

Surveillance

All of the "text" on the screen is displayed as 4x4 and 5x5 cellular grids. Each of these are states of a cellular automaton. The 4x4 grids are numbers and the 5x5 grids are letters. The top of the screen has a clock that shows hours : minutes : seconds. From this, it should be pretty easy to figure out what the numbers 0-9 are.

Once you have the numbers, you can logically deduce the transition rules in the cellular automaton. Please read up on cellular automata if you are unfamiliar with them:

- * http://en.wikipedia.org/wiki/Cellular_automata
- * http://en.wikipedia.org/wiki/Conway%27s_Game_of_Life

There are four possible transitions for each square of a grid

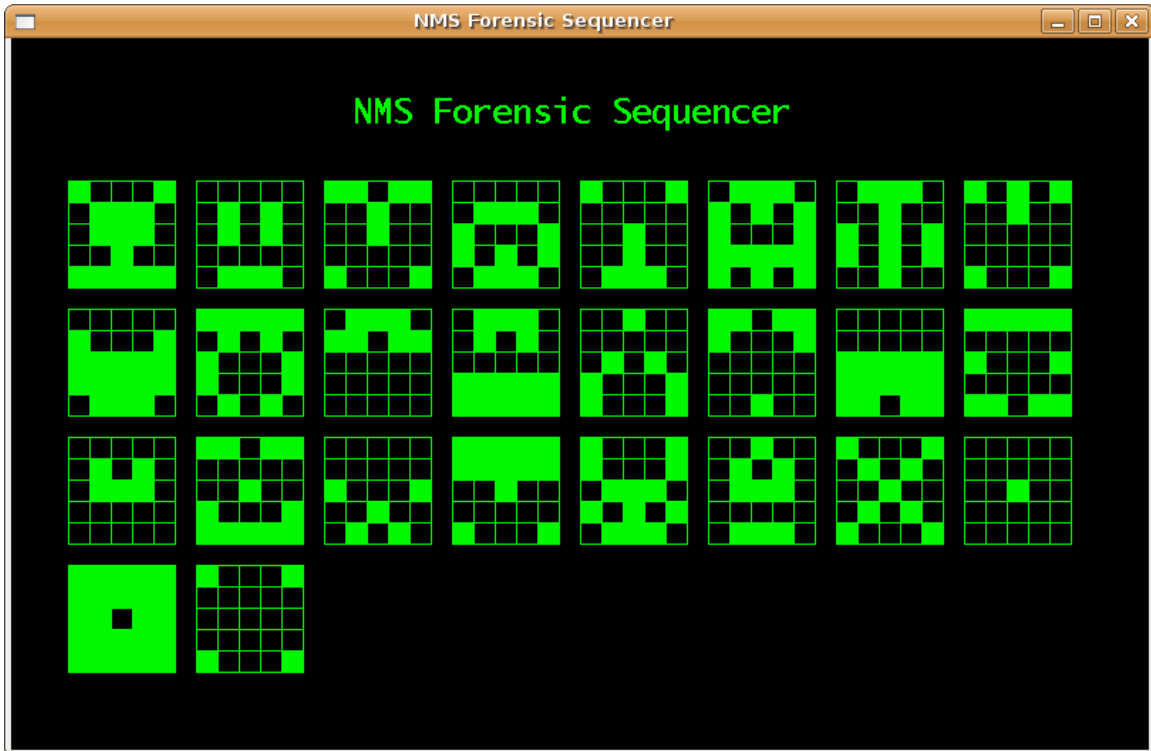
- * DIE: This square becomes empty if it was not already
- * BIRTH: This square gets a cell if it did not already have one
- * STAY: This square stays as it is
- * FLIP: This square gets the opposite of what it had--if it had a cell, it's now empty, and vice versa

The rule to use for a given square is based upon the number of "neighbors". Neighbors are cells in the surrounding 8 squares. The specific rules used in this cellular automaton, and the rules they should be able to deduce from the clock are:

- * 0 Neighbors -> FLIP
- * 1 Neighbors -> FLIP
- * 2 Neighbors -> DIE
- * 3 Neighbors -> STAY
- * 4 Neighbors -> BIRTH
- * 5 Neighbors -> DIE
- * 6 Neighbors -> DIE

Rules for 7 and 8 neighbors are unnecessary, as they do not occur in this sequence.

Once a team has determine the rules, this is where their console app comes in. The console app displays the pattern for A and shows them 3 empty grids. They have to calculate and enter the grids for B, C, and D. Once they do this, the console app will calculate the whole alphabet for them. For reference, here is a screenshot that shows the whole alphabet:



Once they have the alphabet, they can decode the message scrolling across the screen as JIGSAWLVR AT FMGUY DOT COM. If they email this address, their email will be displayed on screen using the same encoding as the password. This encoding is really just a simple phone encoding where ABC shows one image, DEF shows another, etc.

Answer

BIOLOGICAL