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CS211
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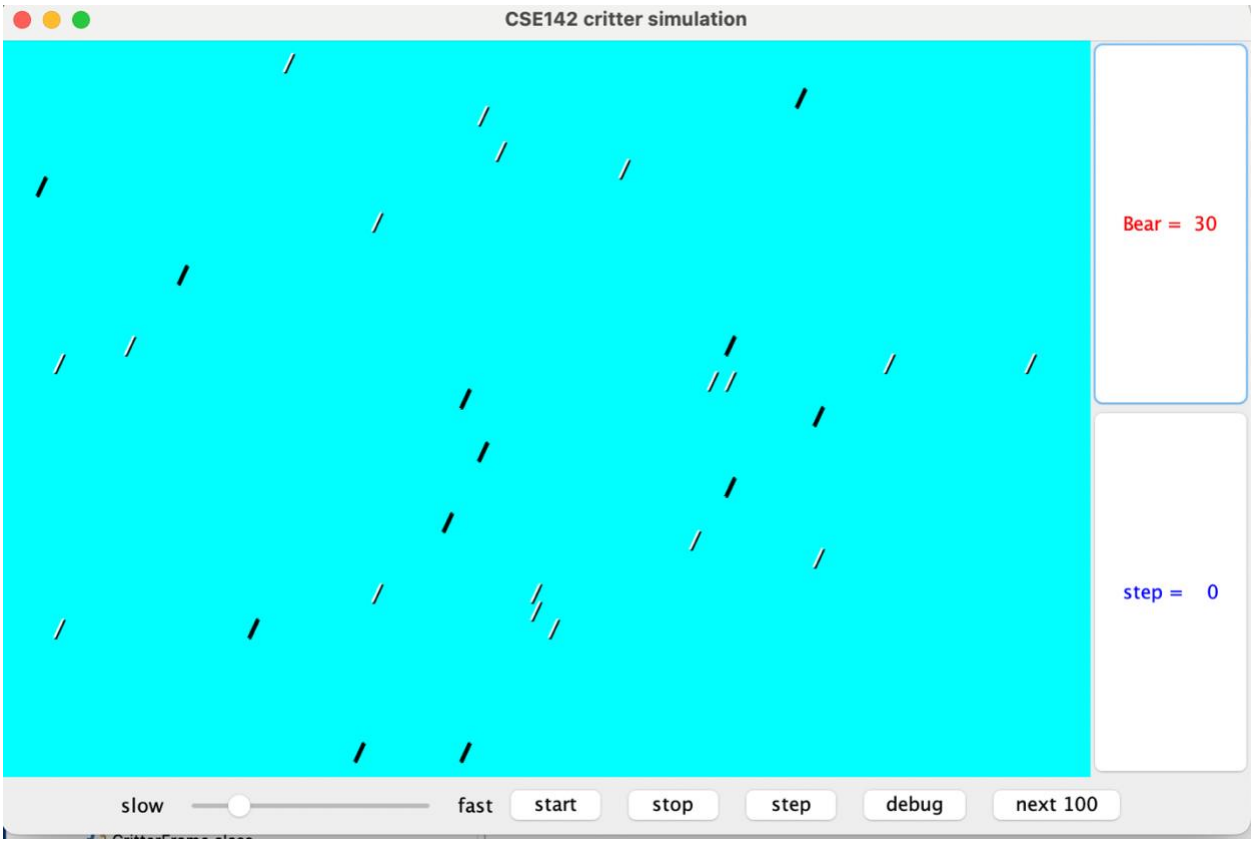
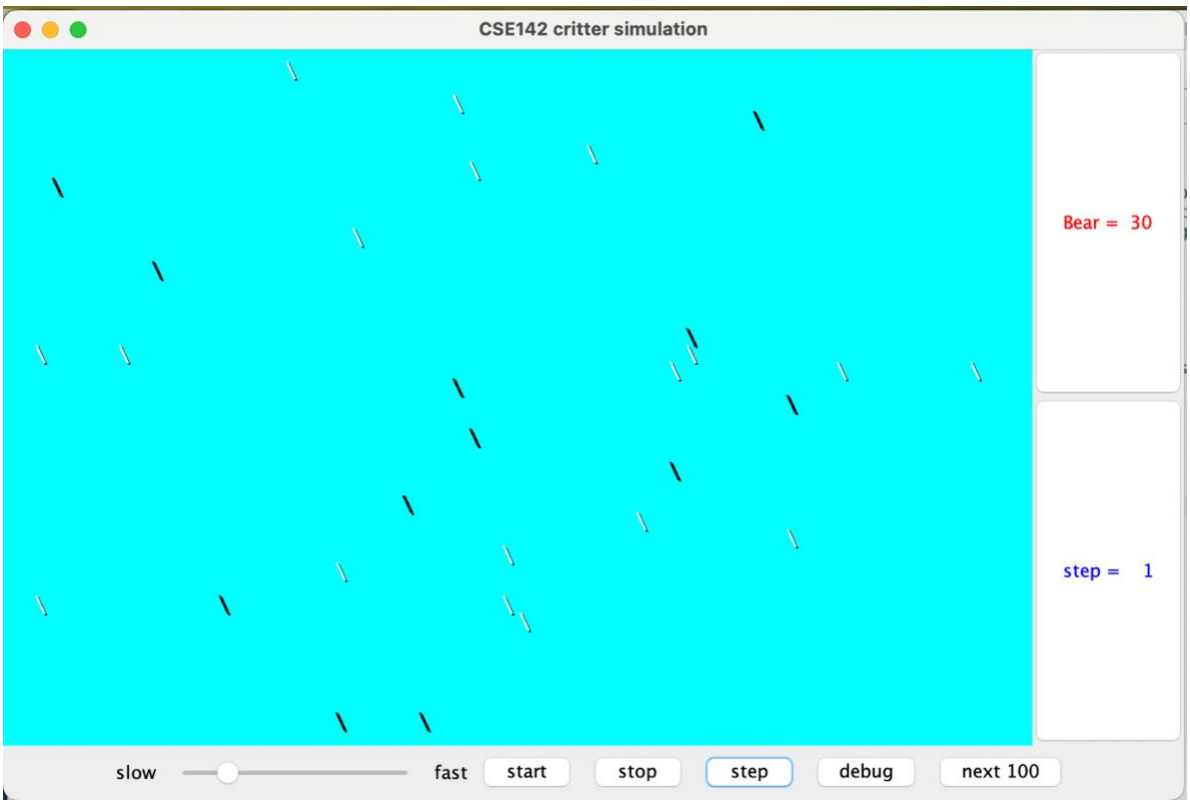
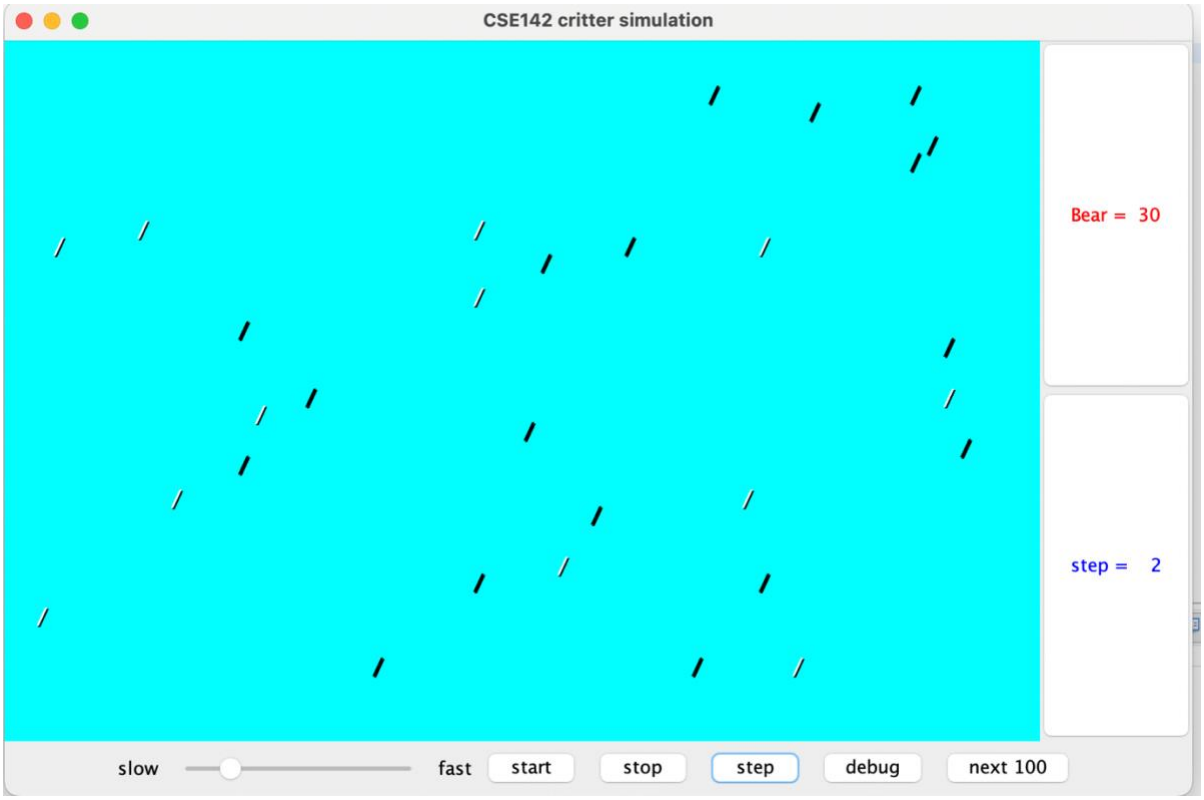
QA Document for Assignment 2 #Ch.9
Bear Class

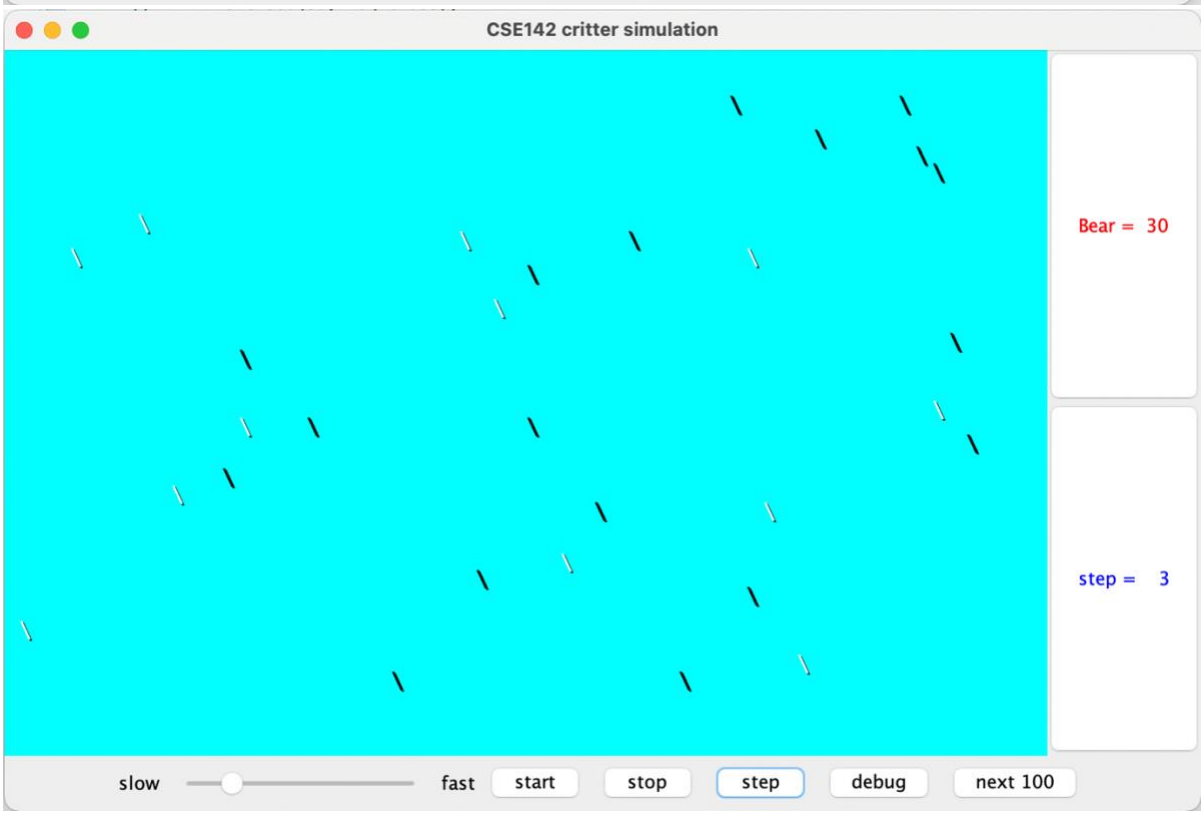
1. Bear class takes a random Boolean in its constructor for the color, so I expect some bears to be white and some bears to be black. All bears should show "/" when program starts.



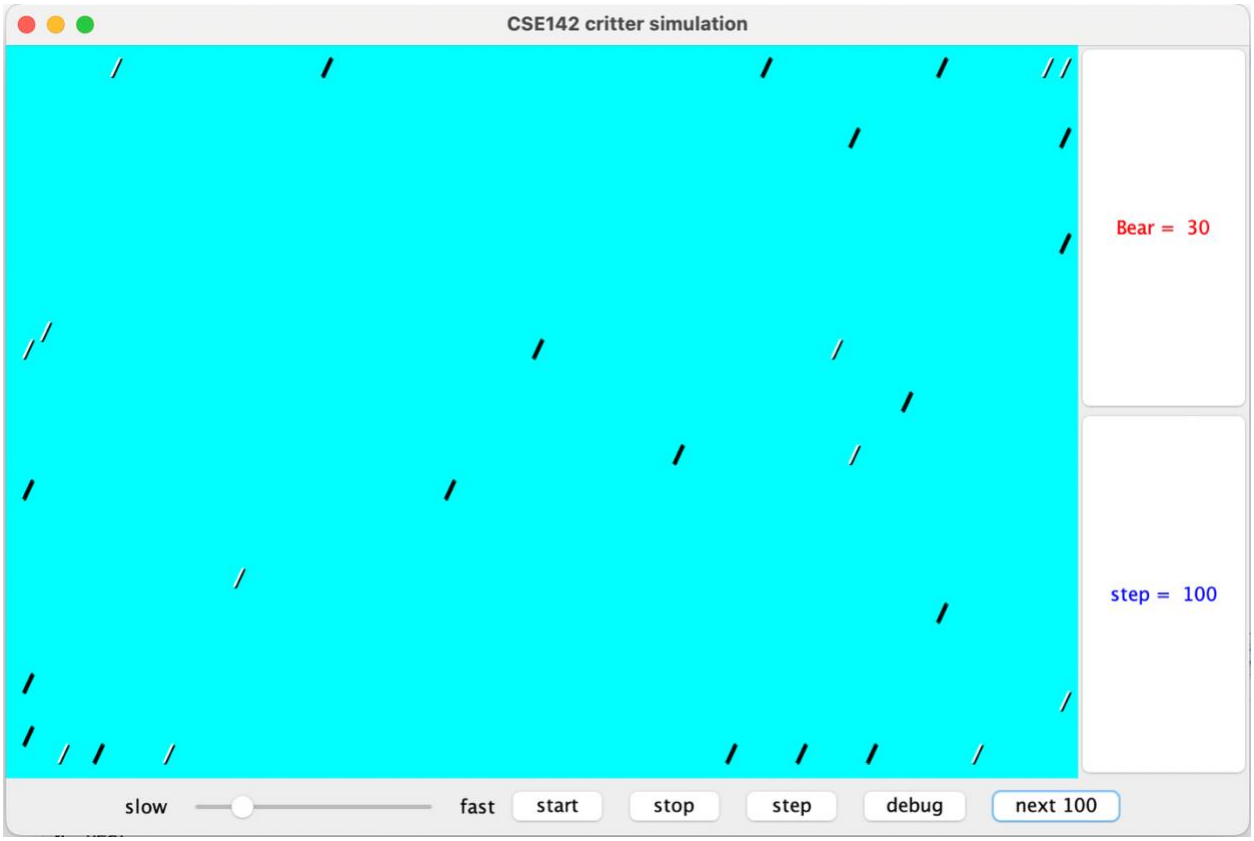
2. Since the bear shows "/" and "\" alternatively based on each different move, I expect on step 1, all bears show "\", and on step 2, all bears show "/" and so on so forth.


