Core Reflection

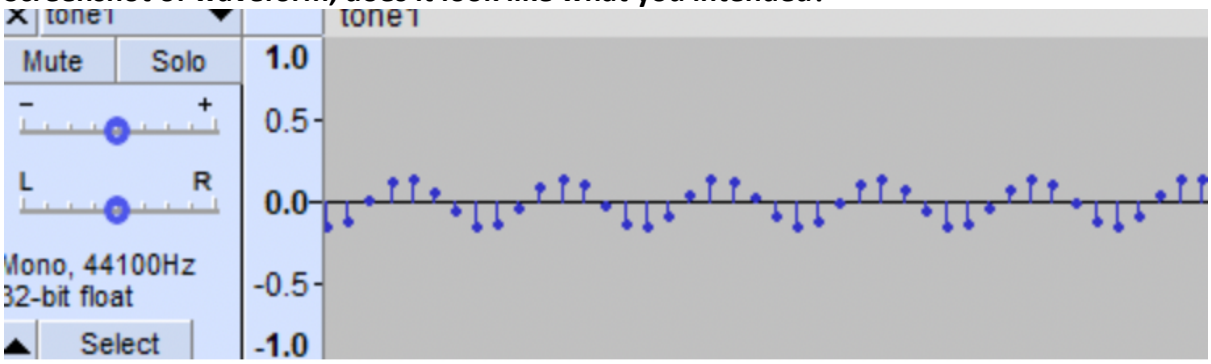
Reason for selected sampling rate.
The sampling rate I used is 44100 due to the Nyquist Theorem. This shows that a periodic signal must be sampled at least twice at the highest frequency of the signal. To have a high frequency in digital form you need to sample twice as fast as the high frequency on the signal. The human ear can hear acoustic signals up to 20,000 Hz which is fundamentally the highest frequency component. This is the reason why I have doubled it as this is the normal sampling rate in music also.

How you calculated total number of samples
Total number of samples *p.s* x number of seconds the wave runs for.

Reasoning for selection of the types of all variables

- Duration I put at 5 seconds. It is the core of the assignment, so I didn't produce a long sample.
- Sample Rate I put at 44100 since it is the normal sampling rate for music.
- Int – "n_samples" – number of samples is an integer.
- Double – "dt" – dt is a fractional number (very small)
- Dt – taken sound window of 1 second and divided it by number of samples (44100)
- Frequency is 6000hz. Comfortable frequency for hearing
- Volume is 5000hz. Easy volume to hear sound
- Waveform – utilizes air pressure as a function for the time equation. Exchanged suitable values into formula.

Screenshot of waveform, does it look like what you intended?



It looks like what I intended. I did not vary frequency within the code. This has shown to construct a repeating wave of vibrations