

The Universe

The universe is a two-dimensional grid of square *cells*, each of which is in one of two possible states, *live* or *dead* (black or white). Every cell interacts with its eight neighbors, which are the cells that are horizontally, vertically, or diagonally adjacent. At each step in time, the following transitions occur:

1. Any live cell with **two** or **three** live neighbours survives.
2. Any dead cell with **three** live neighbours becomes a live cell.
3. All other live cells die in the next generation. Similarly, all other dead cells stay dead.