Criteria E Evaluation

Success Criteria

- The simulation approximates an ant colony by a biology-inspired algorithm
  - Behavior is not directly coded, but is an emergent property of the system
- The user is able to modify the state of the simulation directly by:
  - Adding obstacles
  - Removing objects
  - Adding pheromones
- The graphical representation is clear
  - Represents the state of the array simply and directly
  - The pheromones are represented using an alpha scale for more precise visualization.
- Error checking
  - Concurrency problems were reduced to a minimum

Recommendations

The client stated that even though the product helped him understand ant's behavior, its size was not big enough or the parameters not as precisely tuned as to allow a more effective solution. This was because the ant's path did not always converge, and took a long time to do so. However, improvements in this area are not straightforward, as they would imply losing the algorithm's straightforwardness and probabilistic nature in order to strengthen hard-codeness and determinism. In the future, aside from fixing this, I would also like to implement more features for user interaction, mainly for controlling variables, such as pheromone deposition and evaporation values. This could be done by importing and implementing a GUI library in Processing.

Word Count: 207