CSE142 critter simulation
Bear = 30
step = 1
slow
fast
start
stop
step
debug
next 100

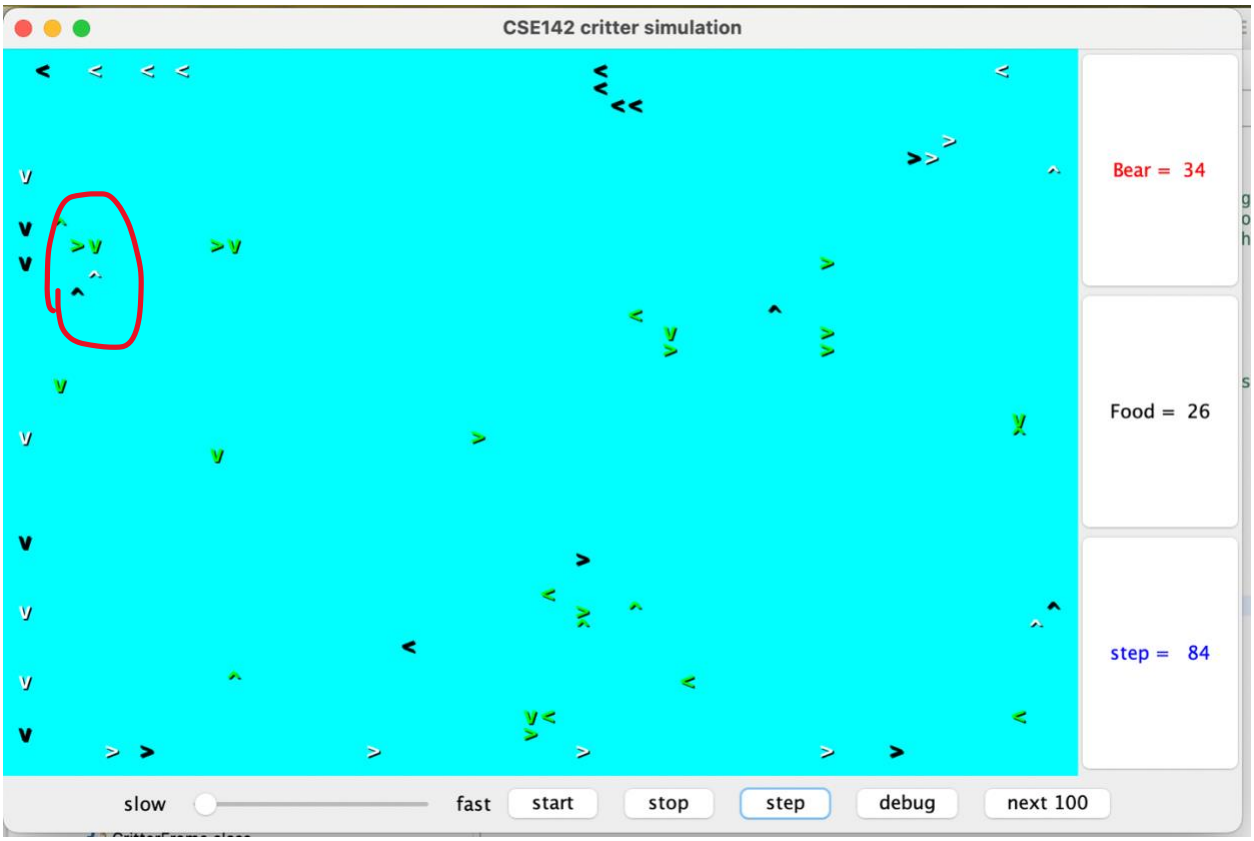

CSE142 critter simulation
Bear = 30
step = 2
slow
fast
start
stop
step
debug
next 100

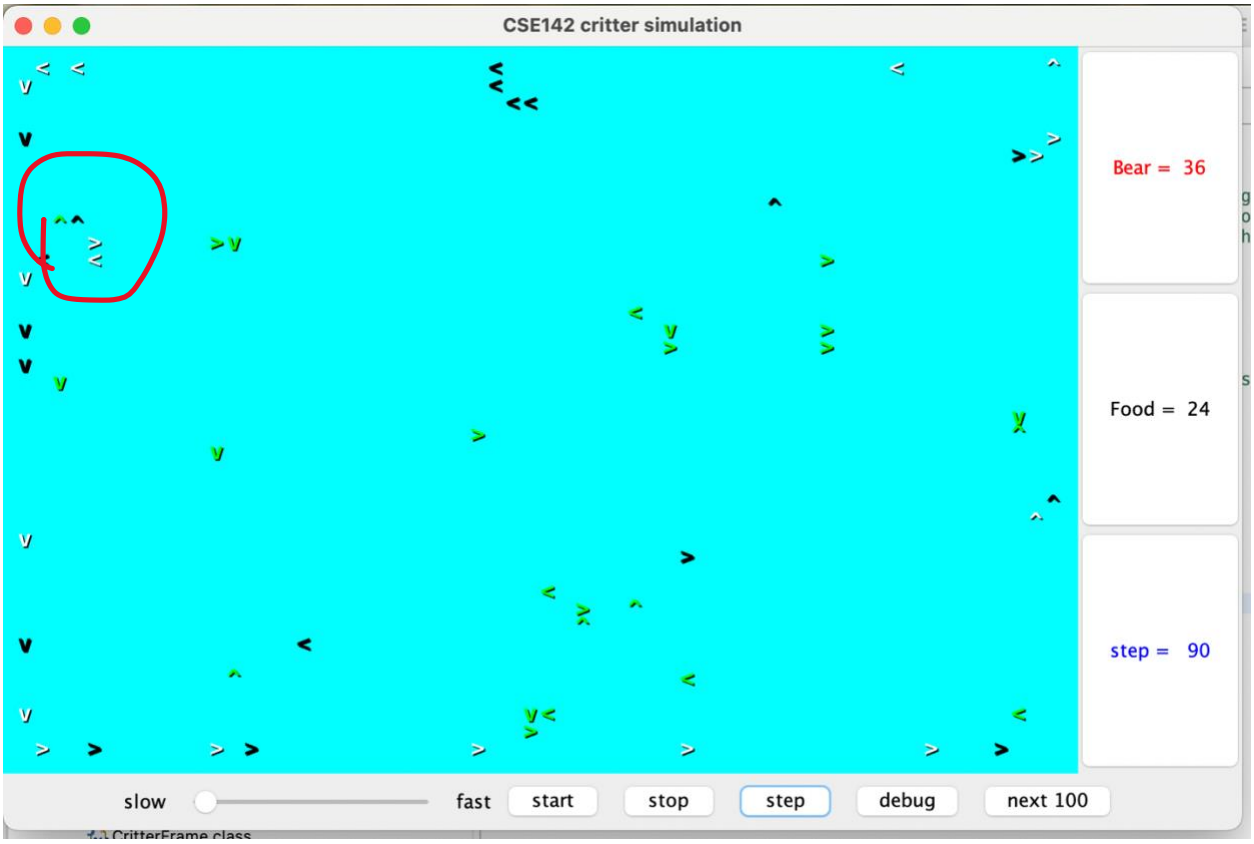

CSE142 critter simulation
Bear = 30
step = 3
slow
fast
start
stop
step
debug
next 100

3. On the step 100, I expect all bears show “/”. And since bears will turn left when they run into wall or themselves, they should have a tendency of moving along the wall in counterclockwise direction.

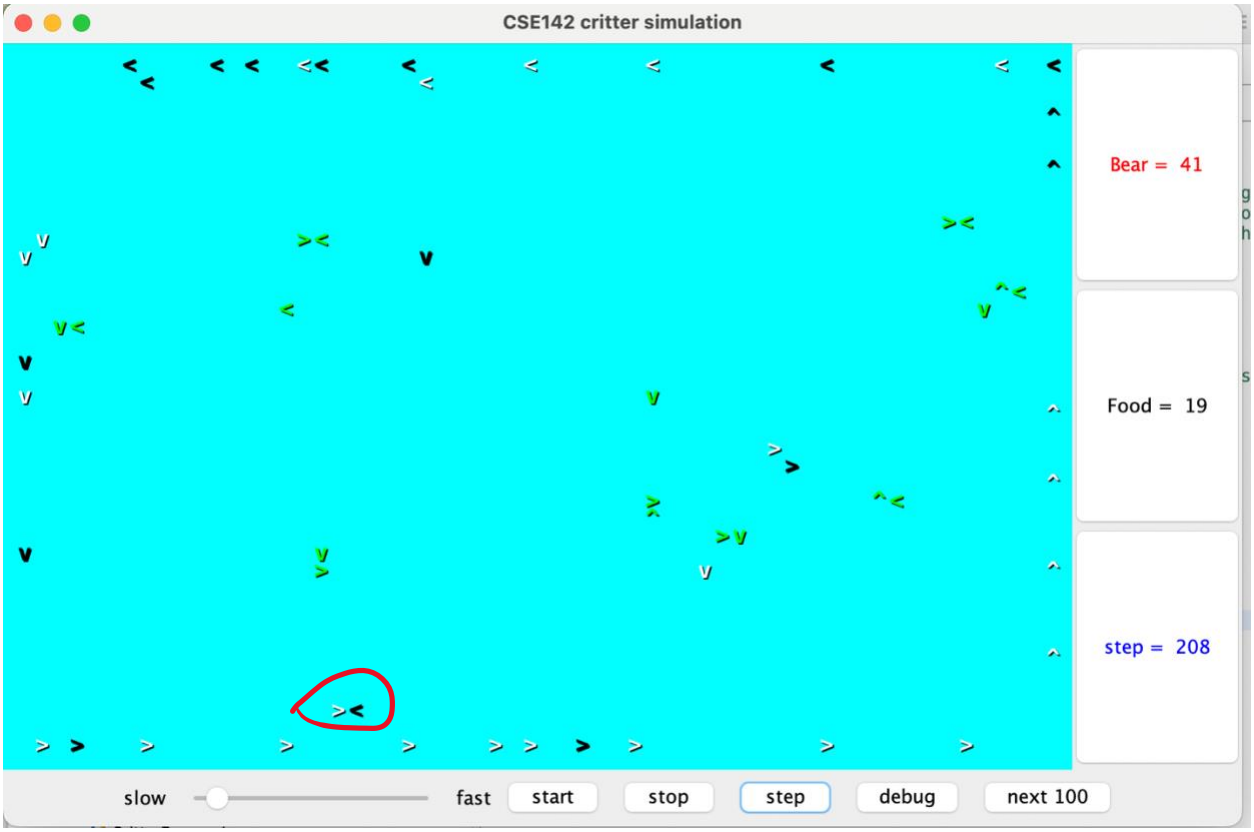


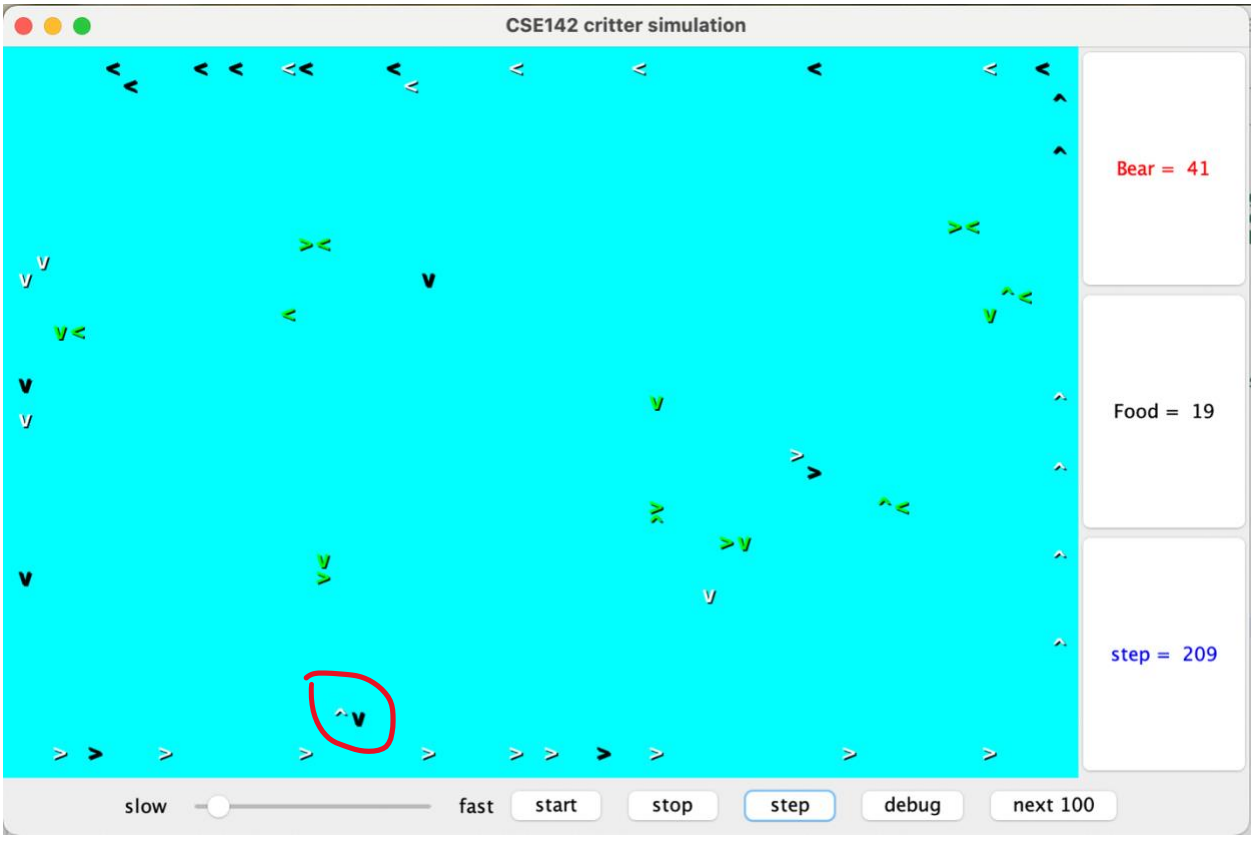
4. Since bears will infect others in front, and they will hop if possible. I put 30 food in the world to test this method. Look at the black bear who has a food in front and the polar bear with nothing in front. I expect the food in front of the black bear turn into a new bear and the polar bear move one step forward in its direction. Also, if the food is not in front of the bear, the bear will just pass it without infecting. The following two snapshots will show this.


