CS166 MKW

Due	@Jan 28, 2020
Priority	🔥🔥🔥
Relation	Minerva
Status	In Progress

Prompt

Create 2 new prep poll questionsfor the class. These questions should test students' readiness for
class and should be based on the readings or the pre-class work. For each poll:

- Write the poll question.
- Explain how the poll question connects a concept from the readings/pre-class work to an
  activity or discussion in class. In other words, explain how the poll question assesses whether
  the student is prepared for what happens in class.
- Identify which course learning outcome is targeted by the poll.
- Provide a high-quality answer to the poll question – good enough to score a 4 on the learning
  outcome identified above.

Work

Question 1

Is Game of Life a totalistic cellular automaton? **#caanalysis**

→ It is not a totalistic CA even though we look only at the sums of the neighboring states. The reason for this is that in totalistic CAs we also count the cell itself to the sum of the neighborhood. Since Game of Life has different

transition rules for when the middle cell is 0 or 1 and that it only counts the neighbors, it is not a totalistic system.

Question 2

In the panic CA, does the initial density setting affect long-term behavior? Why?

→ Yes, initial density changes strongly affects the long-term behavior as we can observe with different parameter settings like p = 0.1, p = 0.4, or p = 0.9. Panic CA is a totalistic system whereby the total number of panicking neighbors including the cell itself, with threshold 4 being the determiner of whether a cell will panic. Then, with initial setting that is more dense, there is a higher chance that cells will be surrounded with 4 or more panic cells, leading it to being panic. The more cells panic, the more quiescent cells will panic, leading to a reinforced loop. Therefore, we can observe how parameter setting in the beginning can nudge the system into particular long-term state(s).