



UNIT 2 LAB 3: TOOLS AND TECHNIQUES, PAGE 2

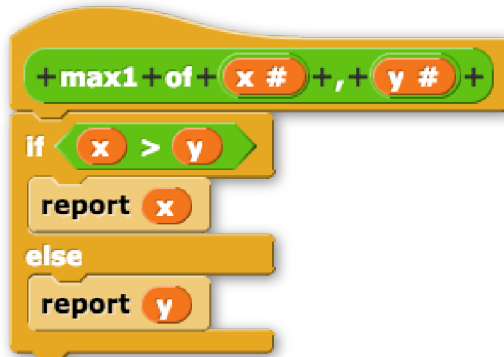
Composition of Functions (Teacher's Choice)



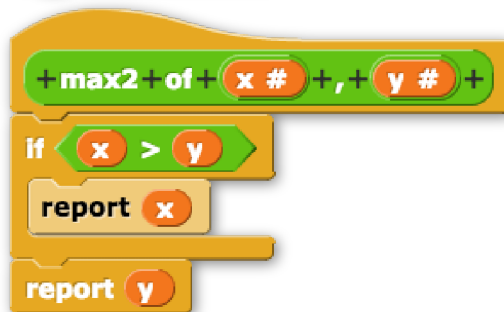
Teacher's Choice

If There Is Time...

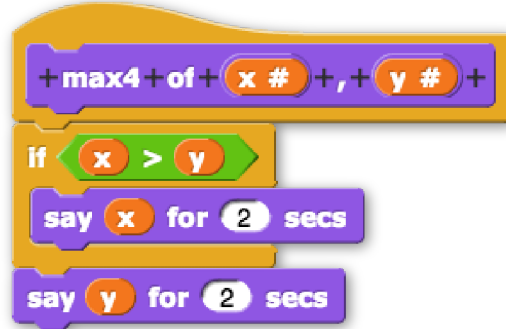
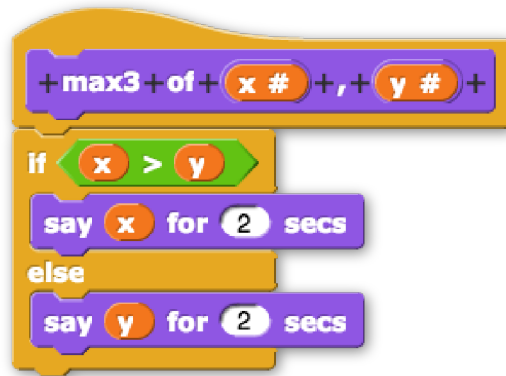
1. It is useful to have a `max` block  that  that takes two numbers as input and reports whichever is bigger (the maximum). Four versions of `max` are shown below: two that *report* the max value and two commands that *say* the max value. One of them doesn't work quite right. Click on one of the images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



```
+max1+ of + x # +, + y # +  
if x > y  
  report x  
else  
  report y
```



```
+max2+ of + x # +, + y # +  
if x > y  
  report x  
report y
```



- Experiment to find out which one sometimes does the wrong thing.
- With your pair programmer, explain why that one is the *only* one that doesn't work.
- 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 **max of** , , :



If There Is Time...

Figure out how to make the following blocks.

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



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



- 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)

- 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"?
- What about three rods of lengths 2", 10", and 4"?
- What about three rods of lengths 6", 6", and 12"?
- Find a way to use `max of` and `sum of two smallest block` to build the predicate block `can-a-triangle-be-made-using-these-three-lengths`



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