CSE142 critter simulation
Bear = 34
Food = 26
step = 84
slow
fast
start
stop
step
debug
next 100


CSE142 critter simulation
Bear = 36
Food = 24
step = 90
slow
fast
start
stop
step
debug
next 100

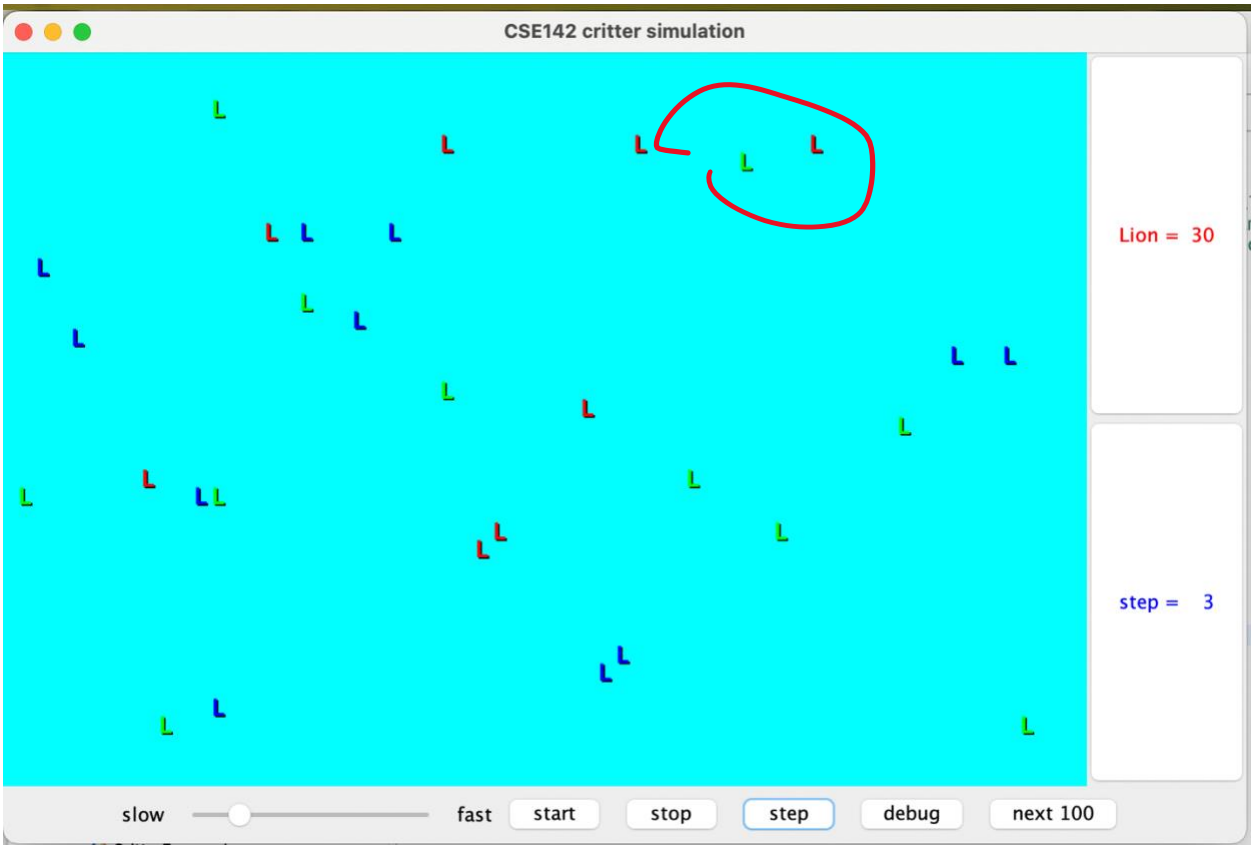
5. If two bears run into each other, they should both turn left as shown below.

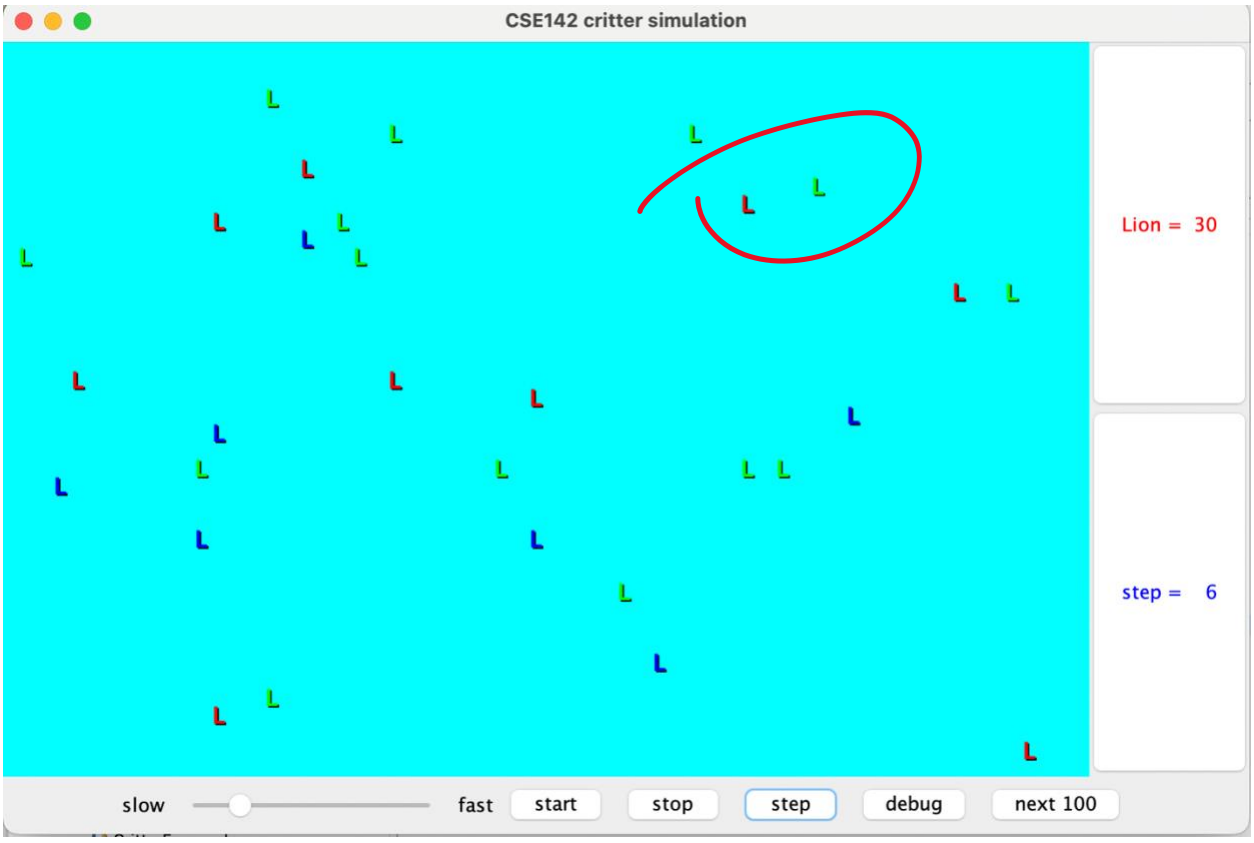




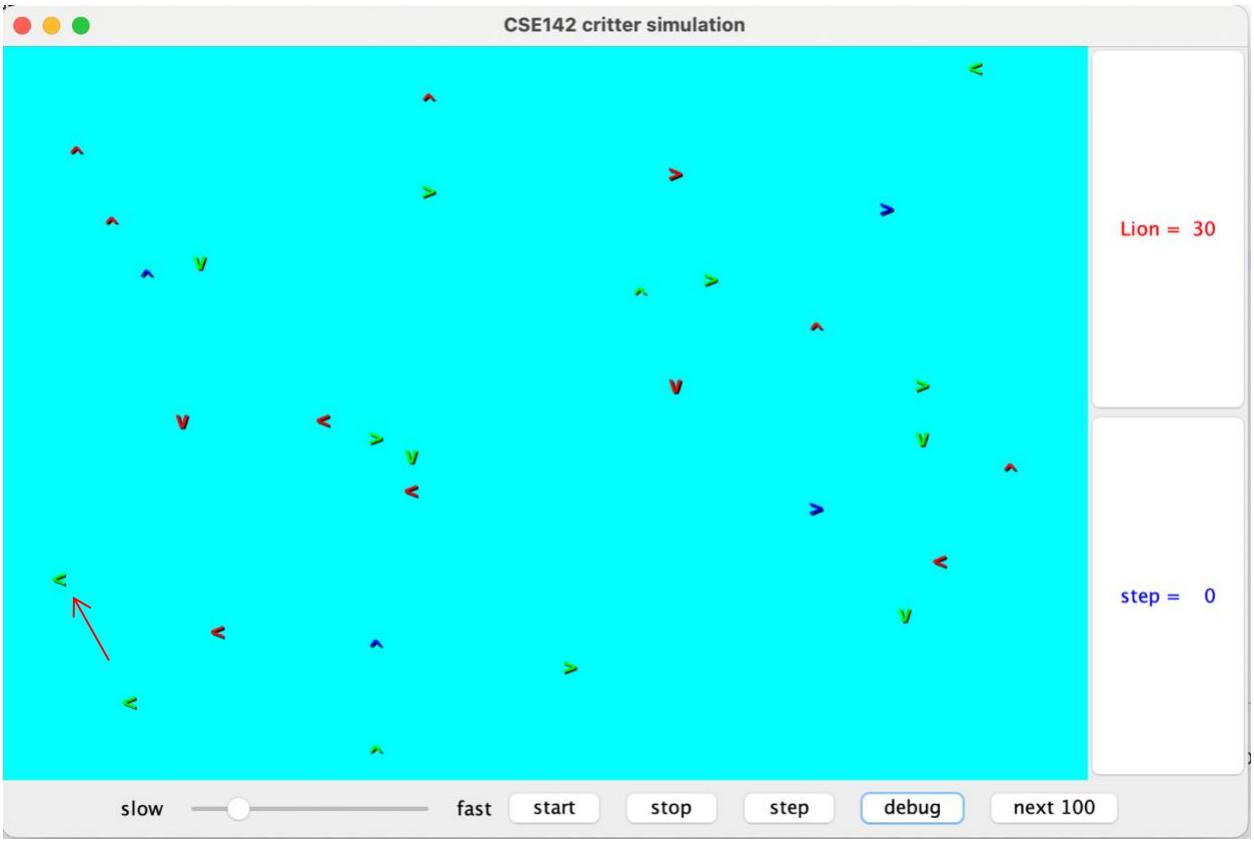
Lion Class

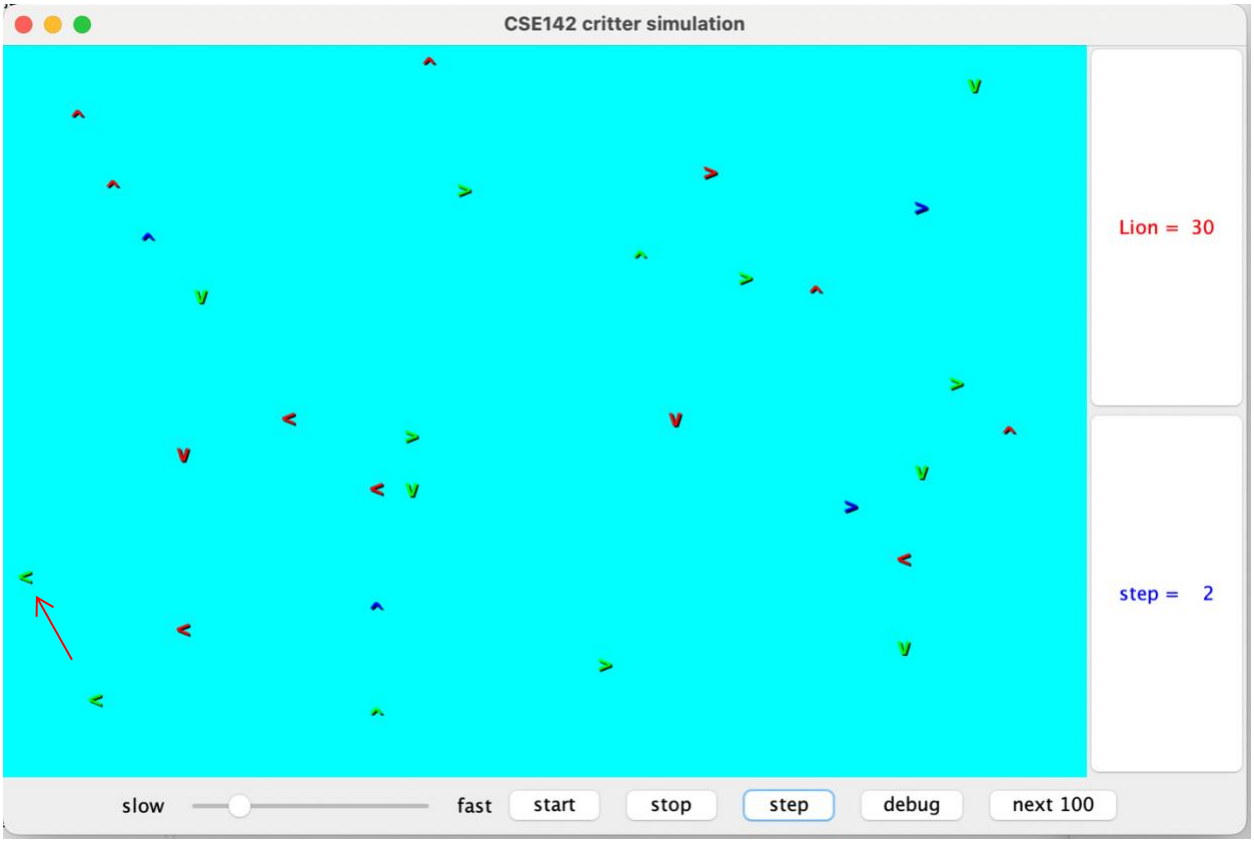
1. Lions should randomly choose a color between red, green and blue every 3 steps. So in some case, I expect the color will change every 3 steps. On the other hand, because the color is randomly chosen, a lion might have the same color for 6 steps, 9 steps or even more steps. Below snapshots show step 0, step 3, and step 6. Lions should keep its initial colors for step 0, 1, 2, and change colors for step 3 and keep it for step 4 and 5. Then change color again on step 6.

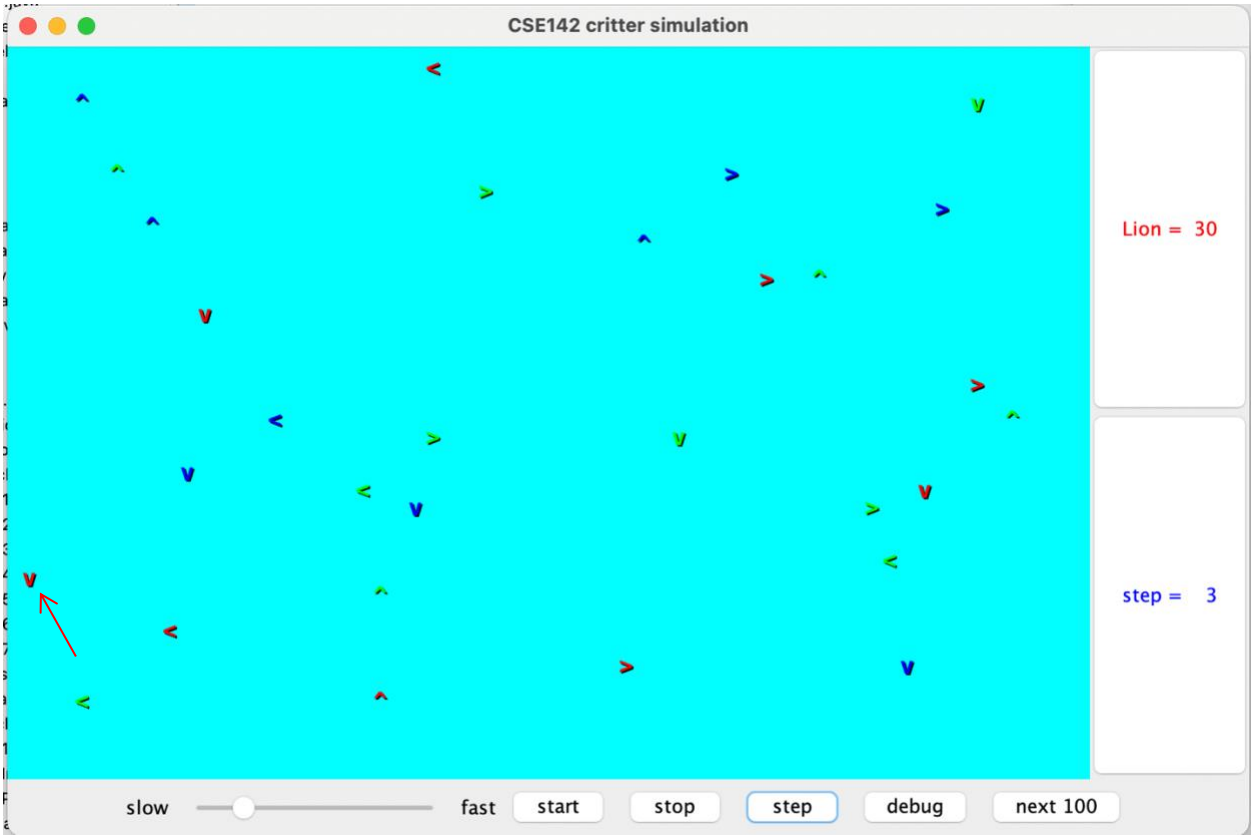

CSE142 critter simulation
Lion = 30
step = 3
slow
fast
start
stop
step
debug
next 100

