

Suppose you have a 5 * 5 array. Each cell of the array is either 0 (Dead) or 1 (Alive)

Now the value of a given cell at the next instant of time depends on the state of its neighbors at the previous time step. There are four rules:

1. If a cell is Alive and has fewer than two neighbors that are Alive, it dies on the next time step.
2. If a cell is Alive and has exactly two neighbors that are Alive, it remains Alive on the next time step.
3. If a cell is alive and has more than two neighbors that are Alive, it dies on the next time step.
4. If a cell is Dead and has two or three neighbors that are alive, it turns Alive on the next time step.

Time -0	Time -1	Time -2	Time-3
0 1 0 0 0 0 0 1 0 0 0 1 1 0 1 0 1 0 0 1 0 0 0 0 0	0 0 1 0 0 1 0 0 1 0 1 0 0 0 0 1 1 1 1 0 0 0 0 0 0	0 1 0 1 0 0 1 1 0 0 0 0 0 1 1 1 0 1 0 0 1 1 1 1 0	1 1 0 0 0 1 1 0 0 1 1 0 0 0 0 1 0 0 0 1 1 0 0 1 0

Simulate your code up to 20-time steps and print the array at each time step. Use the above array at time = 0 for initialization.