the windowing function.
3. Frequency domain plot of w(n)h(n) or equivalently (H()\* W()). Calculate the
4. Use the designed filter to filter the audio signal.
5. Compare the original signal with the filtered (plot the frequency domain) one and comment on the difference. Listen to the two audio files and feel the difference.