

Classroom Chaos 10 Dr. Richard A. DiDio La Salle University

0. The Rules of Life

Set in a 2-D universe of cells, the rules of Life are simply stated. Given an initial distribution of on and off cells located in the Life Universe, the next generation is determined by a cell's 8 immediate neighbors

- If the number of immediate neighbor cells that are on = 2, a cell will continue in its present state (on or off)
- If the number of occupied neighbor cells = 3, the cell will be on in the next generation
- > Anything else, the cell is off in the next generation,

Predict what will happen in the next two generations given Gen 0:

Gen U							
		•					
		•	•				

Gen 1							

Gen 2

Make your predictions! Blinker

Generation 0								
			•					
			•					
			•					

Gen 1								

Ge	Gen 2								

Gen 3								

Ge	Generation 0								
		٠	•	•	٠				









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Gen 1								

Gen 2								

Gen 3								

G	en	4		

Gen 3

Glider Generation 0



1. Looking for predictive rules

Use GameOfLife.exe to investigate the resulting life forms as a function of initially populated rows of length *n* for n = 1 to 25

What predictive rule(s) did you find?

2. Branching Out

Use Life32 to investigate the resulting life forms of the following initial populations. Are the final patterns stable? How would you classify the final pattern? (i.e. what Life objects remain?) How many generations does it take to reach the final state?

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The T Tetromino

The R Pentomino

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3. Get a Life

Check out the amazing applet at Math.com (www.math.com/students/wonders/life/life.html) Try all of the pre-configured patterns. (e.g. Glider Guns, Eaters, and Puffer Trains)

4. Change the Rules!

Use Life32 for this. Make your own universe!