# Crab Game

By Ethan Smith

Introduction

- In crab game, the crab has to eat all the worms while avoiding the lobsters.

- The player will gain 100 points for every worm they eat, needing to reach 5000 to win.

- The player will also have 3 lives, losing 1 each time they collide with a lobster, losing all 3 loses the game.

- The more points the player has, the more worms and lobsters spawn

The world at the beginning of the game
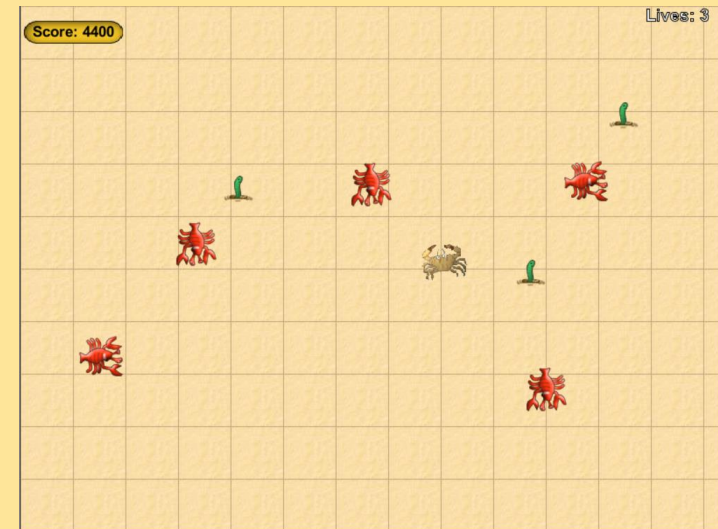
The world near the end of the game

Design Considerations

- I created 6 classes for this game: CrabWorld, Counter, Crab, Worm, HorizontalLobster and VerticalLobster

- The player controls the crab, the worms randomly spawn in the world and are eaten by the crab and the Counter tells the player the score

- The two Lobster classes are used in different orientations, as they are checking for different coordinate types (one is checking X coordinates, the other is checking Y coordinates) to make sure they keep wrapping around the world
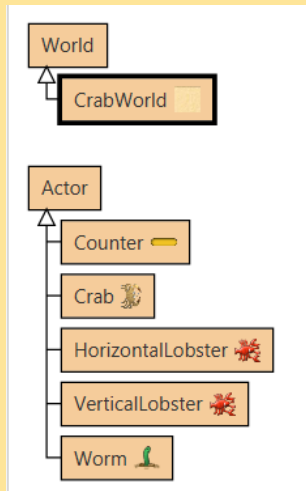
Development

- Development started out very difficult to my lack of knowledge with greenfoot

- After a while of adding more basic features such as the crabs movement is started to find it easier as I found it easier to understand how greenfoot works

- By completion, I now have a much better understanding of how greenfoot works, and how to call methods from the world

Testing

The world at the beginning of the game
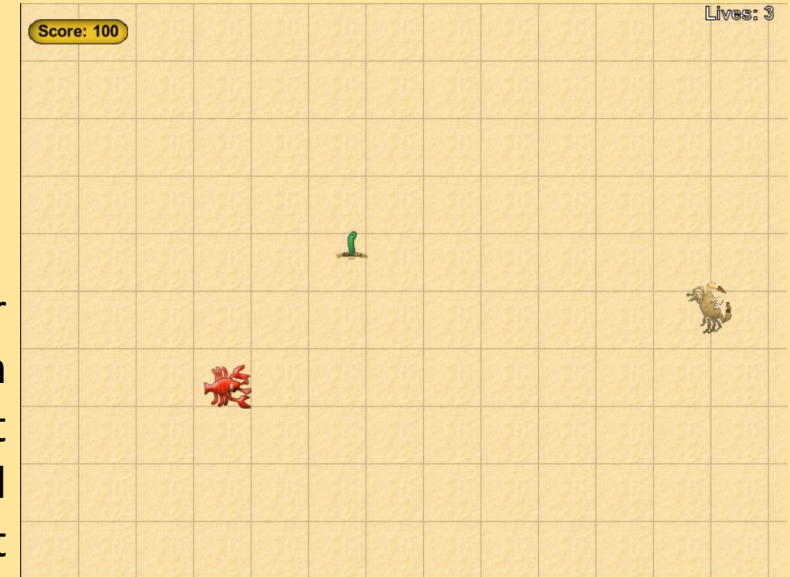
The world after eating a worm showing the point increase and removal of explanation text

The world before being hit by a lobster

The world being hit by a lobster, showing the loss of a life and the crab being moves to a safe spot

Evaluation

- The main thing I learned is the use of object oriented programming, helping to break up different sections of code so its easier to identify what code does what

- I would like to add more mechanics to the game, however I didn't get time to try adding many and also did not have time to get a couple I tried working, so they had to be removed