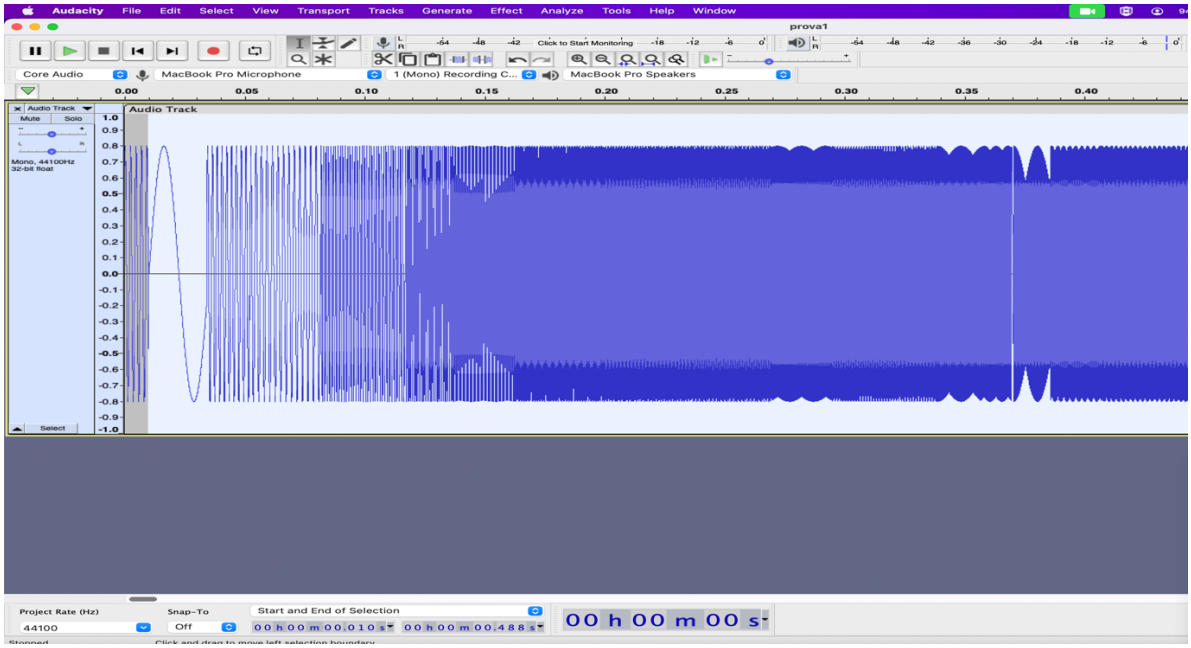
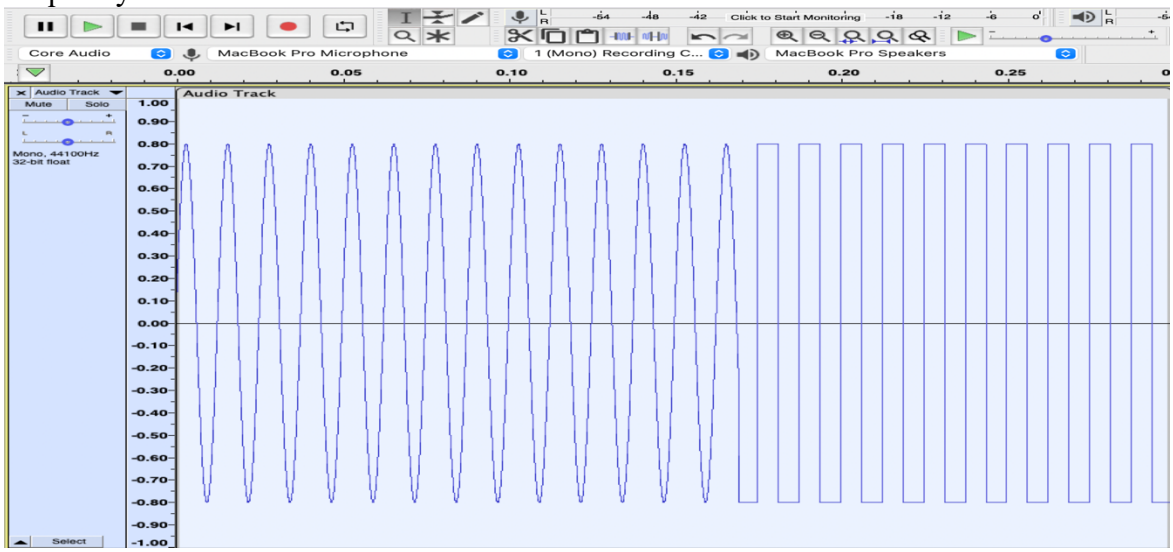
Task 1.- Generation and visualization of basic signals

