Goal:

Manipulation of WAV audio files:
(1) Reduce duration of a recording by removing intervals of silence.

Objective: Developing experience with C arrays and pointers.

Download: Download and unpack file lab10.zip from Camino. It contains a partially completed program (main10.c), a pre-compiled library file (libwav.a) for manipulating WAV audio files, and an associated include file (wav.h).

Assignment: Complete the source code for the following two functions that are located within the provided main program (main10.c):

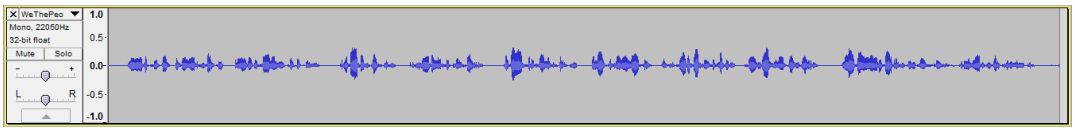
```
AUDIO  *RemoveSilence(AUDIO *audio, unsigned max_level, unsigned min_samples);
```

Removes intervals of silence from an audio recording and returns a pointer to the compressed audio. Intervals of silence are identified by a duration at least *min_samples* in which the magnitude of all samples is ≤ *max_level*.

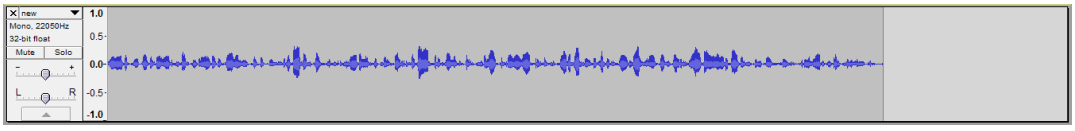
Note: Each interval removal must correctly update the audio data structure to update the number of samples and to reduce the total amount of allocated memory.

Use the program Audacity to visually verify that the silence intervals have been removed. When done correctly, the before and after waveforms should look similar to:

Before silence removal (WeThePeople.wav):



After silence removal (new.wav):



Compilation: Compile and link your program using the following command line:

gcc –o lab10 main10.c -L. -lwav

Execution: Execute your program using the following command syntax:

./lab10 src-file dst-file {max-level {min-levels}}

When Done: Demonstrate proper operation of your program to the teaching assistant and upload the completed source code for file main10.c to the lab drop box on Camino. Do not upload any other files.