

SynthSong 'definition'

SynthSong is a console program that plays a melody, using its own internal synthesizer. This program allows the user to choose between at least two different synthesizers.

An example of a synthesizer is a simple OrganSynth that adds the output of two square oscillators, whereby one of the squares is a fifth higher and slightly out of tune. Another example is that of an additive synthesizer for which the user can provide the number of sine waves that will be used, whereby the synthesizer internally scales the amplitude of each of the overtones. Other examples of synthesizers are FM and AM synthesizers, but please be aware that these are more difficult to implement.

The code of the program is constructed according to the class diagram below. Thus the code contains a Synth base class and at least two derived classes. The derived synthesizer classes use (= "has a relationship") specific types of oscillators, thus derived classes of Oscillator, e.g. Sine, Saw, Square.

