Cmpe-160 Project-2 Snake

Introduction

In that Project, I am expected to implement a snake game that can play itself. At first, there is only one snake and it should move to a food through proper way. When it eats the food, it's length should increase one more piece. At the length of 8, snake should be taken apart two different pieces.

Problem solving

At first, I copied the useful part of Project-1 into current Project. It was very helpful. Most of field, paramater and methods were related to Creature class, so I used Creature class to provide efficieny. Then, I created a Node,Cobra and Food classes, extends Creature, so that draw the first snake on the panel. My first step was to draw only snake on the panel. I implemented Cobra class that takes a NatureSimulater and a LinkedList as a field and every parameter of linkedlist is a node. Node class takes integer x,y for coordinate and type to determine whether the node is head of snake or not. So, at the main, I gives specific coordinate to the four node and add these nodes into the linkedlist. Then , I made my snake to move.

Move

In the move method, I add a new node to cobra linkedlist's last index, head of snake, and change the type of previous head.Later, I remove the first node, which is also a creature from creatureMap arraylist, a arraylist whole creature in the panel, from the map and remove it from the cobra linkedlist. Then, I made equal the this creature's x ,y to snake's head node's x,y. So, my snakes can make the move end of turn.

Reproduce

In the reproduce method, it creates a new linkedlist(childCobra). Then, it add first 4 node of preivious snake's linkedlist in the new snake's linkedlist.Later, it remove the node from creaturesMap and linkledlist orderly. Then, a new snake is created that takes the new linkedlist.

Attack

In the attack method, when a snake come to a food next, it attacks to the food. The food become snake's head node and previous head's type is changed. Then, it set the food coordinate properly(empty place in the panel).

UI

The toEgg method control food's position and snake's head position. Then, it try to make both positions x coordinate equal then y coordinate equal. If there are any creature on the way, it choose a empty random direction and after that check the positions and move direction again. In this kind of solution, there is a problem. Snakes sometimes stuck in the a part of panel and try to get food, but although there is a possible way to food, snakes can't reach the food.

In the conclusıon, I try to use my OOP knowledge to implement snake simulator. Of course, there will be some problem, however I believe that I can handle most of complex part of Project.