Machines – Exercises

Exercises for Chapter 3 of Steinhart, E. (2017) *More Precisely: The Math You Need to Do Philosophy*. Broadview Press. (Version 1)

1. Download an app for playing the game of life on your computer. The most well-developed app is Golly. It can run Conway's Life, as well as other rules. And it can run many other cellular automata. You can get it at:

    http://golly.sourceforge.net

2. Explore some patterns in the game of life.

    The conwaylife.com website is a fantastic resource:
    http://conwaylife.com

    The LifeWiki on the conwaylife.com site has libraries with over 1500 patterns:
    http://conwaylife.com/wiki/Main_Page

    Here's an older site with good information about Conway's Life:
    http://pentadecathlon.com/lifenews/

3. Check out Rendell's implementation of a universal Turing Machine in Life:

    http://rendell-attic.org/gol/tm.htm

4. Explore some lifelike Rules

    There is a Wikipedia page listing many lifelike rules:
    https://en.wikipedia.org/wiki/Life-like_cellular_automaton

    Here's a website detailing several lifelike rules:
    http://psoup.math.wisc.edu/mcell/rullex_life.html

    David Eppstein's (2010) paper on lifelike rules is in the arXiv:
    https://arxiv.org/pdf/0911.2890v1.pdf

    David Eppstein maintains a cellular automaton website:
    https://www.ics.uci.edu/~eppstein/ca/