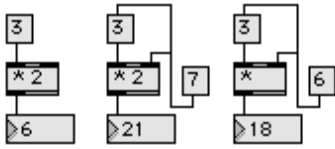


Composition: Electronic Media II
January 28, 2008
Math in Max/MSP

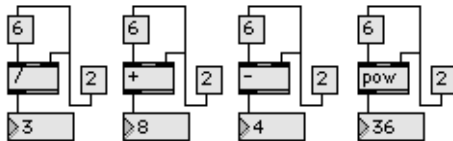
Mathematical expressions in Max/MSP are built up from the smallest unit, examples of which are shown below.

1. Here are three expressions:



- The left patch has a message box with “3” on the top. The outlet goes to the inlet of an object box with “* 2” inside. The * is the multiplication object. The number 2 is what Max calls the “argument.” I will not use this terminology unless I have to. Click or bang on 3 will produce the number 6 in the number box at the bottom of the patch.
- The middle patch has a message box, with “7” inside, outputted to two locations. First, it goes to the right inlet of the * object box. This number overrides the number “2” in the * object box. Second, the message “7” box also goes to the inlet of the message “3” box. This means that when the message “7” box is clicked or banged, it in turn sends a bang to the message “3” box. This makes the flow of the expression read: 3 times 7 equal 21.
- The right patch shows that the * object takes its argument from the message box “6” sent to its right inlet.

2. Other common expressions are:



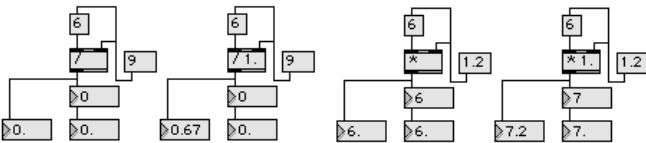
- These are: “6 divided by 2 equals 3”
 “6 plus 2 equals 8”
 “6 minus 2 equals 4”
 “6 raised to the 2nd power is 36”

Note: to trigger the expression, click or bang on the message box “2”. I recommend using math expressions in this way.

3. Exponents.

- 3^4 means “3 raised to the 4th power.”
- $3^4 = 3 \times 3 \times 3 \times 3 = 81$.
- In email, you can type 3^4.

4. Decimals.



Two things are necessary to show decimals:

- One, a float box is needed instead of a number box at the bottom of the patch. As these examples show, the number box strips the decimals.
- Two, the “/” or “*” object box must include the argument “1.” (that is, 1 followed by a period). This is true for all operations, including “+” and “-“.