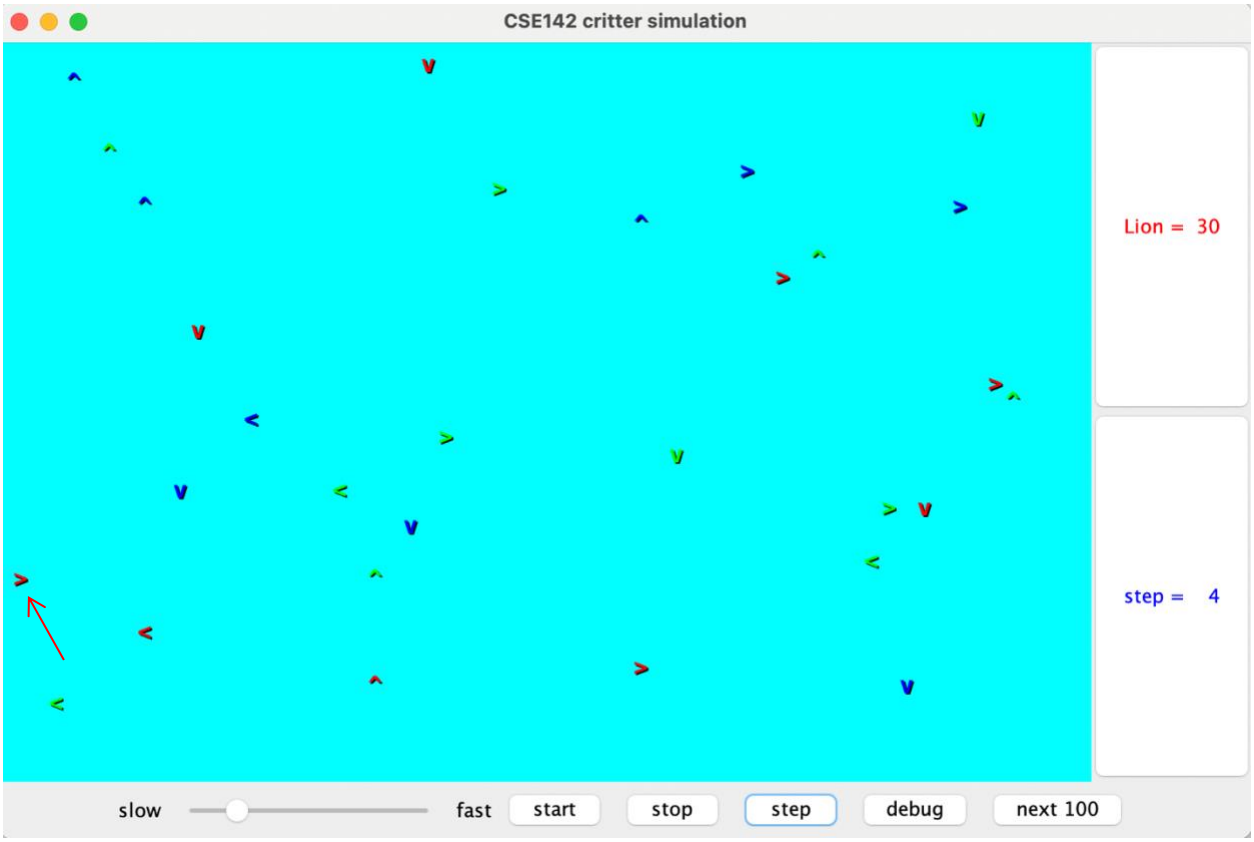

CSE142 critter simulation
Lion = 30
step = 6
slow
fast
start
stop
step
debug
next 100

2. When run into wall, lions should bounce off the walls and head back because they should turn left when wall is in front, and turn left again when wall is on the right. They should turn right when they see themselves. Below snapshots show those properties.

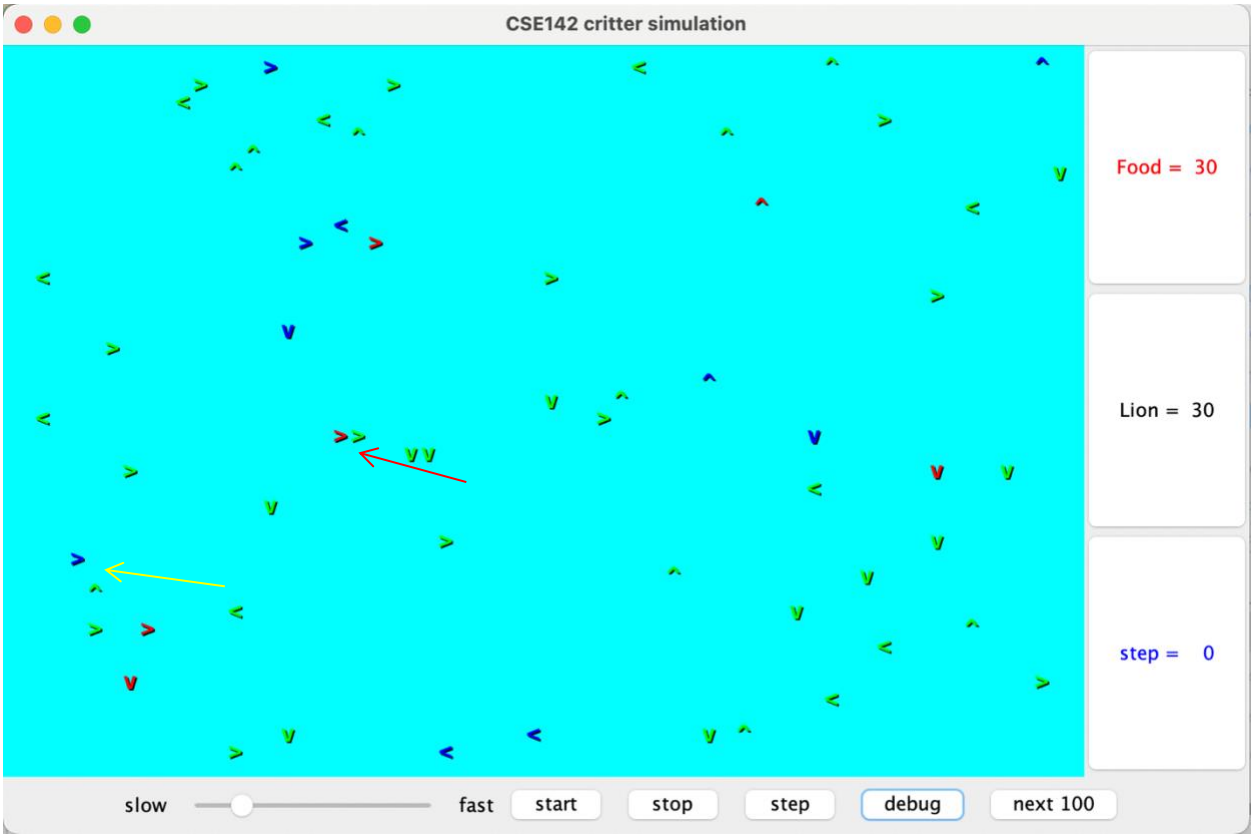

CSE142 critter simulation
Lion = 30
step = 0
slow
fast
start
stop
step
debug
next 100

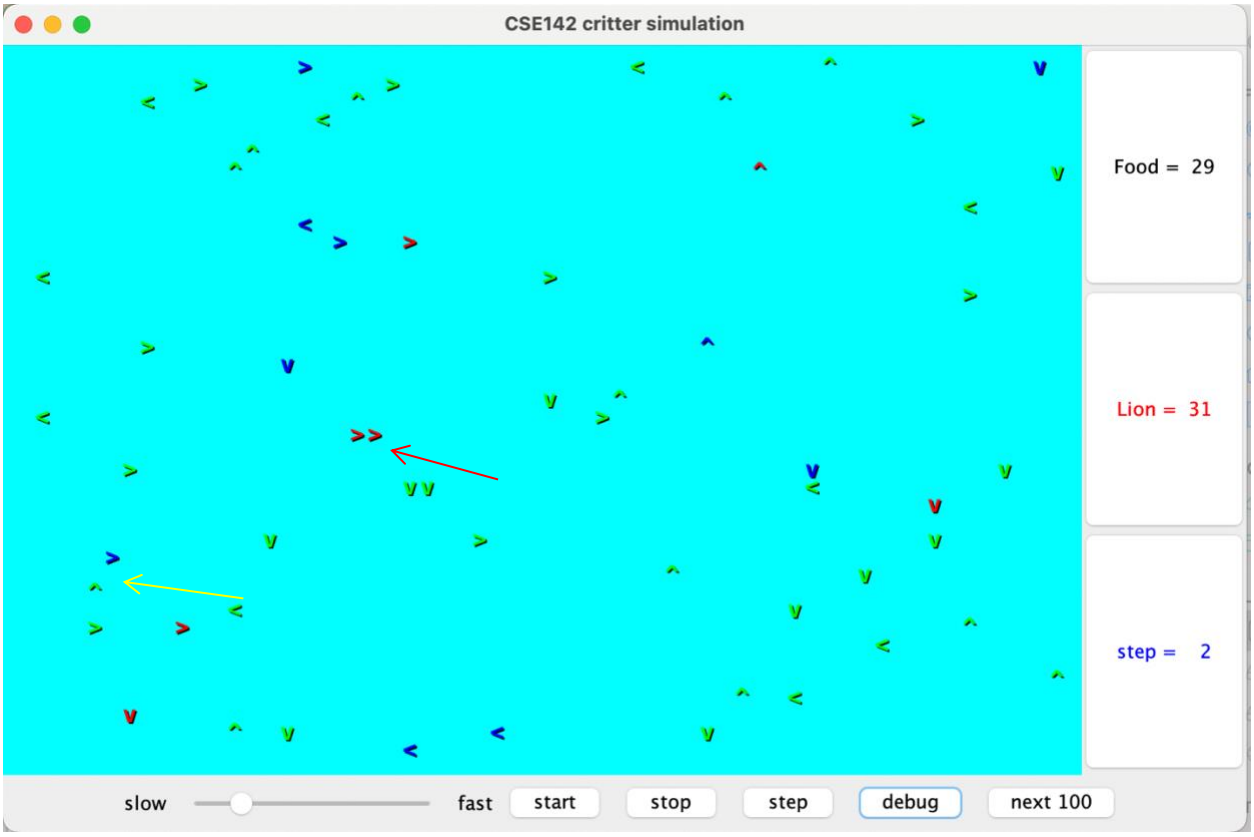

CSE142 critter simulation
Lion = 30
step = 2
slow
fast
start
stop
step
debug
next 100


CSE142 critter simulation
Lion = 30
step = 3
slow
fast
start
stop
step
debug
next 100


CSE142 critter simulation
Lion = 30
step = 4
slow
fast
start
stop
step
debug
next 100

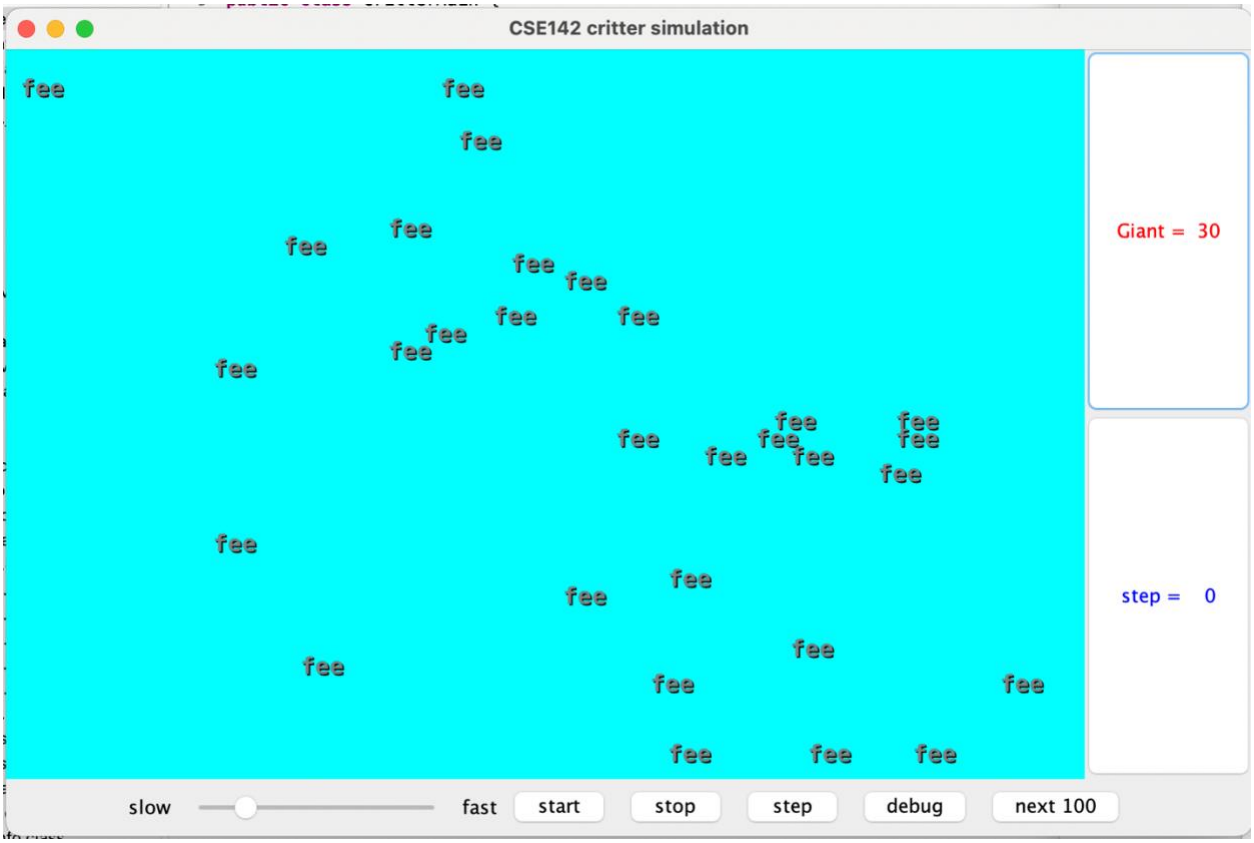
3. When introducing food in the world, lions should only infect the food in front of them and ignore the food anywhere else around them.

