Matlab Sound Processing Exercises

Tamara Berg, Stony Brook University

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1 Part 1: Making Notes and Chords

* Run this code to make, visualize, and play a note for an A above middle C: (http://tamaraberg.com/teaching/Spring_12/cse364/labs/sound/note.m).

* Play around with the values for freq, and xmax variables. What affect does changing their value have?

* Now make a sound wave consisting of an A followed by a C followed by an E (this file has a list of frequencies for different notes http://tamaraberg.com/teaching/Spring_12/cse364/labs/sound/notes.m). To put sounds in sequence just put them in your sound wave one after another (e.g. mySound = [A; C; E]).

* In class we discussed how all sound waves can be decomposed as a weighted sum of sinusoids. Construct a chord with the notes ACE (hint – *sum*). Remember in order to add 2 vectors they need to be the same length (for notes that means they have to have the same duration).

* Finally, make a sound wave consisting of an A followed by a C followed by an E, followed by an ACE chord.

2 Part 2: Importing Sound Waves

* Run this code to import a sound wave: http://tamaraberg.com/teaching/Spring_12/cse364/labs/sound/import.m

You can get the

* Add this cow sound to your sound wave from Part 1.

3 Part 3: Recording Sound Waves

* Run this code to record a sound wave http://tamaraberg.com/teaching/Spring_12/cse364/labs/sound/record.m. Note you have to interactively run the lines of this code to record, then stop the recording process).

* Add this recorded sound to your sound wave from Parts 1 and 2.