

Quiz #3

1. (1 point) True or False

“Parameters, or inputs, can be used to further the generality and reusability of these blocks.”

True

2. (2 points) What is the value of $F(3)$, given the following recursive definition?

$$F(0) = 1$$

$$F(1) = 2$$

$$F(n) = F(n-1) * F(n-2)$$

$$F(3) = F(3-1) * F(3-2)$$

$$F(3) = F(2) * F(1)$$

$$\underline{F(3) = 2 * 2 = 4}$$

$$F(2) = F(2-1) * F(2-2)$$

$$F(2) = F(1) * F(0)$$

$$F(2) = 2 * 1 = 2$$

3. (2 points) Suppose that there are variables called x , y , and z . Write a series of assignment statements that will properly swap the values of x and y (e.g., if x is originally 3 and y is 5, after executing the statements, then x will be 5 and y will be 3).

$$z = x$$

$$x = y$$

$$y = z$$

4. (3 points) What are the three types of blocks available when creating your own block?

command

reporter

predicate

5. (2 points) How does procedural abstraction support software reuse?

Procedural abstraction uses parameters and code written in a manner to support many contexts to allow for code reuse. For example, if we created a drawSquare block in BYOB that accepted a number for the length of each side, that would be good, but a drawShape block that accepted a parameter for the number of sides and a parameter for the length of each side would be more reusable as it would apply to more contexts.