

Part 1: Understanding the User Interface

Take a look around the user interface. I'll ask you here if you can identify some things.

1. Were you able to identify the simulation window? (Y/N)
2. Were you able to identify the rules editor? (Y/N)
3. Were you able to identify the controls for the system? (Y/N)

Question: Did you have any difficulty in identifying any of these elements? Explain.

Part 2: Understanding the Rules

This section will test your understanding of the rules and will make you interface with the simulator through those rules. You might want to consult the help page for the rules.

Part 1: Simple Color Changing

1. Refresh the page. By default you should see the rules for Conway's Game of Life Cellular Automata, the most popular cellular automata.
2. You can see their colors clearly. Black or white. Try changing the color of the black cells to red and make it appear on the simulator
3. Don't forget to apply the rules by pressing the button.
4. How easy/hard was this to you?

Part 2: Changing the Criteria - Totalistic

For reference, the rules for CGOL are as follows;

1. Any live cell with **two** or **three** live neighbours **survives**.
2. Any dead cell with **three** live neighbours becomes a **live** cell.
3. All other live cells die in the next generation. Similarly, all other dead cells stay dead.

And notice there is a help page for the rules

Now change the rules a bit, to this:

1. Any live cell with two or three live neighbours **dies**.
2. Any dead cell with **four** or **five** live neighbours becomes a **live** cell.
3. All other live cells die in the next generation. Similarly, all other dead cells stay dead.

Question: Were you able to do this? How easy/hard was it?

Part 3: Probabilistic CA

Now refresh the page again. Let's try enabling the fire forest propagation mode. Follow the instructions:

1. In the enter state toolbox, enter 3
2. Press the 'Fire Sim' radio button on top of the rules editor
3. Apply the rules
4. Press the 'Firesim' button on top of the page.

Question: Honest feedback, what did you think of this process of changing?

Okay, now let's try playing with the probabilistic rules:

1. Take a minute to read the prescribed rules in the editor. What do you think it means?
2. Try changing the probabilities of spreading to 0 in all cases. Did you manage to do this?
3. Let's just make everything burn. Regardless of how many neighbours any unburnt cell has, make sure it has a 100% chance of burning down. (hint: consult the rules help)

Question: Was there anything hard that you had to do in this process? Please Explain

Part 4: Making your Own Rules!

This is the final part of the interview. Refresh the page. I'm going to make you create a map generator for Game Development. You can take inspiration from the Conway's Game of Life Rules to work your way around this. NB: You only need to write the rules.

The specifications are as follows:

There are two types of cells: Sea and Land. Set their colors appropriately.

1. If any cell has ≤ 4 neighbours that are of type 'Sea', then the state of the next cell should be a 'Sea'.
2. Otherwise, it should be 'Land'.

Translate the specifications above to the rules textarea.

Question: How easy/hard was this for you?