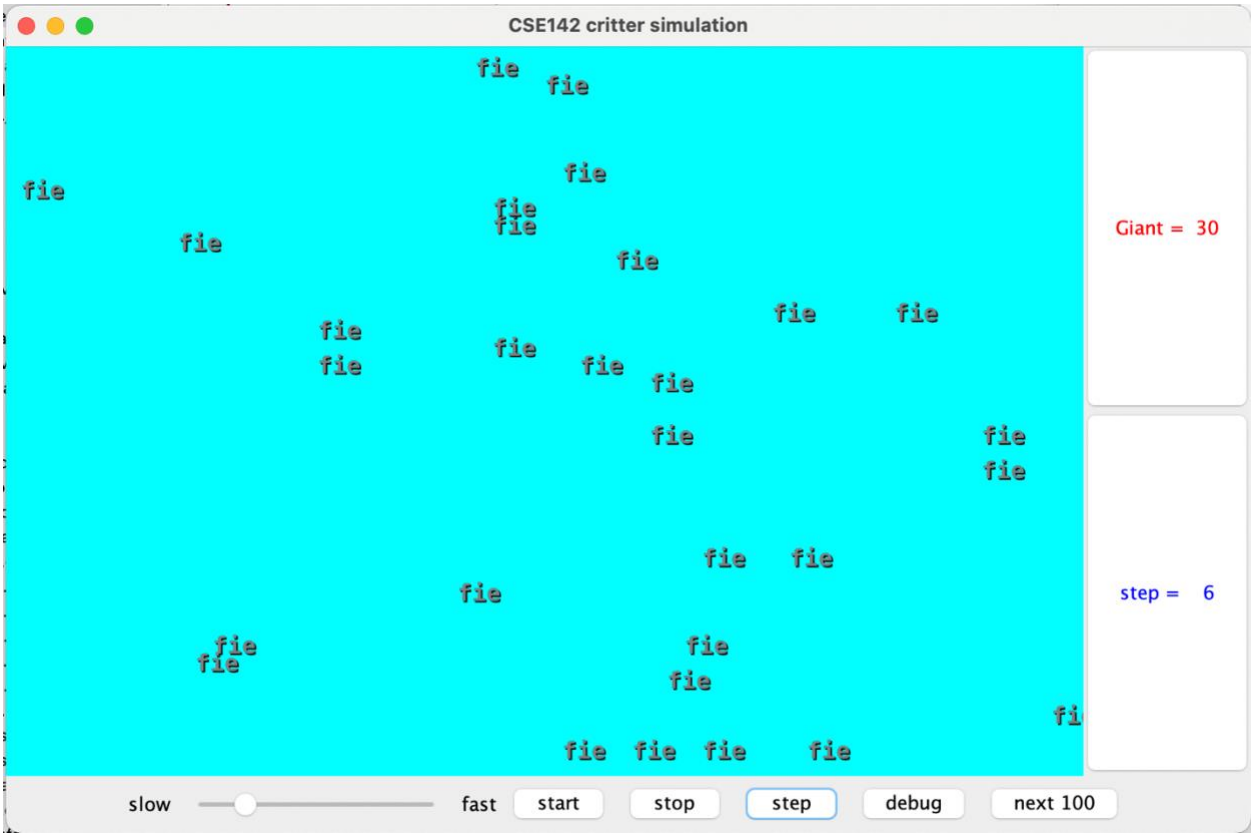

CSE142 critter simulation
Food = 30
Lion = 30
step = 0
slow
fast
start
stop
step
debug
next 100

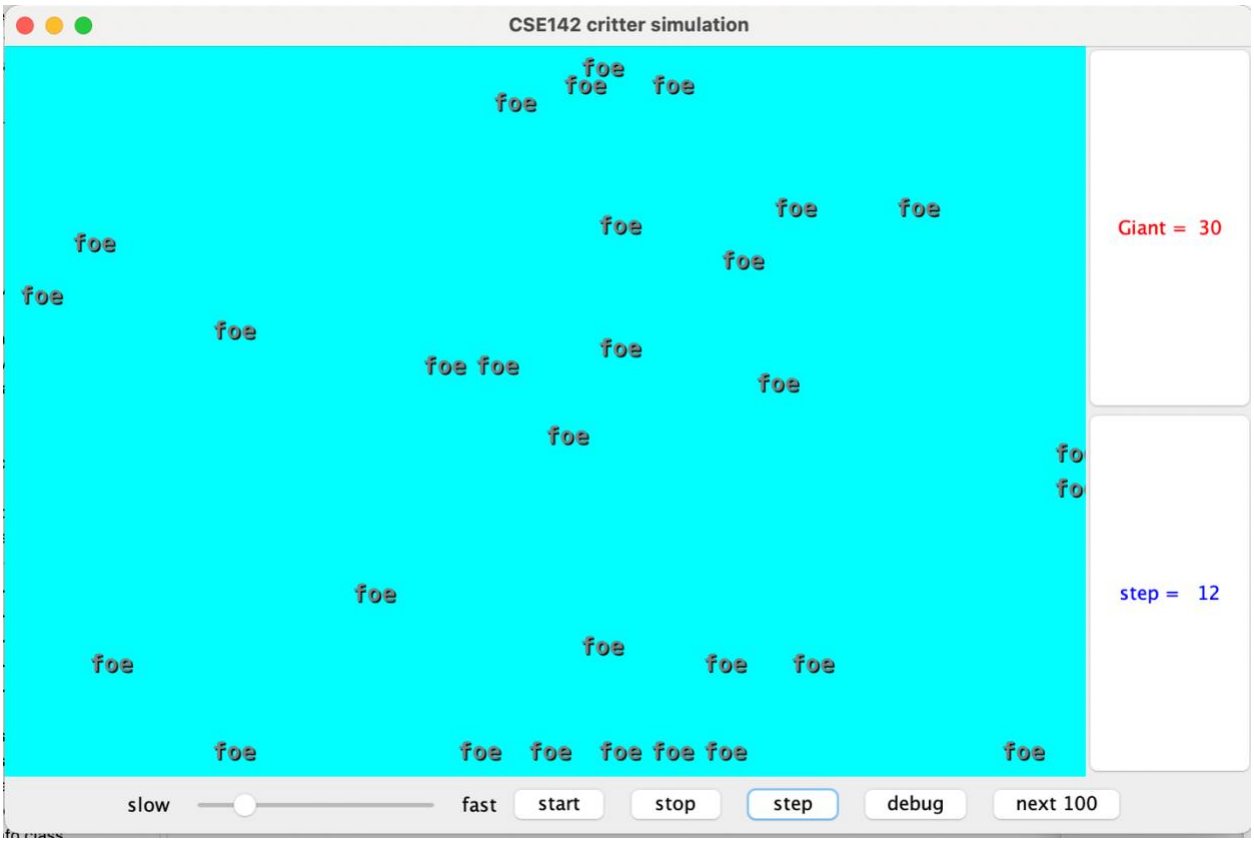

CSE142 critter simulation
Food = 29
Lion = 31
step = 2
slow
fast
start
stop
step
debug
next 100

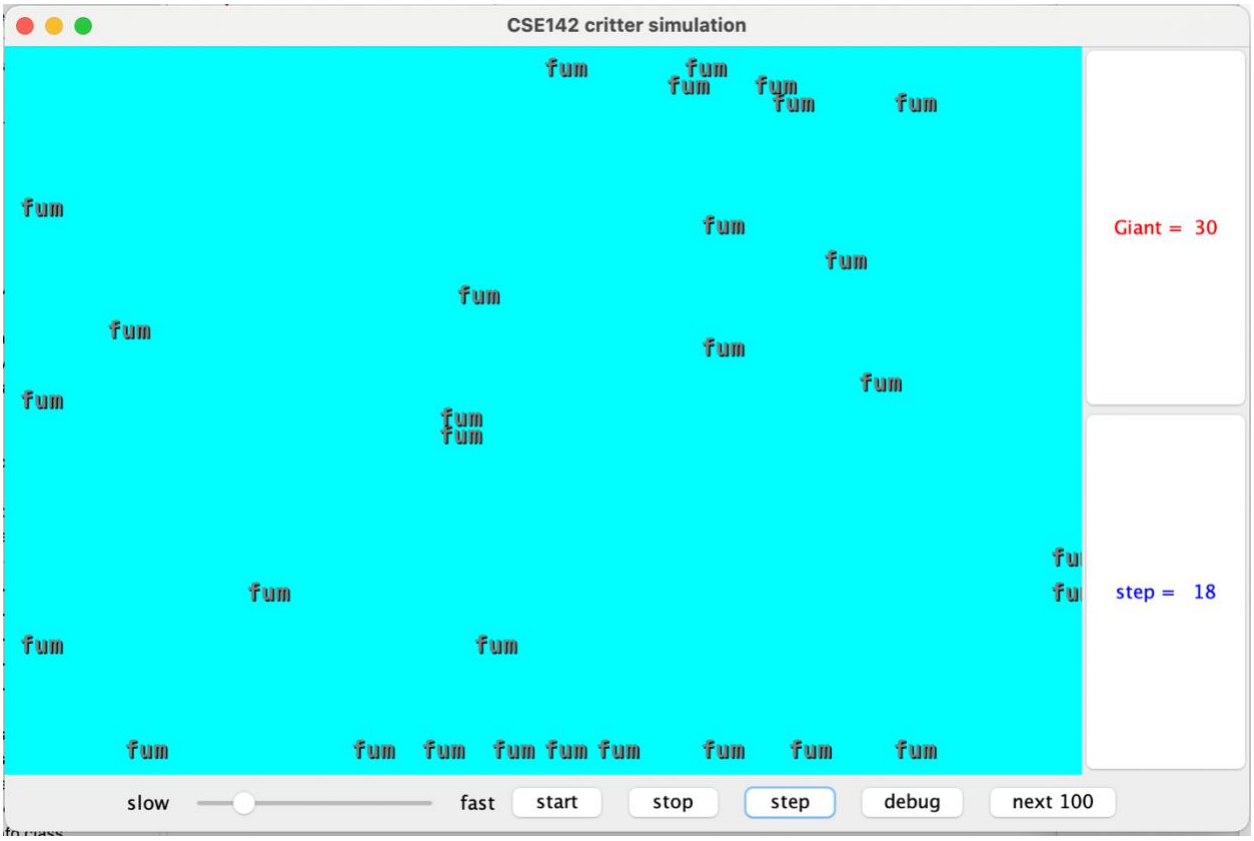
Giant Class

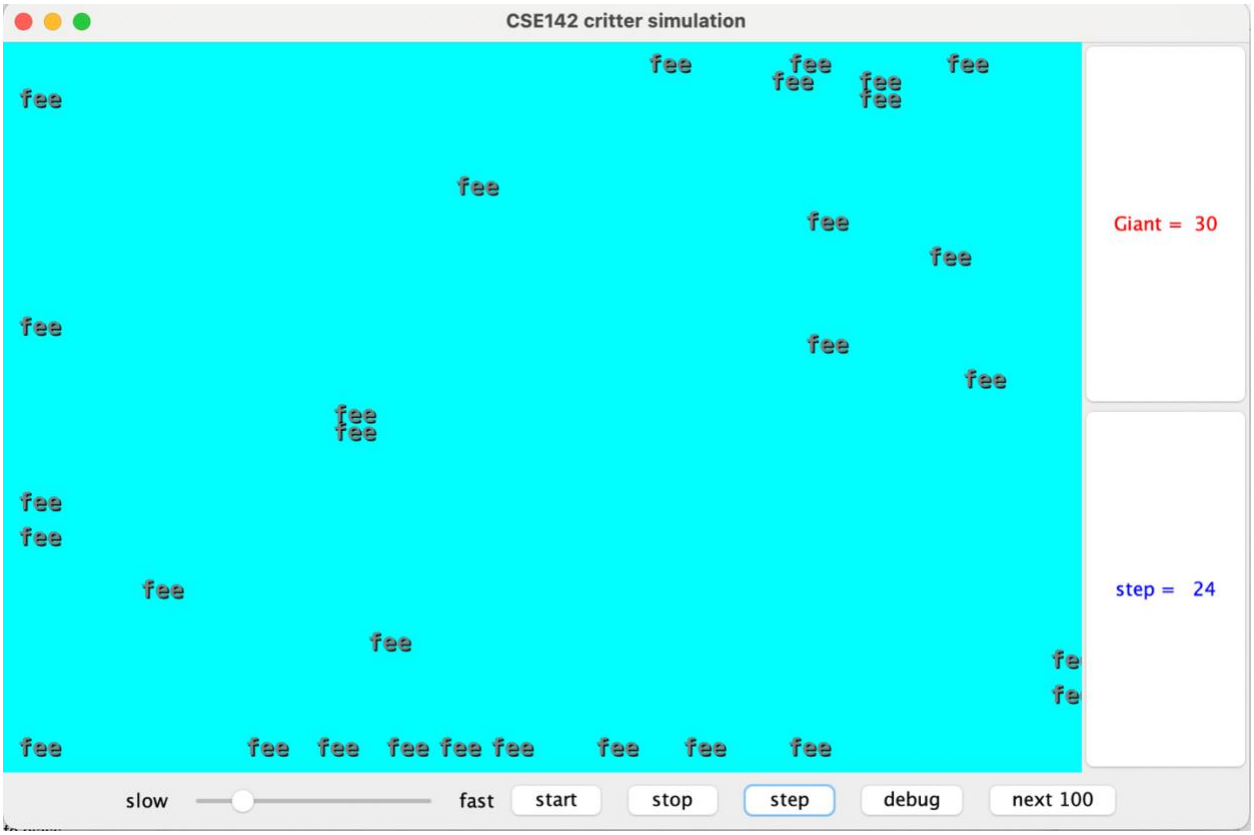
1. Giants will change its string symbol every 6 moves. I expect it stays its initial “fee” for 6 moves, and change it to “fie” on step 6. Then stay “fie” for 6 moves and change to “foe” on step 12, so on so forth. Finally change it back to “fee” on step 24 and repeat the pattern.



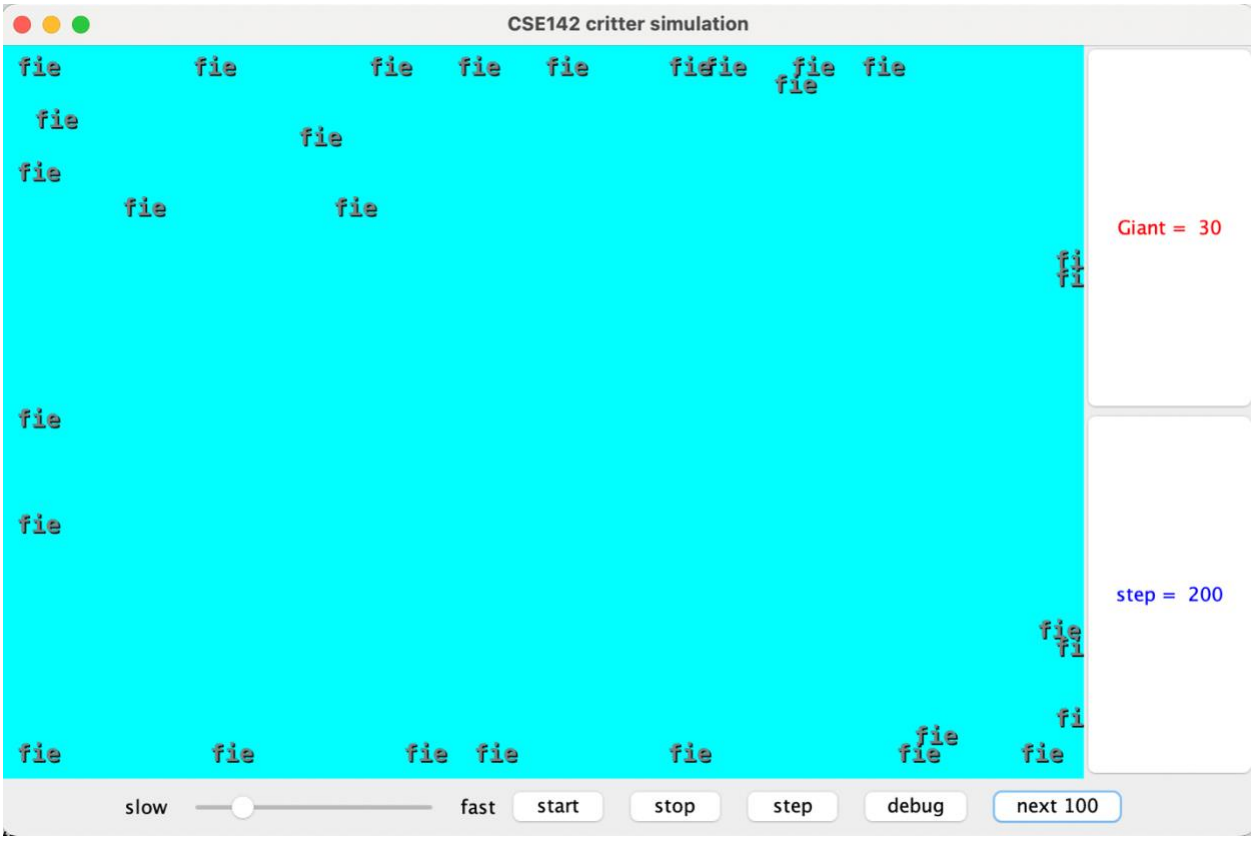

CSE142 critter simulation
fie
Giant = 30
step = 6
slow
fast
start
stop
step
debug
next 100


CSE142 critter simulation
foe
Giant = 30
step = 12
slow
fast
start
stop
step
debug
next 100

