Discussion 3

"What have I gotten myself into?"

Block Review

(quick lecture recap)

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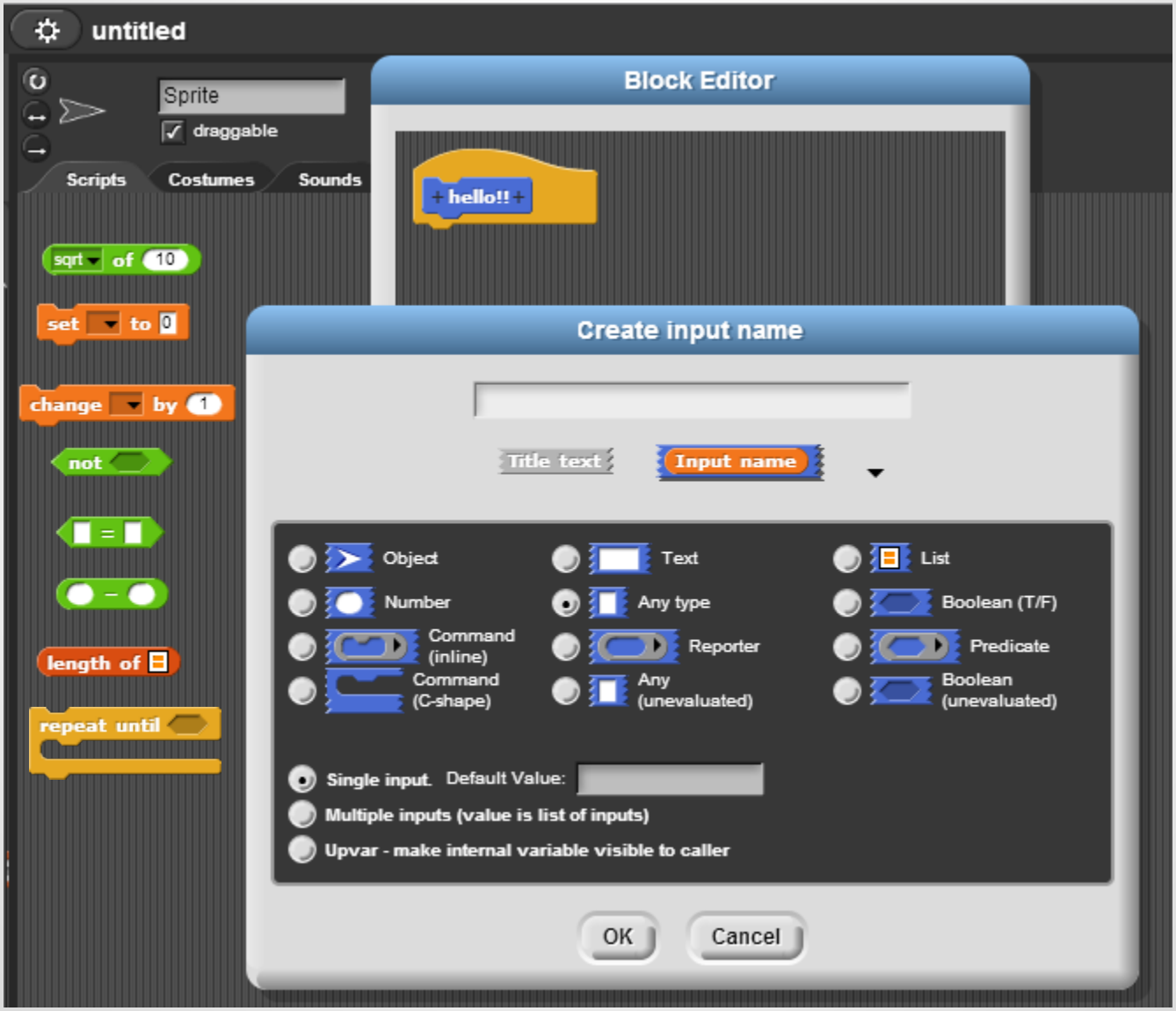
Types

