

Lecture 12 – Max/MSP Basics

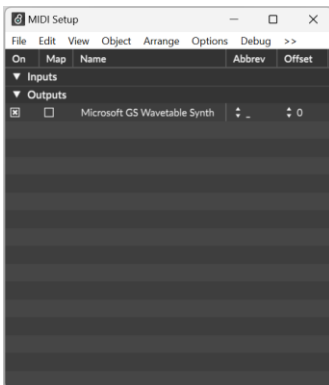
Instructor: Hao-Wen Dong

Example 1: MIDI player (“1_midi_player.maxpat”)

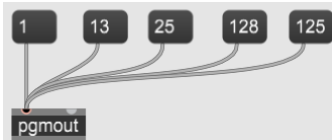
- “noteout” object



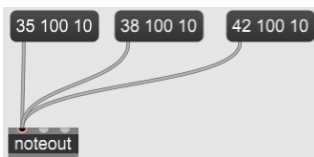
- MIDI setup (“Options >> MIDI Setup”)



- Note-on/note-off MIDI messages
 - “60 100 0” → pitch 60 (middle C), velocity 100, channel 0 → Note-on
 - “60 0 0” → pitch 60 (middle C), velocity 0, channel 0 → Note-off
- “pgmout” object → program number (en.wikipedia.org/wiki/General_MIDI)



- MIDI channel 10 for drums

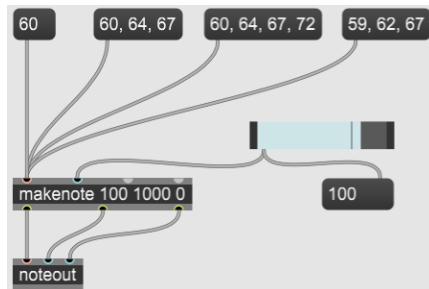


Acoustic Bass Drum (35)	B1	
Electric Bass Drum (36)	C2	
Acoustic Snare (38)	D2	C#2 (37) Side Stick
Electric Snare (40)	E2	D#2 (39) Hand Clap
Low Floor Tom (41)	F2	
High Floor Tom (43)	G2	F#2 (42) Closed Hi-Hat
Low Tom (45)	A2	G#2 (44) Pedal Hi-Hat
Low-Mid Tom (47)	B2	A#2 (46) Open Hi-Hat
Hi-Mid Tom (48)	C3	
High Tom (50)	D3	C#3 (49) Crash Cymbal 1
Chinese Cymbal (52)	E3	D#3 (51) Ride Cymbal 1
Ride Bell (53)	F3	
Splash Cymbal (55)	G3	F#3 (54) Tambourine
Crash Cymbal 2 (57)	A3	G#3 (56) Cowbell
Ride Cymbal 2 (59)	B3	A#3 (58) Vibraslap
Hi Bongo (60)	C4	<middle C>
Mute Hi Conga (62)	D4	C#4 (61) Low Bongo
Low Conga (64)	E4	D#4 (63) Open Hi Conga
High Timbale (65)	F4	
High Agogo (67)	G4	F#4 (66) Low Timbale
Cabasa (69)	A4	G#4 (68) Low Agogo
Short Whistle (71)	B4	A#4 (70) Maracas
Long Whistle (72)	C5	
Long Guiro (74)	D5	C#5 (73) Short Guiro
Hi Wood Block (76)	E5	D#5 (75) Claves
Low Wood Block (77)	F5	
Open Cuica (79)	G5	F#5 (78) Mute Cuica
Open Triangle (81)	A5	G#5 (80) Mute Triangle

(Source: en.wikipedia.org/wiki/General_MIDI)

