Unit 2 Lab 3: Tools and Techniques, Page 2
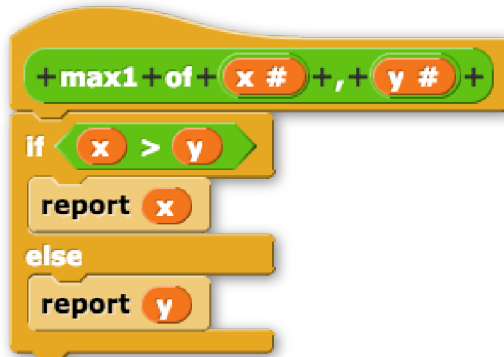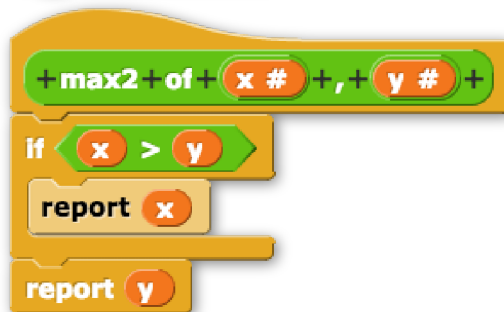
Composition of Functions (Teacher's Choice)

If There Is Time…
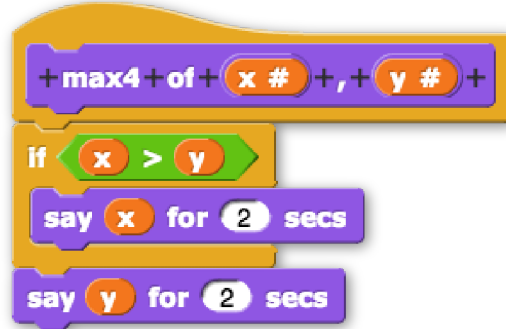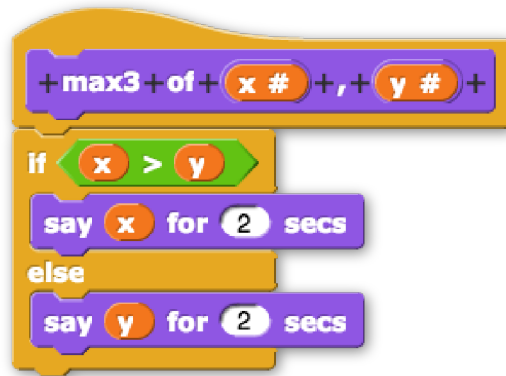
1. It is useful to have a `max` block that takes two numbers as input and reports whichever is bigger (the maximum). Four versions of `max` are shown below: two that *report* the max value and two commands that *say* the max value. One of them doesn't work quite right. Click on one of the images below to load these scripts.

a. Experiment to find out which one sometimes does the wrong thing.

b. With your pair programmer, explain why that one is the *only* one that doesn't work.

c. Discuss: In a real program, which version would you want in your library, the command or the reporter? Why?

Here is one way to define   :

If There Is Time...

Figure out how to make the following blocks.

2. A three-input addition operator that accepts only numbers.

3. A reporter block named "sum of two smallest" that takes three numbers as inputs, and reports the sum of the two smallest:

4. A predicate block named "Are any equal?" that compares 3 numbers and returns true if any two are equal to each other:

Take It Further (Extension Activities)

A. Picture in your head (or sketch if you prefer): Is it possible to build a triangle from three rods of length 6", 5", and 7"?

B. What about three rods of lengths 2", 10", and 4"?

C. What about three rods of lengths 6", 6", and 12"?

D. Find a way to use and sum of two smallest block to build the predicate block can-a-triangle-be-made-using-these-three-lengths