- Command
  - Not meant to report = No outputs
  - Used primarily for side-effects
  - (Not functions)

- Reporter
  - (Mostly) Functions
  - Reports a specific value
  - No side-effects

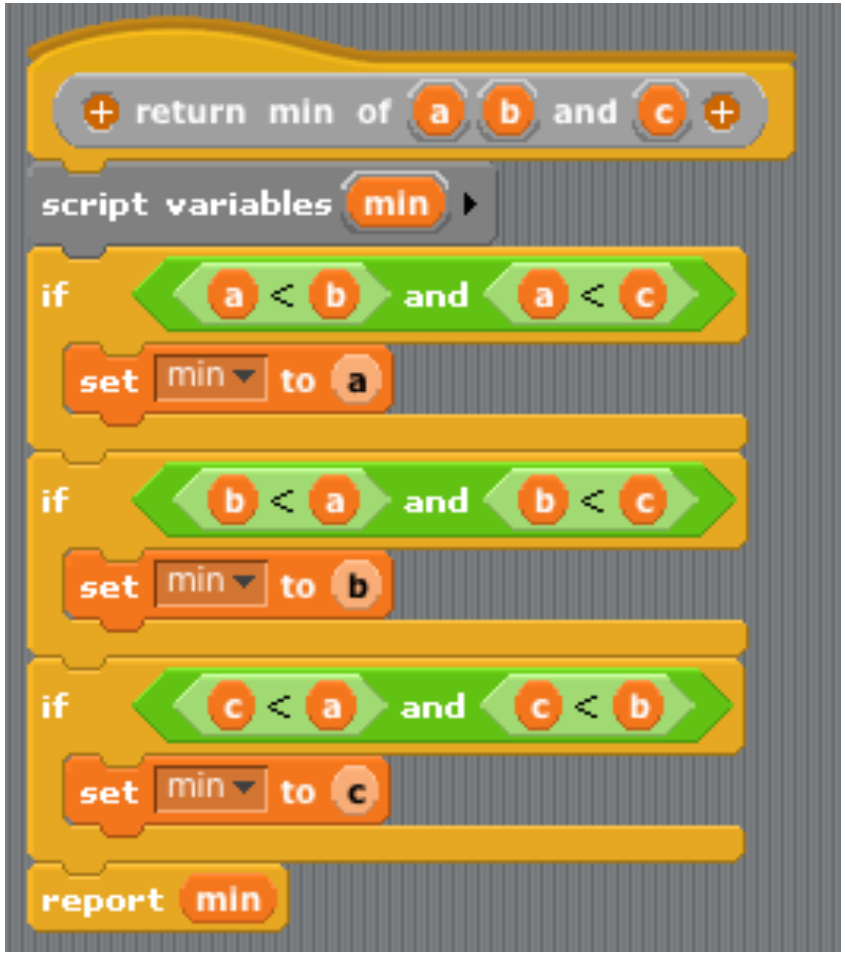
- Predicate
  - Functions
  - Report Boolean values
    - True or False
  - No side-effects

A Side Note on Inputs



Is there anything wrong here?

Answer!


return min of a b and c
script variables min
if a < b and a < c
set min to a
if b < a and b < c
set min to b
if c < a and c < b
set min to c
report min

Oh dear Mod. What happened?

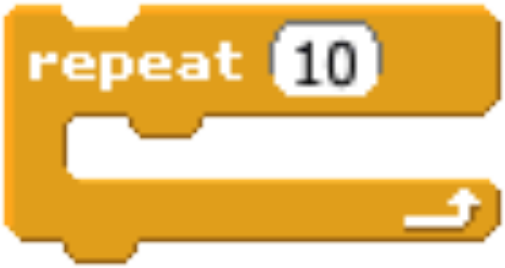
= 3

- Like the "Remainder" you remember from elementary school division

_2 R3 <-- this is the value mod returns

5) 13

Rinse and Repeat... and Repeat Until



- Only loops a finite (x) number of times
- Equivalent to copying and pasting inner portion of code (x) times