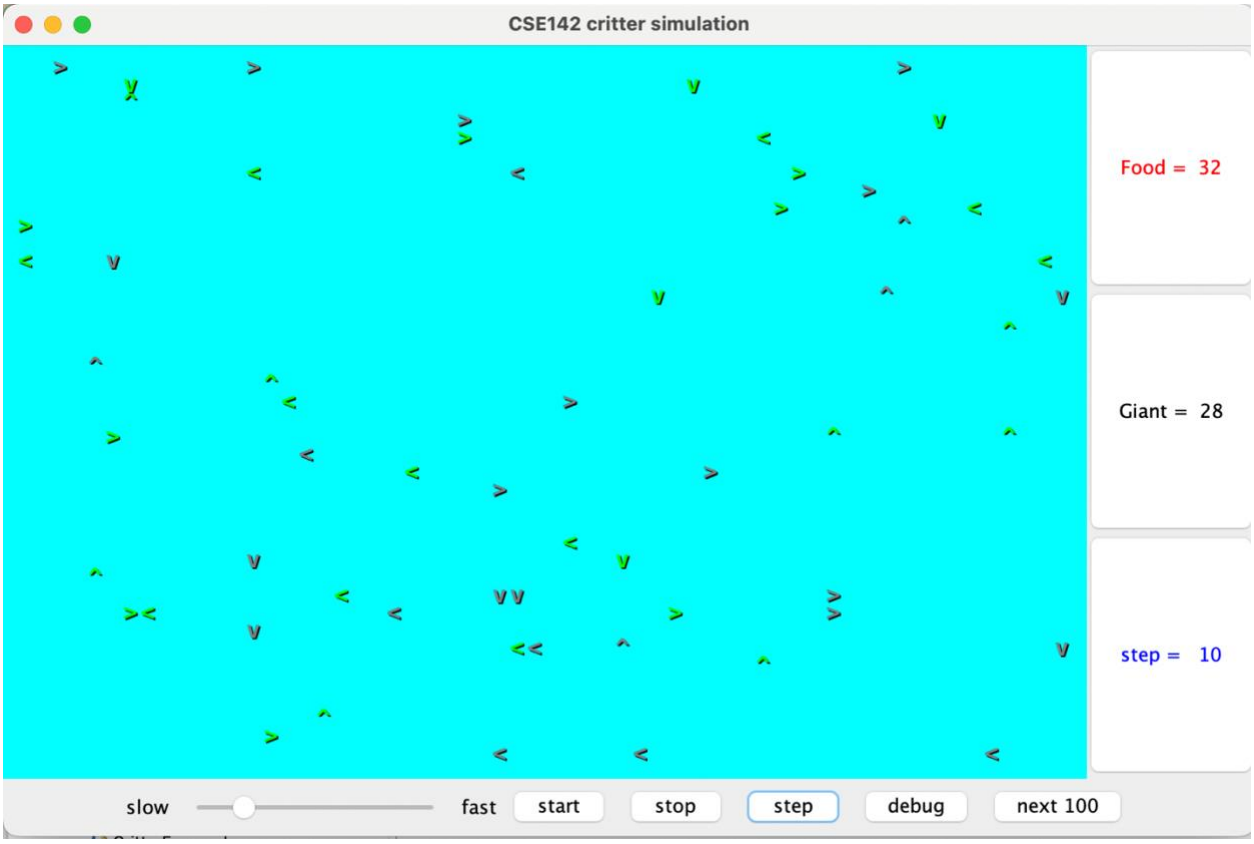

CSE142 critter simulation
fum
Giant = 30
step = 18
slow
fast
start
stop
step
debug
next 100

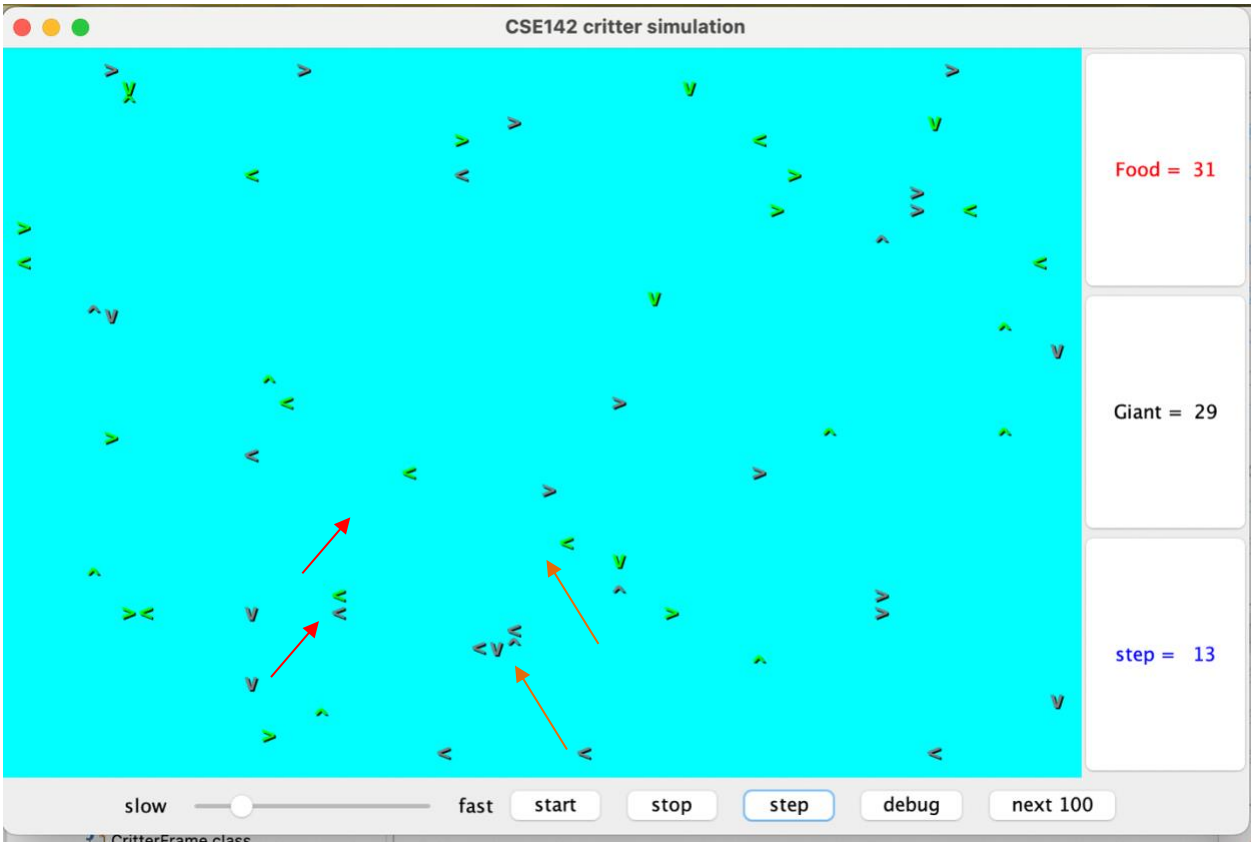

CSE142 critter simulation
fee
Giant = 30
step = 24
slow
fast
start
stop
step
debug
next 100

2. Since giants turn right when they see wall or themselves. They will have a tendency of moving along the wall in clockwise direction.



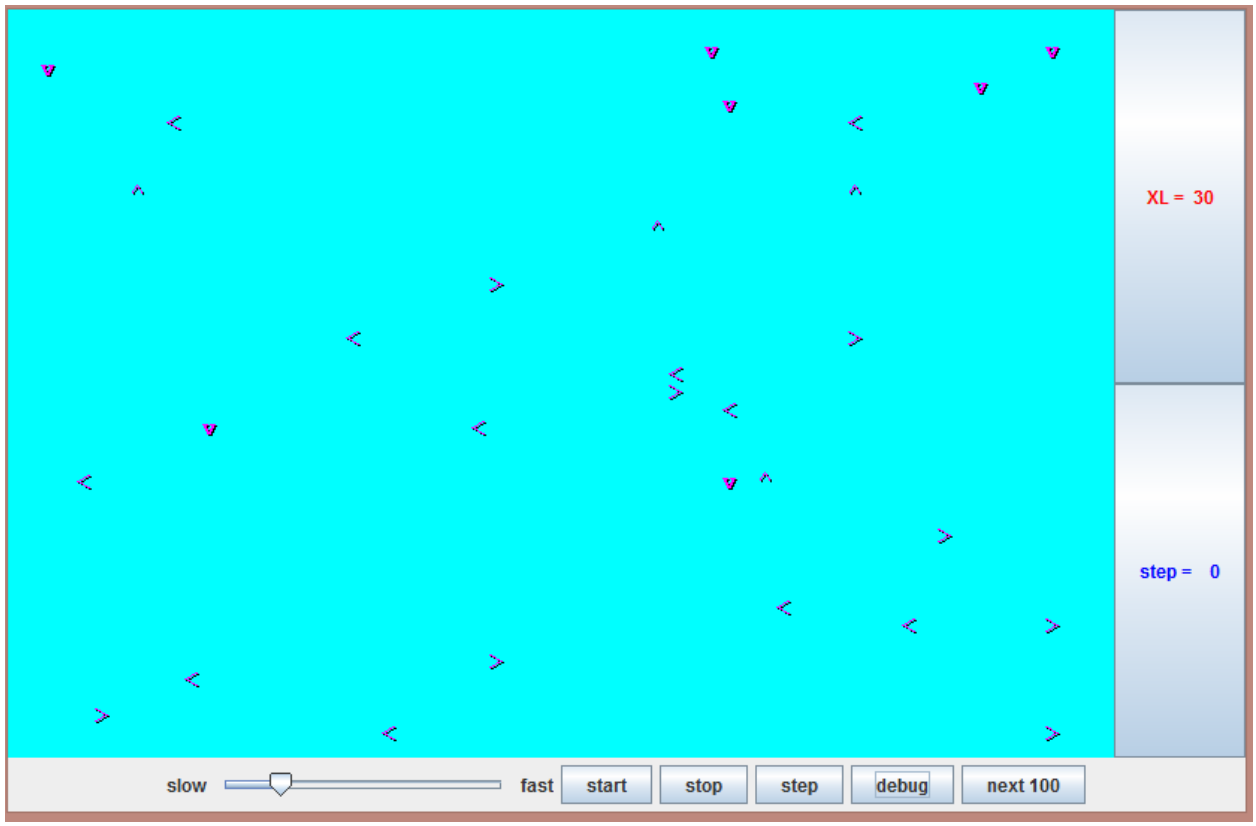
3. Giants only infect other species when they in front of giants. Therefore, when food is introducing in the world, giants will only infect them when they are in front and ignore them when they are anywhere else around the giants. Below snapshots show this properties.

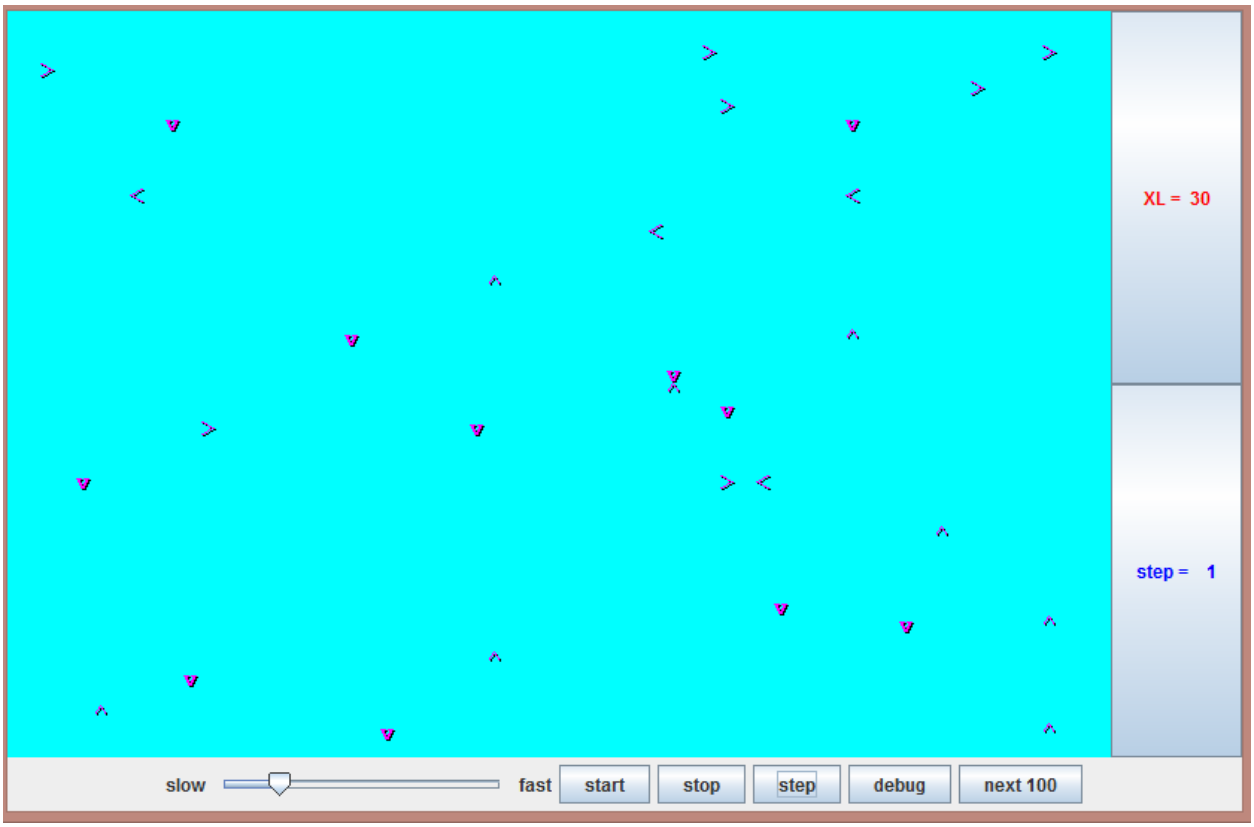

CSE142 critter simulation
Food = 32
Giant = 28
step = 10
slow
fast
start
stop
step
debug
next 100

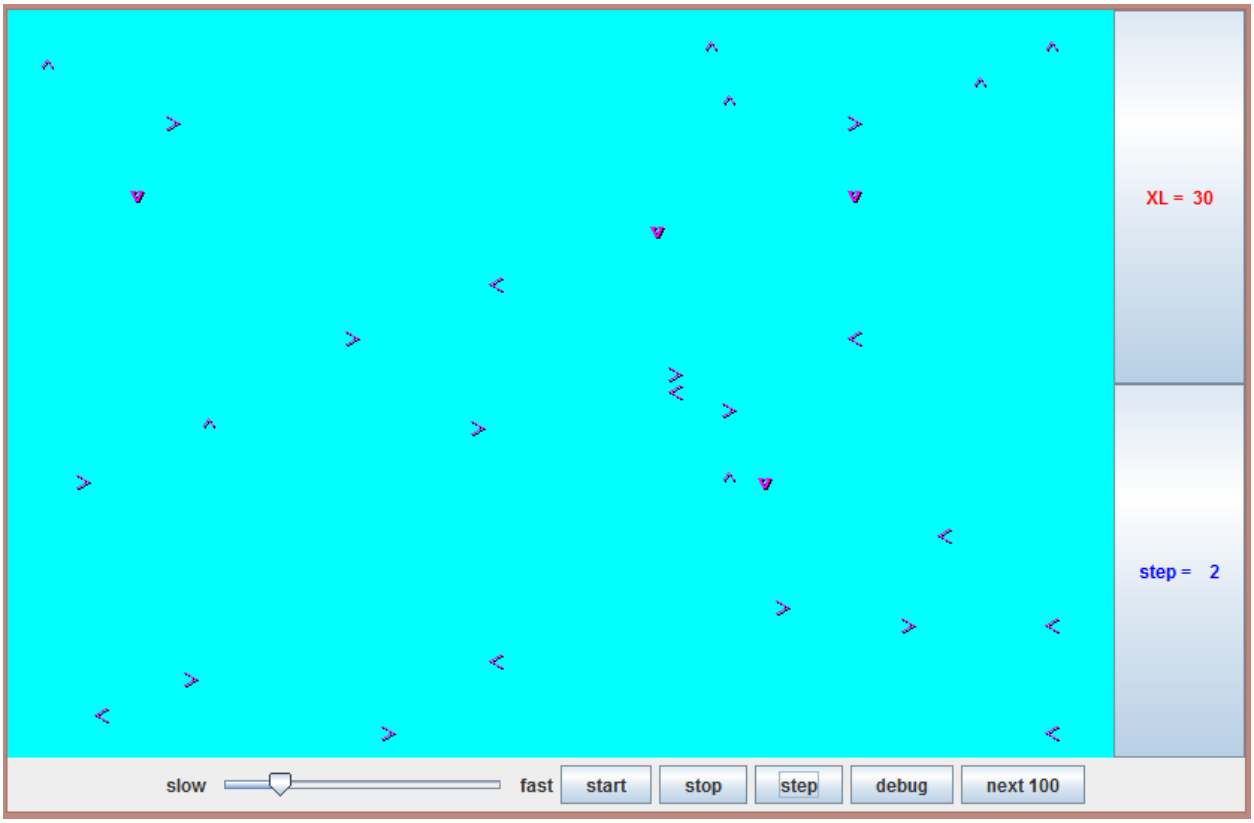

CSE142 critter simulation
Food = 31
Giant = 29
step = 13
slow
fast
start
stop
step
debug
next 100

