

is for... LIFE

From the Wikipedia entry on Game of Life:

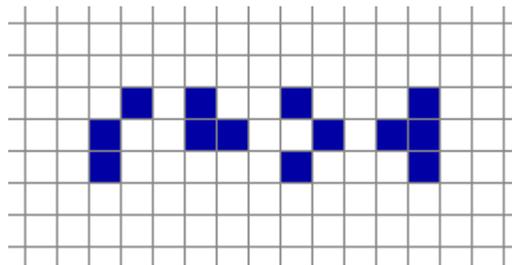
The universe of the Game of Life is an infinite two-dimensional orthogonal grid of square cells, each of which is in one of two possible states, *live* or *dead*. Every cell interacts with its eight *neighbors*, which are the cells that are directly horizontally, vertically, or diagonally adjacent. At each step in time, the following transitions occur:

1. Any live cell with fewer than two live neighbors dies, as if caused by under-population.
2. Any live cell with more than three live neighbors dies, as if by overcrowding.
3. Any live cell with two or three live neighbors lives on to the next generation.
4. Any dead cell with exactly three live neighbors becomes a live cell, as if by reproduction.

The initial pattern constitutes the *seed* of the system. The first generation is created by applying the above rules simultaneously to every cell in the seed—births and deaths occur simultaneously, and the discrete moment at which this happens is sometimes called a *tick*...

British mathematician John Horton Conway invented the Game of Life in 1970, and since then an amazing amount of research and study has gone into this zero-player game. People have, *ad nauseum*, studied patterns that form after successive generations of cells. It is a fairly easy computer programming task to write a simulator that proceeds through future Life generations.

However, it is far from easy to try to backtrack and create a *previous* generation that ticks forward to an arbitrary configuration, even rather simple ones. As your Puzzle Party challenge for the letter "L", I ask that you create some layout of cells (on graph paper) that, after exactly one generation forward, ends up looking precisely like the configuration below (no extra cells remaining anywhere in your grid universe, only these thirteen in exactly this position and spaced apart from one another in this exact way):



To receive credit for a solution, show Eric your answer before 10am Sunday. He will verify its validity and, if correct, will reward you with the L-piece. You may only turn in one answer to this puzzle, even if later you find a better solution. Your team will also receive a number of points equal to:

$$3000 - (50 \times N)$$

Where N is the number of cells used in your designed configuration.