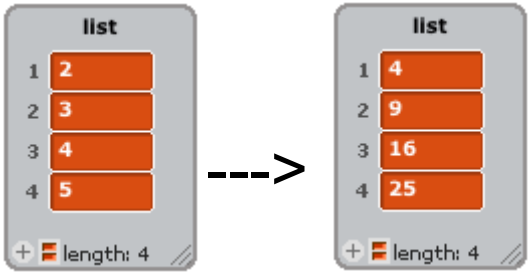
- Acts like simple Repeat
- Loops UNTIL the boolean (hexagon function) becomes true.
- Like poking your sibling until they yell at you to stop

A Short Lengthy Discussion

- Red (list block)
- Only for lists

- Green ("word" block)
- Only for words

Are you indexpecting another pun?



- An index is a number. A way of keeping track of how far through the list/word the loop has come.
- It is not the item in the list, but only refers to a number that can be used to access a specific item on the list.

- Trace out the script above to see how it works.

Practice Makes Perfect

</Puns>

From *Simply Scheme*:

The technical term for "the things that a function accepts as an argument" is the ***domain*** of the function. The name for "the things that a function returns" is its ***range***.

Programming Paradigms

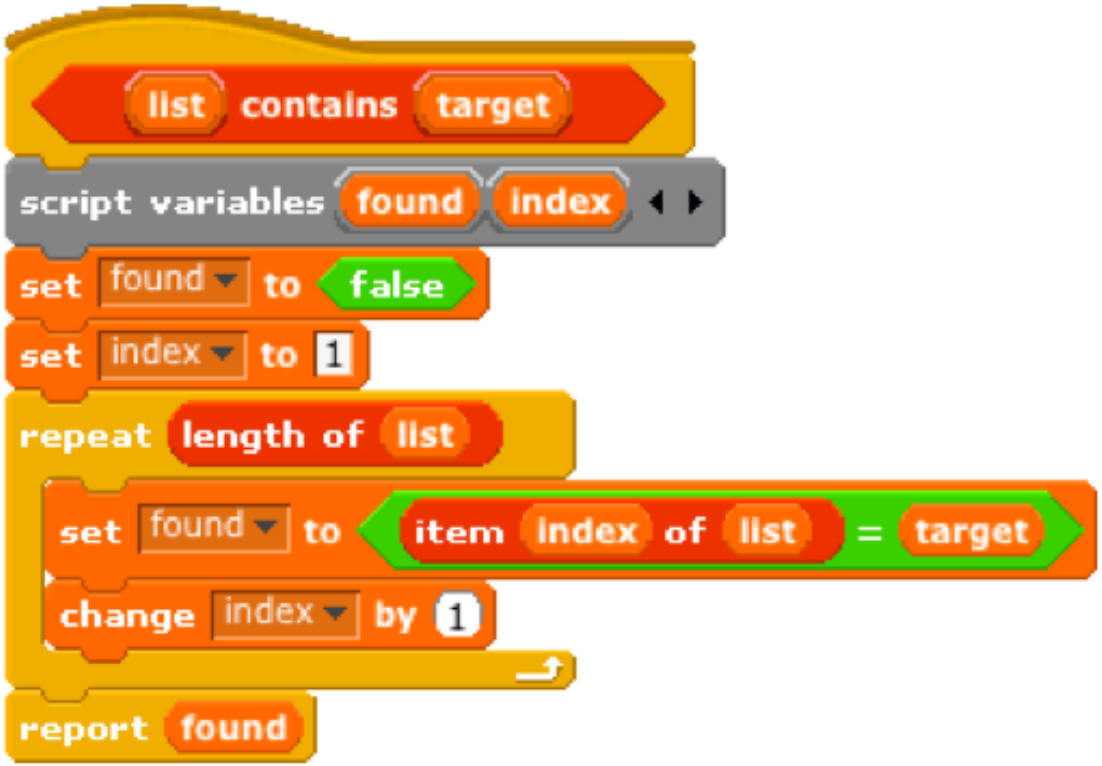
Question 4: Draw lines to match the four programming paradigms with their descriptions.

