

Discussion 6: Concurrency












Mutability Review

1. What does it mean for data to be mutable?

2. What kind of data in Snap! is mutable?

Concurrency

1. For the following two subparts, suppose we have the three scripts, four broadcast blocks, and four predicates below:

Scripts	Car:	Pedestrian:	Traffic Light:
			
Broadcast Blocks	 	 	
Predicates	 	 	

a. Fill in the code for the car and the pedestrian such that there will be a deadlock.

	car	pedestrian
waits until...		
broadcasts...		

b. Fill in the code for the car and the pedestrian such that there will not be a deadlock (i.e. the car and the person move without conflicting with each other).

	car	pedestrian
waits until...		
broadcasts...		

2. Which of the following could be the value of my_name after the green flag is clicked?

```

when clicked
wait pick random 1 to 3 secs
set my name to Dan
wait pick random 1 to 3 secs
set my name to join my name Oski

```

```

when clicked
wait pick random 1 to 3 secs
set my name to Garcia
wait pick random 1 to 3 secs
set my name to join my name Bear

```

- Dan
 Garcia
 Dan Bear
 Garcia Oski
 Dan BearOski
 Garcia Dan
 Oski
 Dan OskiBear

Challenge

- List all possible values of grade after the green flag is clicked.

```

when clicked
set Grade to 10
broadcast Apply Final Grading

```

```

when I receive Apply Final Grading
Apply EPA Get Grade - 5

```

```

when I receive Apply Final Grading
set Grade to Get Grade x Get Grade

```

Here are the definitions of the blocks used in the above scripts:

```

+ Apply + EPA + points +
wait pick random 1 to 10 secs
change Grade by points

```

```

+ Get + Grade +
wait pick random 1 to 5 secs
report Grade

```