

# Agenda for Today

- frequency response as spreadsheet
- generating WAV files: sine sweep demo
- framework for your own synth
- experiments on sound synthesis

# Framework for Your Own Synth

- capture pressing and releasing of keys
- full polyphony (easiest),  
fixed number of voices (more efficient),  
voices on demand (even more efficient)
- generating sawtooth waves  
as phase values for lookup

# Experiments on Sound Synthesis

- other waveforms: sawtooth, rectangle, pulse wave, pulse with modulated width
- wave table: hand-drawn wave forms, sampled wave forms
- vibrato: uniform or per-voice
- amplitude envelope: attack, decay, sustain, release
- several oscillators per voice, slightly detuned
- ...