a) functional
b) imperative
c) object-oriented
d) declarative

1) answer a question via search for a solution
2) construct instances from classes and send messages between them
3) follow a list of instructions one by one
4) evaluate an expression and use the result

Debugging

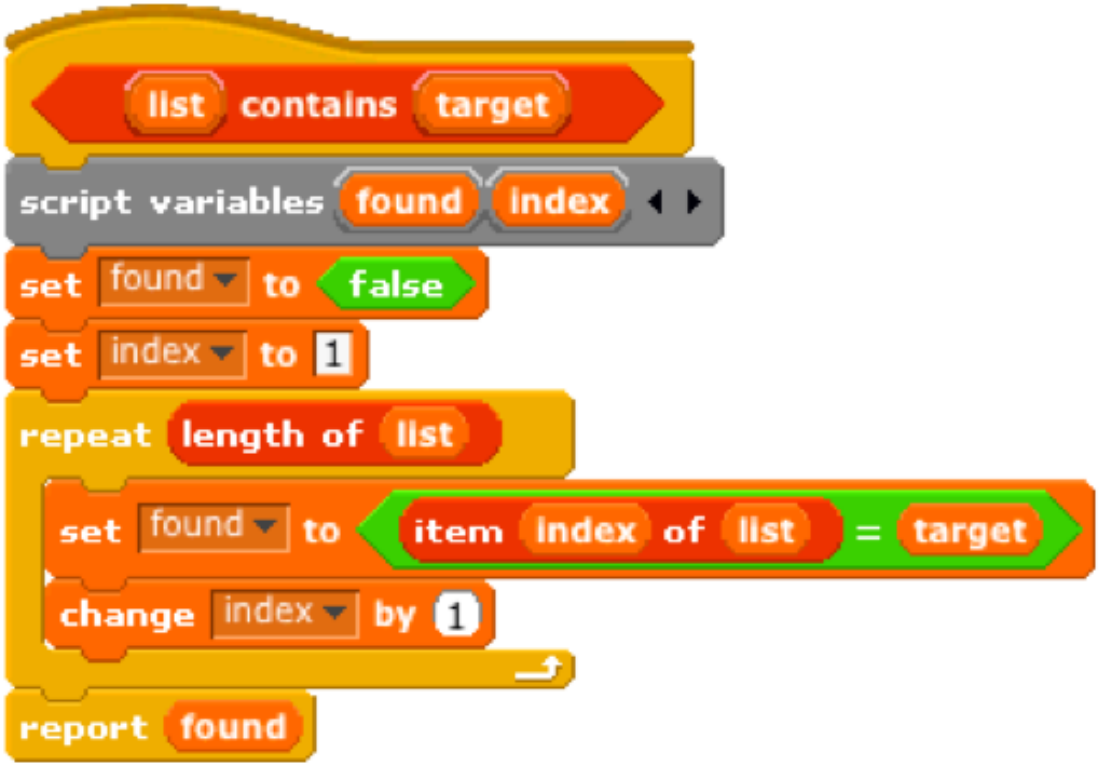
Question 8: We are trying to write a new predicate block that will return true when a particular value is present within a list. Unfortunately, there is a bug.



a) Give an example of values of **list** and **target** for which this code works correctly, despite the bug.

Debugging Part 2

Question 8: We are trying to write a new predicate block that will return true when a particular value is present within a list. Unfortunately, there is a bug.



b) Describe what you would change so that the block will work correctly for all inputs.

Float like a Butterfly, String Like a Bee*

Block	Description	Word example	Sentence example
`Length`	Report the number of letters in a word / words in a sentence		
`Unend`	Remove the ends of a word / sentence.		
`Double`	Double a word / sentence		
`RightDup`	Duplicate the rightmost letter / word		
`LeftTrim`	Remove the first letter / word from the left		

a) _____(I love cal)___ → 9

b) _____(go bears and beat stanford)___ → dan

*Ok I promise about the "no more puns" this time.