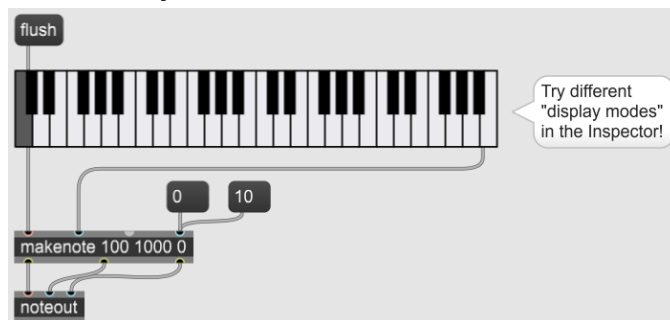
- “makenote” object

- Send a pair of note-on & note-off messages



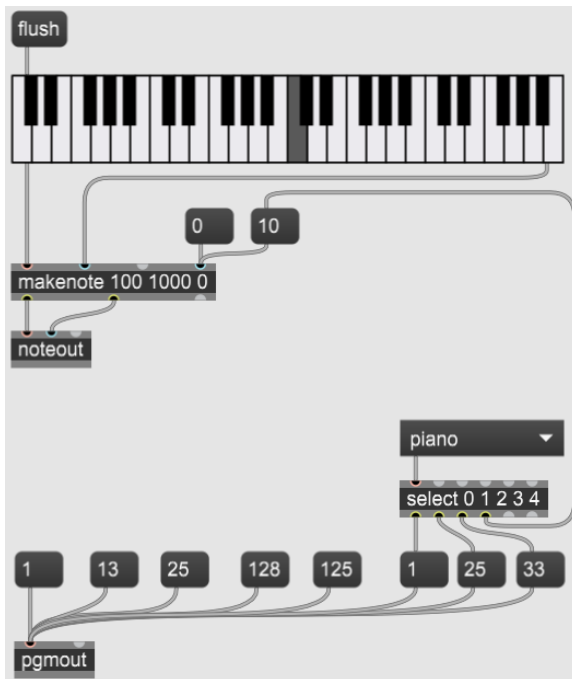
- Why? Because it can be quite chaotic if we forgot to turn off a note
- Play chords by sending multiple pitches!

- “kslider” object

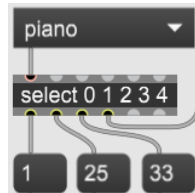


- Display mode – monophonic vs polyphonic

- Right click on the cord and click “Route Patch Cords” (**Ctrl-Shift-Y**) to route the chord as you wish
- Drop-down list for selecting an instrument

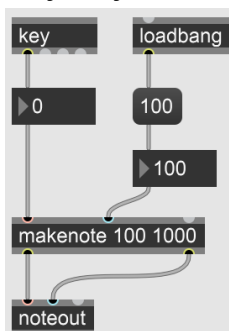


- “umenu” object + “select” object

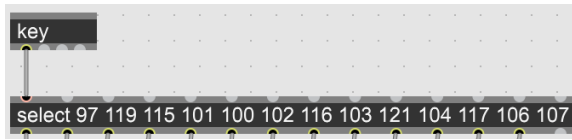


Example 2: MIDI keyboard (“2_midi_keyboard.maxpat”)

