

Keyboard Audio Control using Tkinter and Pyaudio

These demos show how to use Tkinter and Pyaudio to make a GUI that controls audio via keystrokes. The audio is generated when the user presses the keyboard.

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

`prog_01_mainloop.py`

Read keyboard presses using `root.mainloop`.

`prog_02_update.py`

Read keyboard presses using `root.update`.

`prog_03_sin.py`

Adjust the frequency of a sinusoid via the keyboard.

`prog_04_sin.py`

Adjust the frequency of a sinusoid via the keyboard.

Display frequency in GUI window.

`prog_05_sin.py`

Adjust the frequency and gain of a sinusoid via the keyboard.

`prog_06_diffeq.py`

Play a note (via difference equation) via the keyboard.

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
```