

130 Project 2 - "CREATURES"

Name: Nicholas Tony

ID: 124598632

Project Summary

For this project, I have created a world that contains all the various types of creatures that are defined in the 'creatures' folder including the creatures that I have designed myself. Basically, the world contains one of each type of creature that are defined in the creature folder (i.e. 1 of Hopper, 1 of Parry, 1 of Rook, 1 of Roomber, 1 of Randy, 1 of Flytrap, 1 of Guard and 1 of SpinnerGuard). I have placed all the creatures in a diagonal line from top-left-hand corner to bottom-right-hand corner and pointing at different directions so that each type of creature can be displayed clearly and so that it is easy to observe how each type of creature behaves in the world (i.e how it moves and how it may affect other creatures in the world. A world is not a complete world if not all type of creatures defined are in the world; that is my motivation.

For this project, I have completed all the tasks given (i.e Task 1 to Task 9). All of the tasks except Task 6 are straightforward to complete. Task 6 was slightly more complicated as I am only given a certain eligible moves that I can use to design the creature Roomber. All of the tasks have taught me how important and useful classes are, and the tasks taught me how to link different classes together through the different methods that are defined within each class and transfer information using them. I found Task 6 the most challenging (as I have mentioned before) because it made my think harder than I usually do. Task 6 requires some deep thinking and proper logic skills to be able to create the creature Roomber. It took me almost a whole day to be able to create the creature Roomber that behaves properly. If there was more time, I would have designed a more interesting world of creatures; I would have a designed a world that contains rogue creatures that battle each other until a certain type of creature wins. To achieve this, I would have to create new creatures that would have different battle skills (i.e attacking skills, defending skills, special powers, etc.) and place them in the world to compete with each other to see which type of creature will last the longest. The creatures that are defeated (or killed) will be removed from the world so that it is easier to see which type of creature is superior. Essentially, I would have created a battle arena for the new creatures that I would have designed as the world of creatures.

My Self-designed Creatures

- New creature 1: Spinner Guard

This creature spins around 360 degrees on its own axis and after it completes a cycle (i.e. 1 spin) it hops to the next empty grid that it is pointing to. Essentially, this creature bounces between the walls that it points to at the start just like the creature Rook, but the difference here is where it spins around as it hops across the empty grids. It performs like an obstacle in video games where you have to avoid it to be able to cross to the other side. They perform as expected; it spins around and bounces between walls like the creature rook while spinning on its own axis. The creature's DNA is as follows:

- SpinnerGuard:black
- twist
- twist

- twist
- twist
- ifnotwall 8
- reverse
- go 1
- hop
- go 1

- New creature 2: Guard

This creature goes to the wall that it points to at the start and once it reaches the wall, it will start circling around the edges or border of the world. This creature acts just like a guard in a video game; when another creature touches it while it is 'guarding' or circling around the world perimeter, that creature that touches it will be infected and turned into another guard that circles around the world perimeter. This creature performs as expected; it goes to the wall that it points to, turns itself 90 degrees clockwise and starts circling around the border of the world. However, sometimes if the creature that makes contact with it is not moving at the time of the contact (i.e. creatures like Parry and Flytrap, as well as the creature Hopper after it reaches the wall that it points to), the infected creature will become another Guard that could potentially overlap the original Guard that did the infection. If this happens, then the multiple guards in the world would be perceived as a single guard in the world due to the potential overlapping that occurs. This is not necessarily a good thing to see as it will be difficult to determine the actual amount of Guards there are in the world after several generations. The creature's DNA is as follows:

- Guard:green
- ifenemy 7
- ifnotwall 4
- twist
- go 1
- hop
- go 1
- infect
- go 1