**CS108L Computer Science for All**

**Module 4 Do Now Questions**

1. Predict a turtle’s heading after this procedure is run once.

to go  
 ask turtles  
 [  
 forward 1  
 set heading random 45  
 right 90  
 ]  
 end

1. The turtle’s heading will be a random heading between 0 to 134 degrees;
2. The turtle’s heading will be between 0 to 44 degrees from its original heading;
3. The turtle’s heading will be a random heading between 0 and 90 degrees;
4. The turtle’s heading will be a random heading between 90 and 134 degrees.
5. What type of pattern will a turtle draw after performing this procedure as an infinite loop?

to go  
 ask turtles  
 [

pen-down

forward 1

right 60 + (random 10)  
 forward 1  
 left 60 + (random 10)  
 ]  
 end

1. a regular dashed zigzag;
2. an irregular solid zigzag;
3. a regular solid zigzag;
4. an irregular dashed zigzag
5. This procedure is intended to have an agent choose a random heading that would allow it to go in any direction on the map, then move forward 1 space, then turn right 45 degrees, but it doesn’t work as intended. What is wrong?

to go

ask turtles

[

set heading random 100

forward 1

right 45

]

end

1. “set heading random 100” should be “set heading random 360”;
2. “right 45” should be before “set heading random 100”;
3. “forward 1 should be after “right 45”;
4. “right 45” should be “left 45”

1. What type of pattern will a turtle draw when performing the procedure below as an infinite loop?

to go  
 ask turtles  
 [

pen-down

forward 1

right random 90  
 left random 30  
 ]  
 end

1. an irregular walk limping toward the right;
2. an irregular walk limping towards the left;
3. a tight right-handed circle ;
4. an irregular dashed zigzag.
5. In this setup procedure, the programmer wanted to create between 1 and 50 agents. How should the error be fixed?

to setup  
 clear-all

create-turtles random 50  
 [

set size 2

forward 10

]  
 end

1. replace “random 50” with “(random 50 + 1)”;
2. replace “random 50 with “(random 50) + 1”;
3. replace “random 50” with “(random 49) + 1”;
4. replace “random 50” with “random 51”.