

1. Reflect on how the coding went. What was easy and what was hard? Did this assignment serve its purpose? Why or why not?

Overall, the coding process was somewhat challenging since I haven't used VS Code much since last year when I took CS5001. At first, it felt unfamiliar, but going back through the topics and synthesis materials helped me refresh key coding concepts and get back into the flow.

The easier parts were following the assignment structure and applying concepts like loops, list comprehensions, and functions, since those felt more familiar. The harder parts were debugging and making sure I fully understood how each function interacted with the grid and agents, especially when working through list indexing and conditional logic.

This assignment served its purpose because it wasn't overwhelmingly complex, but it did push me to actively recall and apply core programming principles. It reinforced my understanding and gave me more confidence in writing and analyzing code after a break from it.

2. Tell me about what you decided to add in the getting creative part. Why did you go with that?

For the creative part of the assignment, I chose to adjust the random movement of an agent by incorporating satisfaction. Instead of simply moving an agent to any random empty space, I added logic that prevents an agent from moving from one unsatisfying location to another. This way, agents have a better chance of ending up in a position where they are satisfied more quickly, which makes the simulation feel more purposeful and efficient. I chose to add this because it better reflects how an agent might actually try to "improve" their situation.

3. Self-grade. What grade do you think you should receive here? Why?

I believe I deserve an A. I believe I did all the components and answered all the questions.

4. Analysis - Run a simulation (just using the initial `set_up` method you made at the start) of a 5x5 grid with 100 rounds, 1000 times. How frequently did the simulation stabilize? On average, what round did stabilization occur (across all simulations that did stabilize)? That we reach a round where no agents make a move.

The simulation stabilized in about 79.59% of simulations, with an average stabilization round of 21.30.

5. Repeat the analysis but with the `set_up_complex()` method you made at the end.
What changes? Does anything?

When using the method that I created, the simulation stabilized in 74.90% of simulations, with an average stabilization round of 3.32. The number of rounds that it took to stabilize decreased significantly, indicating that the ability to know where unsatisfactory locations are influences satisfaction.