Catalog of functions we made

acat - concatenates arrays.

dftinterp - makes interpolating functions with more points than the original.

dftinterp_down - makes interpolating functions with less points than the original.

multibandEQ - takes a variable length vector of weights and applies them to sucessive frequency intervals of a given sound.

note - plays one synthetic piano note from the major scale for the given duration.

notes - the array of all piano frequencies

play44 - plays sounds at 44khz, 16bit

plot_diff - plots the notes of a song and the notes of the sound interpolated to some given factor.

plot_H_graphs - plots the DCT graph of a vector of select frequencies

saw - the saw wave function

scale_song - add notes between the notes in the given song extending the length of the song by some factor. if the resulting set of notes if played faster by this factor then both songs will have the same duration.

snd - produces a sin wave sound at the given frequency and duration.

snd_range - produces a sin wave sound whose frequency varies continuously in some frequency range over the given duration.

song - converts a vector of notes into a sequence of notes at the given bpm and time signature.

song_gen - creates video-game-like music from a seed vector of whole notes.

sq - square wave function.

std_song - same as song but with hard coded time signature and bmp settings.