

Tkinter and Pyaudio : Exercises

DSP Lab (ECE-UY 4163 / ECE-GY 6183)

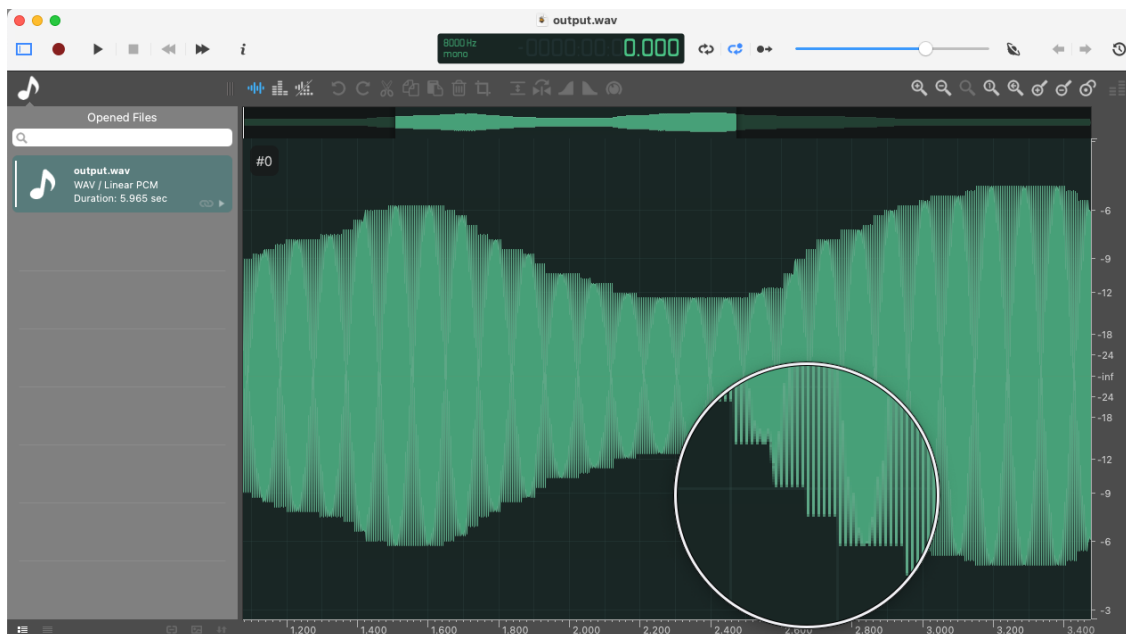
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The demo programs show how Tkinter and Pyaudio can be used together to create a Graphical User Interface (GUI) in which we can control the parameters of audio in real time. As we adjust sliders, we can immediately hear the effect.

Exercises

1. In the demo program `Tk_demo_04_slider.py`, when the gain slider is adjusted, we can hear clicking sounds. This is because the implementation of this program causes the signal waveform to have discontinuities, when the slider is adjusted. The discontinuities are visible in the figure below. SUBMIT

Modify this demo program so that clicking does not occur when the gain slider is adjusted. The signal should not have discontinuities. Submit your python program (py file), an output signal (wave file), and comments (pdf file). In your comment document, include a figure of the waveform showing that the amplitude varies continuously when the gain is adjusted.



2. Implement a real-time echo effect GUI with a slider to control the delay time. Use a circular buffer.
3. Make a real-time vibrato effect GUI with sliders to control the parameters (LFO, depth).