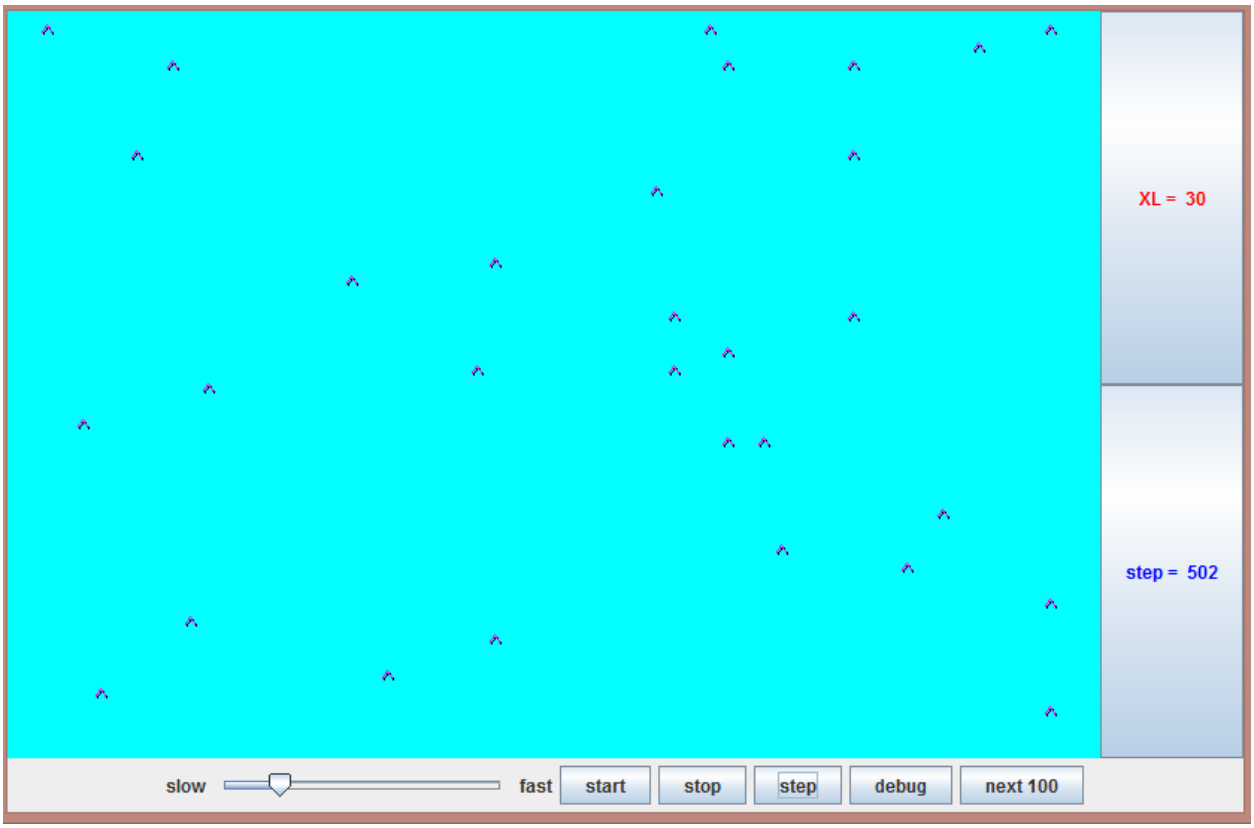
XL Class (Professor I am confused about the XL? So I am leaving the original from the example)

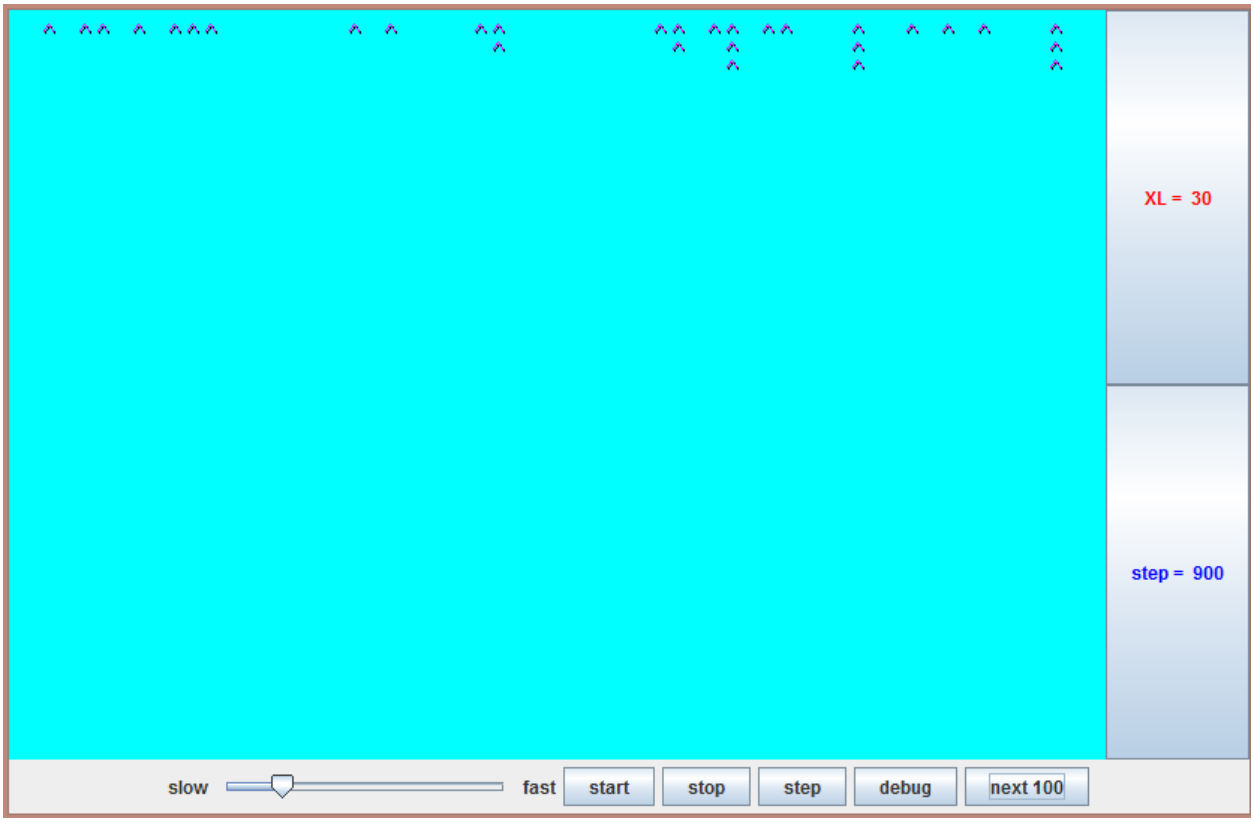
1. XLs will stay at their original place and rotate counterclockwise for 500 moves. On the 500th move, XLs will turn and move to North until they hit wall or themselves for other 500 moves. On the 1000th move, XLs will stay at its place and rotate for another 500 moves, then head East for 500 moves, so on and so forth.

