**LABVIEW PROJECT 1**

PLOT OF A SUM OF SINE WAVES WITH DIFFERENT AMPLITUDE FOR A TRUE CASE AND PLOT OF A FILTERED FOURIER TRANSFORM ON A SINE WAVE FOR A FALSE CASE FOR SPECIFIC NUMBER OF ITERATIONS

The purpose of this program can be substituted to the reading of a biosignal like an ECG waveform wherein in one case 2 different biosignals can be plotted together to detect the variation between the sample and actual signal for a specific number of iterations and while the loop runs, only the required amount of signal can be seen and then stopped over a period of time. Whereas, in another case the sample signal can be processed and the Fast Fourier Transform can be derived to analyse the signal more closely. Since biosignals are very noisy the frequency components are derived for better analysis.

INSTRUCTIONS

1. A ‘for’ loop is made for a total of 512 counts and a case structure is developed for a specific number of iterations, that is iterations between 10 and 100.
2. In the first case structure ‘sine’, the sum of 2 sine waves of different frequency and different amplitudes are plotted. This is plotted inside a while loop wherein if the iterations are greater than 200, the waveform is stopped. A time delay of 30 ms is also applied.
3. In the second case structure for the other other iterations, that is iterations below 10 and greater than 100 - ‘fourier sine’, a sine wave is plotted and a Gaussian white noise is added to the sine wave.
4. In order to find the frequency component of the wave, a fast fourier transform is carried out and to this a filter is added to remove the extra noise.
5. This case is plotted in a while loop wherein if the iterations become greater than 400 the loop is stopped and the signal comes to a halt.
6. This is plotted on a waveform graph.
7. Comments for each data and structure have been added.