Let's Start Simulating the World

WELCOME TO MODSIM! Please seat yourself to form tables of about 4 students each (we'll be breaking up into pairs shortly).

When instructed, do the steps below. We will likely pause to sync up between steps, so check with your instructor before proceeding from one to the next:

1. Open your laptop and visit `http://ncase.me/simulating`.
2. Read through the introduction and first section ("A Tiny Forest for Tiny Trees") and play with the simulation on your own. Be sure to read all the instructions and notes, including the gray box containing the simulation parameters. When you've made a prediction (no peeking!), discuss it with your table.
3. Pair up and work through the next two sections with a partner.[1] Once again, when you've made predictions (this time about Strong Trees and Jerk Trees), discuss them with your table. If you have extra time, go back and add features to (or try to break) the last simulation.
4. Test your predictions by working through the next section ("A Forest Where Some Trees Are, Like, Total Jerks") with your partner. Were your predictions correct? Do you understand Nicky's explanations? Do you agree with them?
5. Now switch partners (while staying at the same table, if you can). With your new partner, take a look at the gallery of simulations, then build a simulation of something new ("A Simulation Of Whatever You Want, Yo").[2]
6. When you're ready, turn over this page and answer the reflection questions on your own, then proceed to the list of next steps.

[1] Three is fine if we have an odd number of students in the studio.

[2] If you want an idea, try to model a system for fish populations in a popular fishing location using some of the same concepts as the forest fires example. Small fish reproduce at a high rate. Big fish reproduce a slower rate and also eat the small fish. Fisherman will try to catch the big fish, which will affect both populations. If fishing isn't your thing, try something else!

Reflection Questions

1. Tell us about the simulation you created with the "Simulating the World in Emoji" tool. Give an example of a rule you implemented and why you created that rule the way you did.

We created the fish example on the front side of this sheet. One rule we made dealt with how big fish were trapped by fisherfolk. We decided to make it so that if at least 1 neighbor was a fisher, with a 30% chance, it would turn into an empty spot (which signified a dead fish). We used a 30% rate because fisherfolk don't always (in fact they usually do not) catch a vast majority of fish near them.

2. In one sentence, what do you think you might get out of this course?

I think that I'll get a better understanding of how systems in the world work and how to model the things which I find.

Next Steps

Before class next Tuesday, please do the following things:

- ☐ Write your name here: Mala Materman
- ☐ Write the names of your partners here: Julia Benton, Shirin Kuppusamy
- ☐ By tonight: Scan this worksheet and submit it as a PDF document on Canvas. (Instructions will be given in class.)
- ☐ By Monday night: Find the Canvas assignment that contains the homework for Tuesday's class, and complete it.
- ☐ Meet in the auditorium on Tuesday.