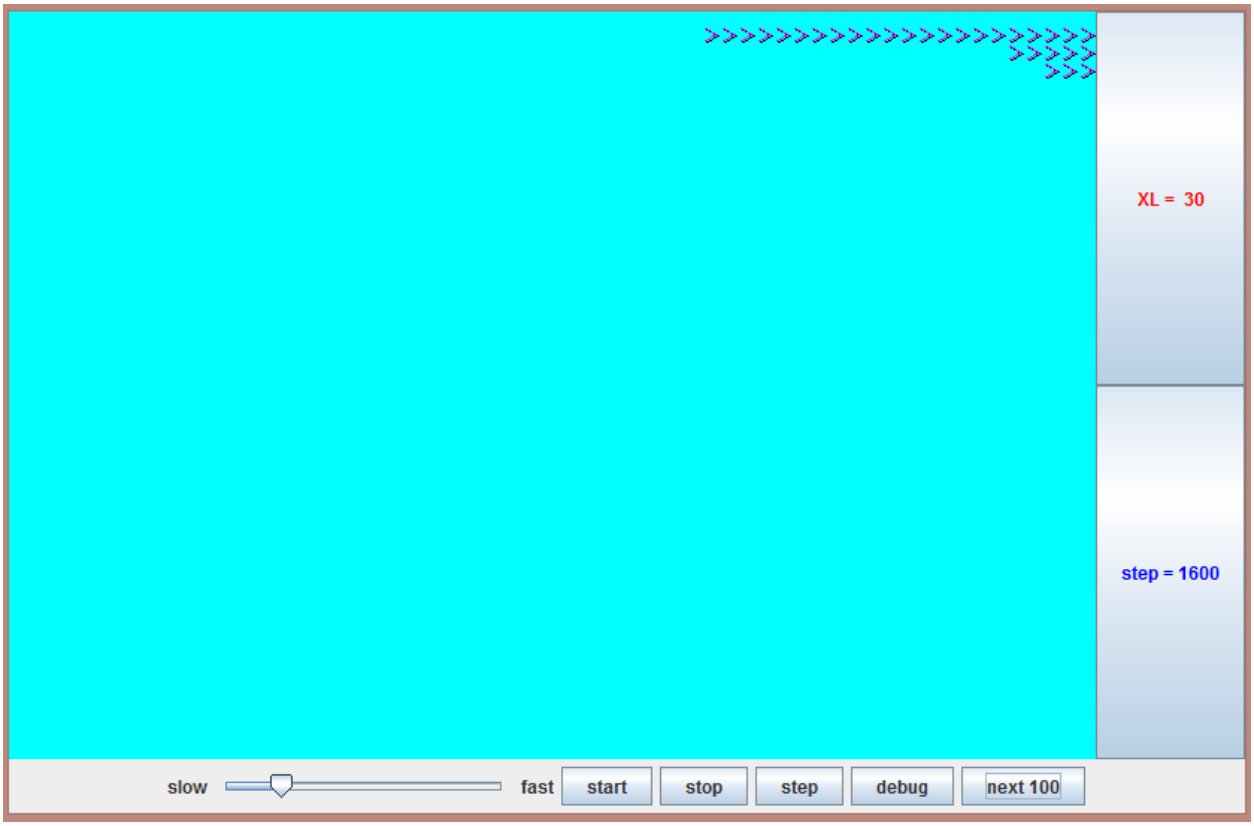


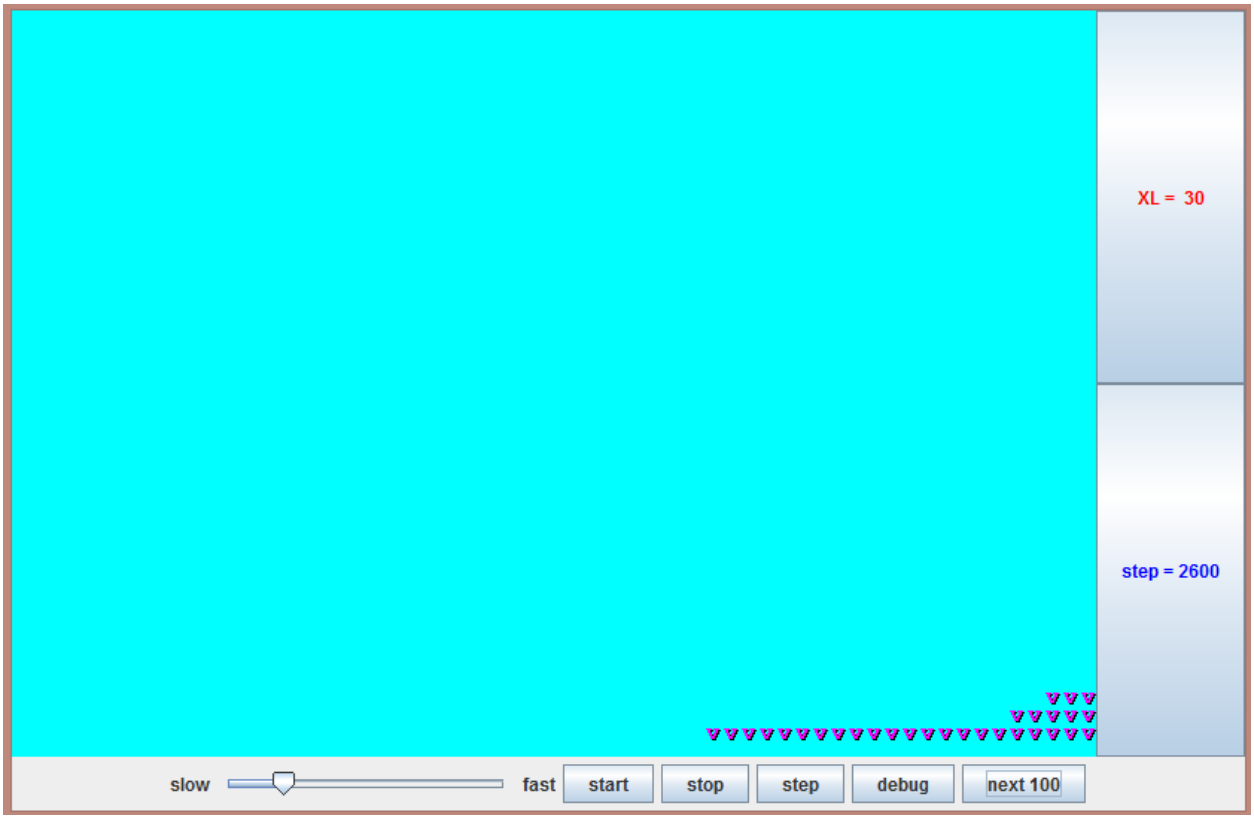

XL = 30
step = 1
slow
fast
start
stop
step
debug
next 100

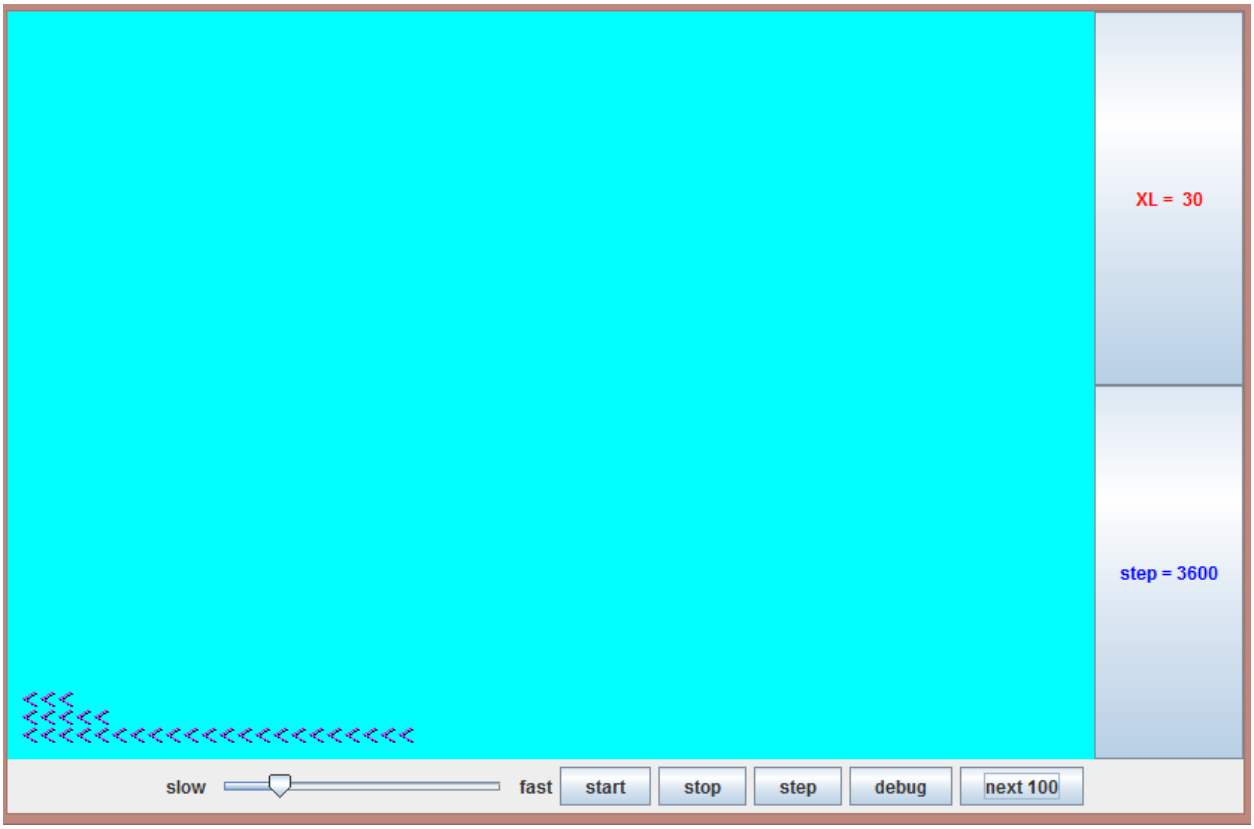

XL = 30
step = 2
slow
fast
start
stop
step
debug
next 100

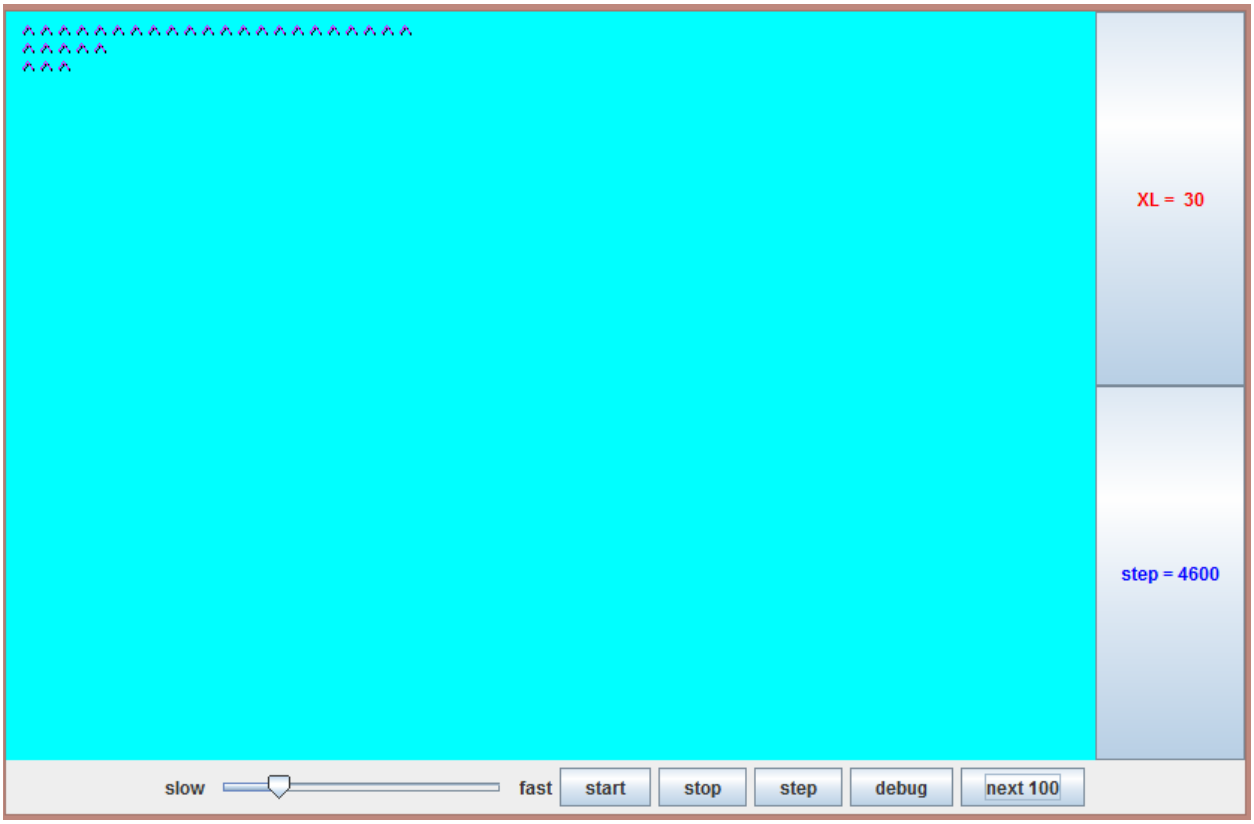

XL = 30
step = 502
slow
fast
start
stop
step
debug
next 100


XL = 30
step = 900
slow
fast
start
stop
step
debug
next 100

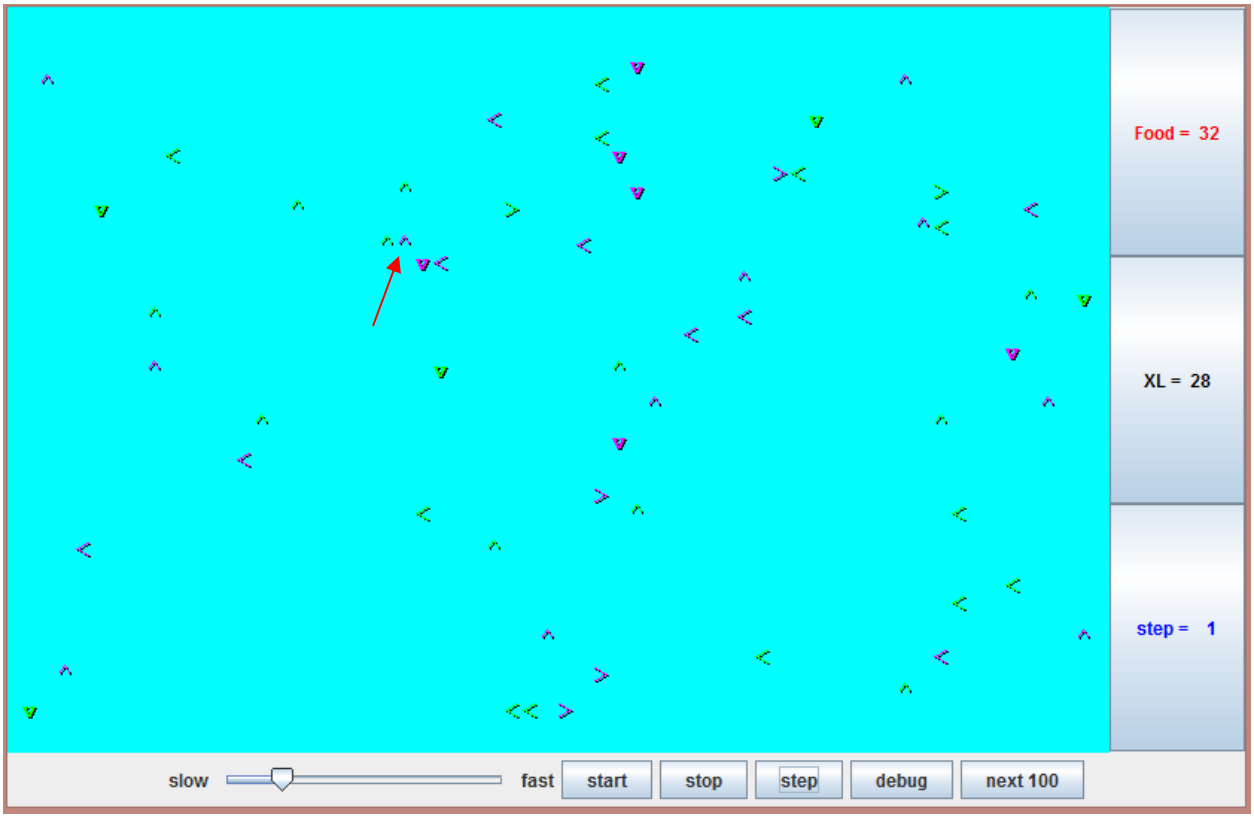

XL = 30
step = 1600
slow
fast
start
stop
step
debug
next 100

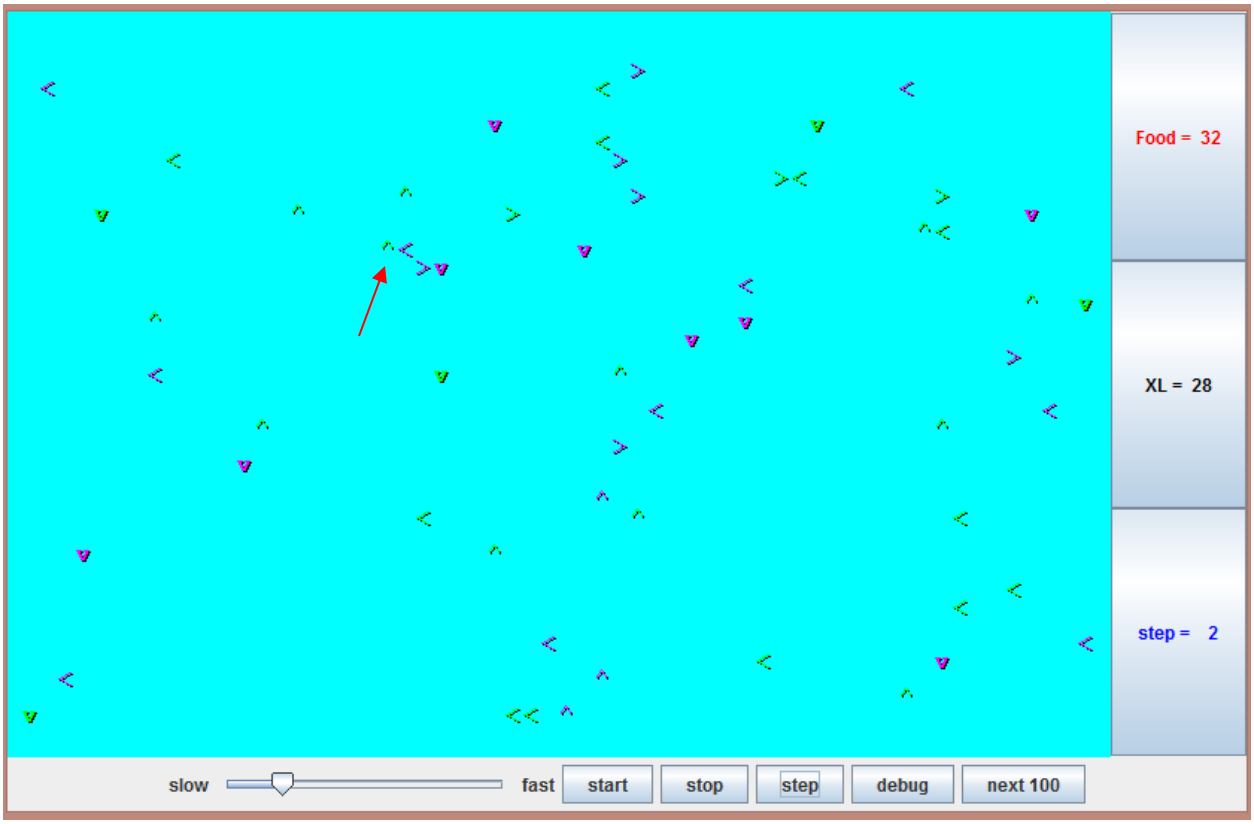

XL = 30
step = 2600
slow
fast
start
stop
step
debug
next 100

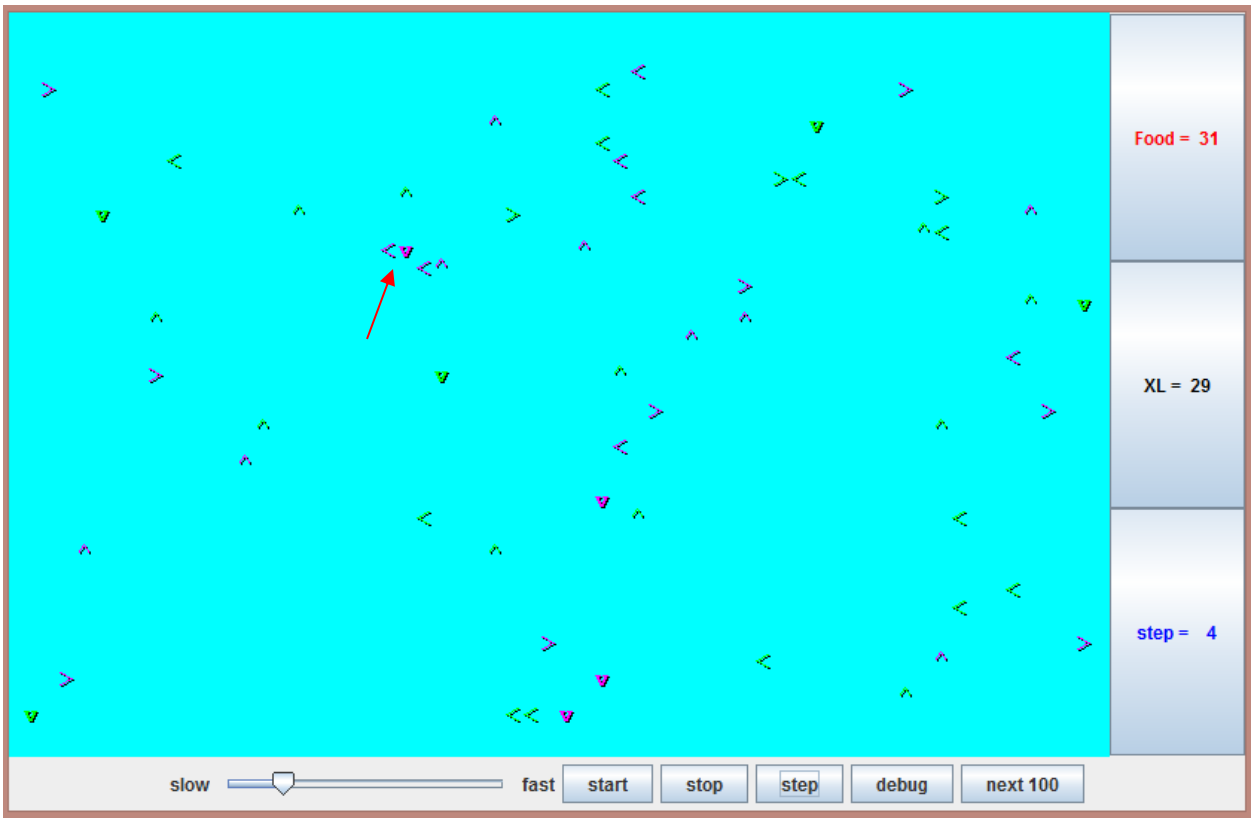

XL = 30
step = 3600
slow
fast
start
stop
step
debug
next 100


XL = 30
step = 4600
slow
fast
start
stop
step
debug
next 100

2. XLs will only infect other species when they are in front of XLs when XLs are in stay-and-rotate mode and moving mode.






Food = 31
XL = 29
step = 4
slow
fast
start
stop
step
debug
next 100