Tkinter and Pyaudio

These demos combine Tkinter and Pyaudio. The audio is adjusted via Tkinter through buttons, sliders, and the keyboard.

Tk_demo_01_buttons.py
Tk_demo_02_slider.py
Tk_demo_03_slider.py
Tk_demo_04_keyboard.py
Tk_demo_05_keyboard.py
Tk_demo_06_keyboard.py
Tk_demo_07_keyboard.py
Tk_demo_08_keyboard.py

In these demos we use top.update() instead of top.mainloop(). We do not need a Tkinter loop, because there is already a loop for audio.

Exercises

1) In the demo program *Tk_demo_03_slider.py*, whenever the gain slider is adjusted, a click sound can be heard, due to the discontinuity in signal waveform due to a sudden change in amplitude. Modify this program so there is no click (no signal discontinuity).
2) Make real-time AM effect with sliders to control parameters (modulation frequency, gain)
3) Make real-time vibrato effect with sliders to control parameters (LFO, depth)
4) Make real-time delay effect with slider to control delay time. Use circular buffer.

Create a stand-alone application

A Python program can be converted into a stand-alone application using pyinstaller.

http://www.pyinstaller.org/

One way to install pyinstaller is to type one of the following in the terminal:

pip install pyinstaller
pip3 install pyinstaller

To create a stand-alone application, type one of the following in the terminal window:

pyinstaller python_file.py
pyinstaller --onefile python_file.py
pyinstaller --onefile --windowed python_file.py