MAT 120 — Project 3 — Fall 2018

Due date: Friday, Nov 9

1. Create a Pd patch that takes a message as input and plays a sinusoid with given frequency, amplitude, and envelope.

2. Create a Pd patch that takes a frequency as input and plays a harmonic tone with various parameters that you have chosen. The harmonic tone should have 10 harmonics, including the fundamental, each with its own amplitude and envelope. This patch should use the previous one as a function or abstraction, but not as a subpatch.

3. Create a Pd patch which plays notes in five different ways, corresponding to five "instruments" with different timbres. Give each instrument a name, which might be based on an actual instrument sound, or have some other origin. This patch should allow the user to play a single tone with an amplitude that lasts about 2 seconds, and to choose between the five instruments. This patch should use the previous two as functions or abstractions, but not as subpatches.

4. Write-up: Include a file which explains the five instruments, with names, and the data that you chose for each of those instruments. The data should be a table of values for each of the ten harmonics (including fundamental). The table of values should include all of the information for the frequency, amplitude, and envelope. Also, briefly say how you chose the name, and if you based it on any external sources. Note: It is important that the data you display in this write-up actually matches what is in the patches.