Overlap filtering methods

Overlap-save method

Given: A relatively short filter impulse response and a very long input sequence.

We want the convolution to be linear and the input in too long to use zero padding.

see text for details
1. Input signal
   \[ h \]
   \[ m \text{ long} \]

2. Zero pad \( h \) to be \( m+l \) long.

3. Convolve or correlate \( h \) with overlapping segments.

4. Discard overlap and abrupt output segments.
Overlap add method

1. Draw the signal segments and label them.
2. Zero pad H to be M+1 long.
3. Convolve or correlate H[n] with x[n]
4. Add the overlapping regions to connect the responses.