LING2200
Assignment #1

This assignment requires you to use Praat. Use what you've learned in Lab 1 to do the following exercises. For all of the questions that require you to "print" the waveform, please insert the saved picture (from the Praat picture window) into your document. Please DO NOT screen shot the wave from the view and edit window.

Pure tones

1. Using the "Create sound from formula" dropdown, create a 3s pure tone with a frequency of 150Hz and an amplitude of 1/4 Pa.

a. Print the first 1.5 seconds of this waveform. (2pts)
b. What is the RMS amplitude of this sound? (2pts)

Complex waves

2. Using the "Create sound from formula" dropdown, create a 5s complex wave with two harmonics, one at 350Hz and one at 351Hz, with a total amplitude of 2pa.

a. Describe (in one sentence) how the resulting complex tone sounds. (1pt)
b. Print 175ms of the waveform, capturing the point of greatest destructive interference. (2pts)

3. Create a 3s complex periodic tone with a F_0 of 450Hz with 3 whole-number integer higher harmonics (H2, H3, H4). Set the amplitude of each harmonic to 1.

a. Print the first 3 cycles of the waveform (2pts)
b. Print a spectral slice of this waveform with a range of 0Hz to 2000Hz. (2pts)

4. Now create a very similar tonal complex to the one created in #3, but decrease the amplitude by 25% for the 2^{nd} harmonic, by 50% for the 3^{rd} harmonic, and 75% for the 4^{th} harmonic (relative to the fundamental frequency).

a. What is the formula you used to generate the tone? (3pts)
b. Print the first 1s of the tone. (2pts)
c. In your own words, how does this new complex tone sound different from the one created in #3? (1pt)