map_class sim_class

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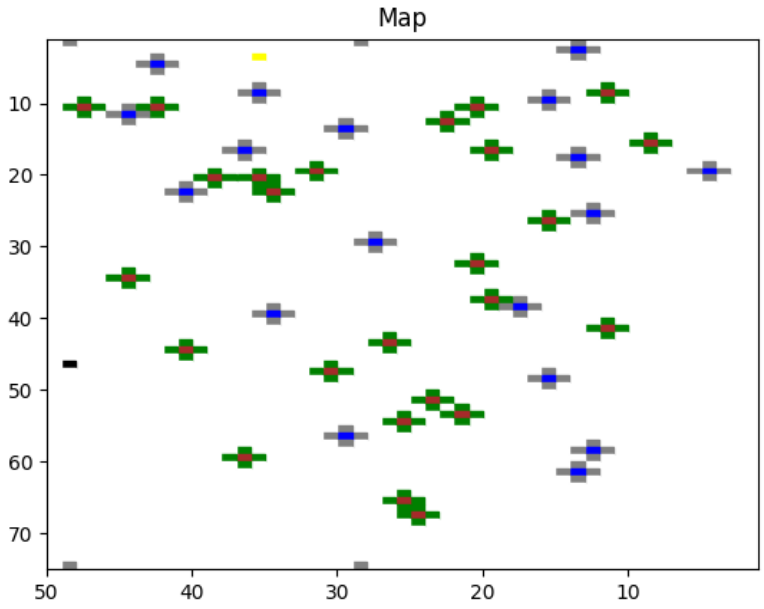
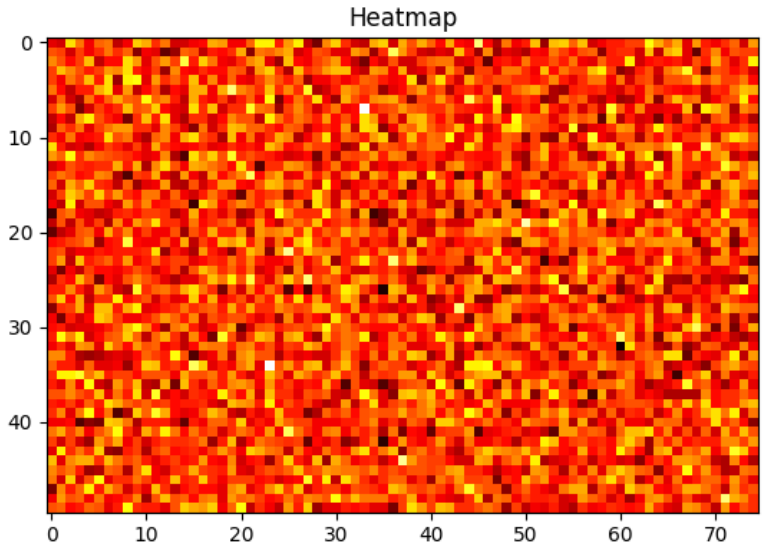
So far my partner, Salem, and I have worked out a class system for our project. Salem worked on and will talk about the bot class and the hive class. I worked on and will talk about the map and sim class.

The map class is initialized with a given length, width, number of food and number of water spots. Given these parameters the class generates a map, placing a hive in a random place, placing a number of food spots in a random place and the four surrounding tiles to be scent for the food and then places a number of water spots and the four surrounding spots to be a breeze for the water. The map class also has a heatmap so that we can track over time which spots were visited compared to others.



This is an example of a map it could generate. Near the top left is a yellow square which represents the hive. The brown squares are the food. The green squares are a scent which leads the bots to the food. The blue squares is the water. The grey squares are a breeze that leads the bots to the water.



This is an example of a heatmap. For this, I pinged 100000 random x,y coordinates. So the brighter the square, the more it was pinged in comparison to the other coordinates. . The darker the square the less it was pinged in comparison to the other coordinates.

The project is also hosted on github here: https://github.com/MurphyWants/scavenging-sim