a) Using the menu ‘Generate→Tone’ generate sinusoids of different growing frequencies. Listen to them. Up to what frequency are you able to hear the sound?



The first step I made is ensure the sampling rate to 44100 I have been growing the signal 500Hz by 500Hz from 40Hz to 8000Hz (White line of silence), after that I have grown the signal to double and 1000Hz has been added. So, the last frequency I am able to hear is 17kHz.

b) Generate a square signal. Compare the sound to a sinusoid with the same fundamental frequency.



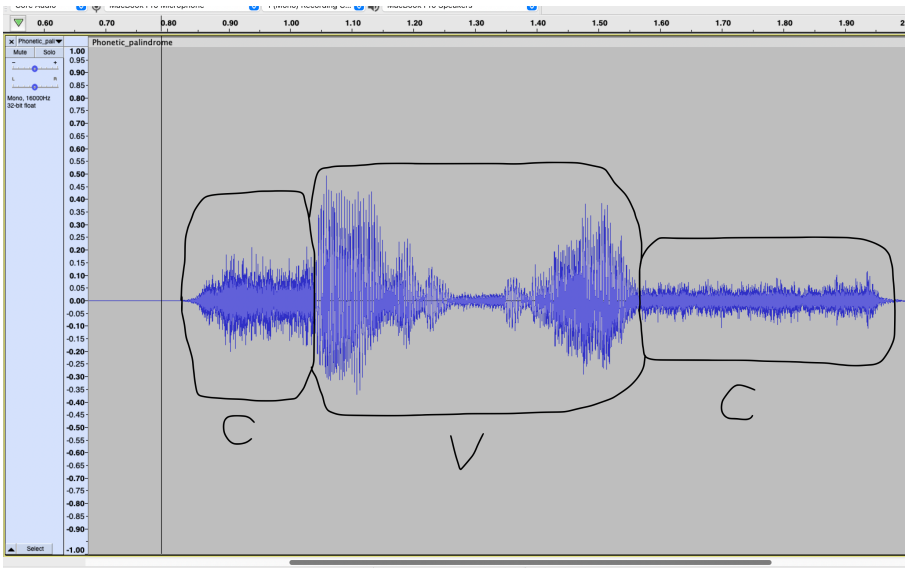
I have created two wave of the same characteristics, at the left sinusoid wave, at the right square wave. Even having the same they sound different. The sinus sounds more natural, less aggresive, while the square wave sounds more artificial.

c) Generate a sinusoid of 440 Hz and amplitude 0,5. Then using the menu ‘Effects→Amplify’, apply the necessary amplification (in dB) to obtain sinusoids of amplitude 0,5 and 1.

d) Record the sentence: “Say yes” (or use the signal named ‘Phonetic_palindrome.wav’). Using the waveform identify

i) the intervals corresponding to vowels and consonants

Fricative sounds are so easy to identify, they are only noise with no harmony, one the other hand, the vowels are structured sound.



ii) the intervals corresponding to voiced and unvoiced sounds.
At the previous imatge, the interval I have mark with the Consonant label aret he voiceless (unvoiced) sounds, and the vocàlic sounds are those that are voiced ones.