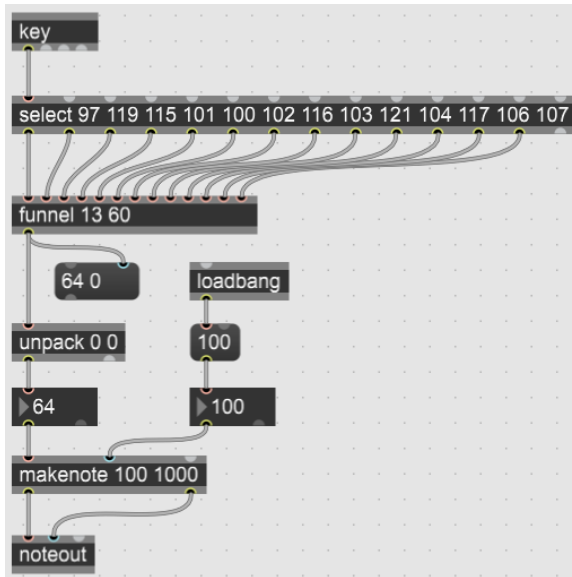
- “key” object



- “select” object



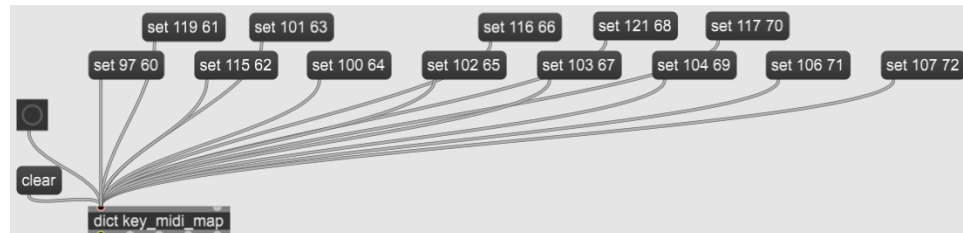
- “funnel” object



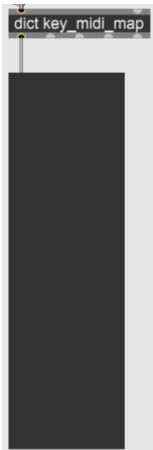
- "unpack" object

- “dict” object

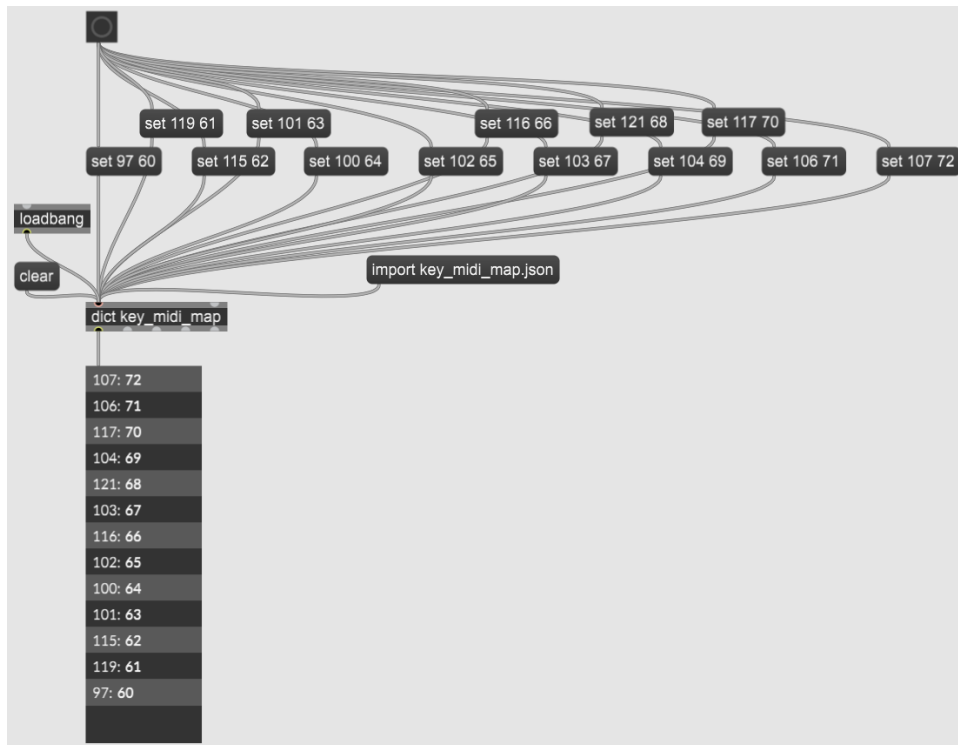
- bang message
- set message
- clear message



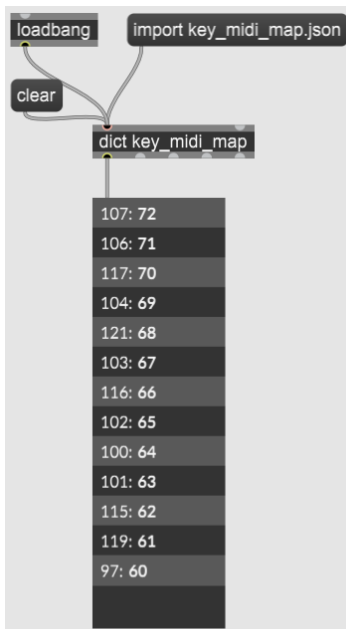
- “dict.view” object



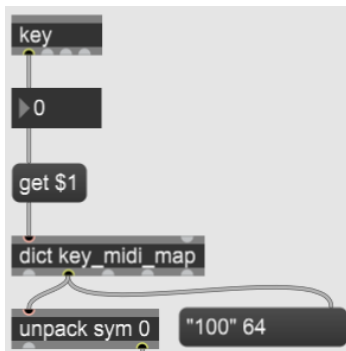
- Use a bang message to set up the key-value pairs



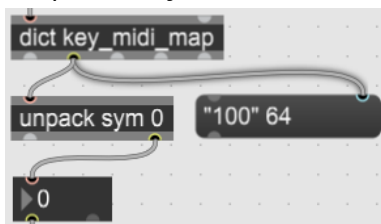
- “import” message to load from JSON



- “get” message – \$ sign syntax



- “unpack” object



- Connecting everything together

