MUS 4745 Final Exam

Name: _____

Define the following terms with regards to signal processing. Drawing and labeling is encouraged.

1) Window

2) Resonance

3) Modulation Depth

4) Aliasing

5) Buffer

Place the number of the term above under ***every*** associated DSP below and succinctly summarize how they relate to the processing technique. Each one may have 1 to 4 things listed.

Wave Table Synthesis

Multi-tap Delay

Subtractive Synthesis

Amplitude Modulation

Frequency Modulation

Granular Synthesis

Spectral Synthesis (FFT)

MUS 4745 Final Exam

Name: _____

What is a wave table?

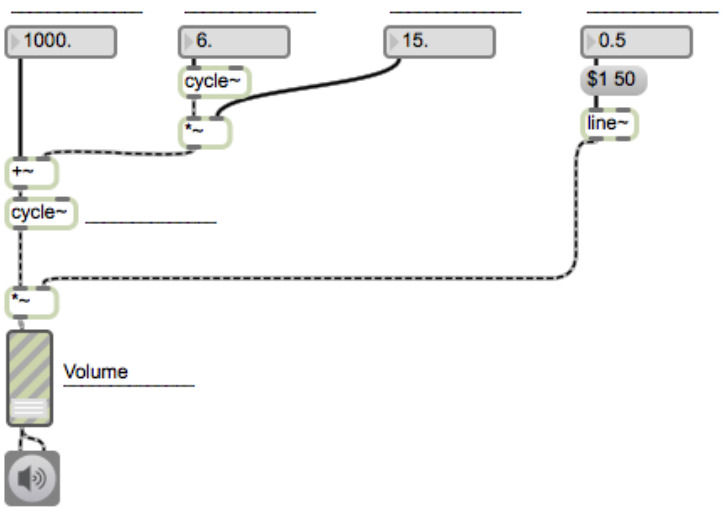
Additive Synthesis:
What are the constituent parts of a typical amplitude envelope? Draw and label one:

Subtractive Synthesis:
Bi-quadratic filters can model the qualities of many types of filters. Select one of those filters, draw and label a diagram of it's response curve (something like filtergraph~), label the important features of the graph.

Delay Lines:
Ramping the delay time of a delay line to a new delay time has what affect on the sound?

Label this processor, use the appropriate term for each of the inputs as well as the cycle~ object (6 blanks total):

Processor type: _____



How are Amplitude Modulation and Ring Modulation different sounding? (a Diagram would help)

MUS 4745 Final Exam

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Granular Synthesis:
What is the basic premise of granular synthesis?

What effects can be accomplished with the technique?

Spectral Synthesis:
What is the Fast Fourier Transform (FFT)? What does it do to an audio signal?

Draw and label a graph of a sine wave in the time domain, then do the same thing for the sine wave in the frequency domain.

MUS 4745 Final Exam

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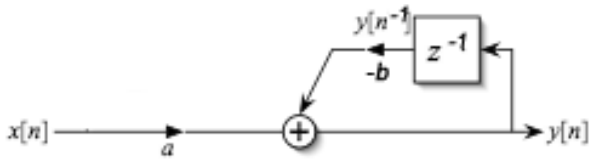
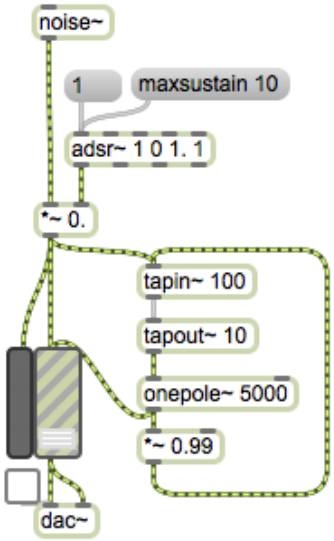
Name the DSP below:
What is x[n]?
What is y[n]?
What are a and -b ?
Bonus: What is the plus in a circle?



_____

Name the Overall DSP below:

Circle and label the types of DSP that make up this entire process.



Listening: (Done during our Final on Thursday in MDA 248 @ 12:30 PM Sharp! Bring this sheet…)
What signal processing technique do you hear?

1)

2)

3)

4)

5)

6)

7)

8)