Discussion 6: Concurrency

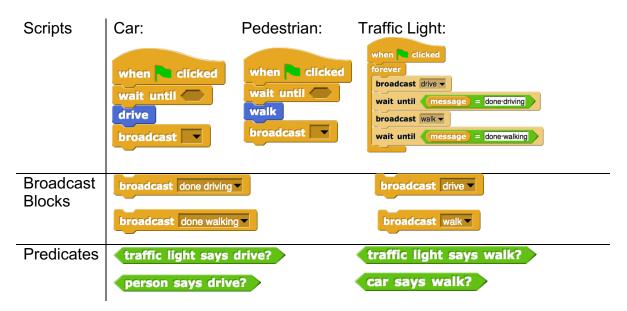
Mutability Review

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:



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

	car	pedestrian
waits until		
broadcasts	broadcast walk	broadcast drive

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
 when clicked
                                                  wait pick random 1 to 3 secs
 wait pick random 1 to 3 secs
 set my name ▼ to Dan
                                                  set my name v to Garcia
 wait pick random 1 to 3 secs
                                                  wait pick random 1 to 3 secs
set my name ▼ to join (my name) Oski ◆
                                                 set my name ▼ to join (my name) Bear ( )
        Garcia
                 Dan Bear
                            Garcia Oski
                                         Dan BearOski
                                                        Garcia Dan
                                                                     Oski
                                                                            Dan OskiBear
Dan
```

Challenge

1. 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 

when I receive Apply Final Grading 

Apply EPA Get Grade - 5

set Grade to Get Grade × 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
```