Software Development Fundamentals Mini Project

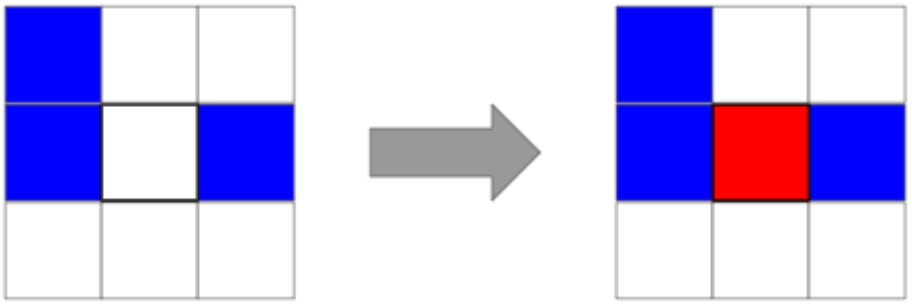
Conway's Game of Life (GoL) is a cellular automaton created by John Conway. Its aim is to simulate death and growth in an ecosystem. The game is played on a grid eg. a 10x10 grid (the ecosystem). Each element (the population) on the grid is evaluated according to the following set of rules

1. Each cell with one or no neighbours dies, as if by solitude to the next generation.

2. Each cell with two or three neighbours survives to the next generation.

3. Each cell with four or more neighbours dies, as if by overpopulation in the next generation.

4. Each dead cell with three neighbours becomes populated in the next generation.

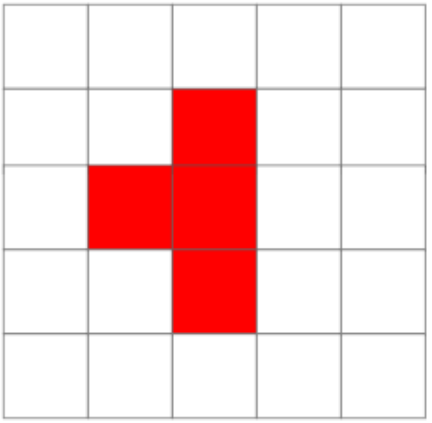


Assignment

Write a Java program to ‘play’ GoL. The Java program will read a text file of the following format

```
# any line that starts with # is a comment and should be ignored
# The grid size
GRID 5 5
# Starting position X, Y
START 1 1
# Data indicates the start of initial configuration
DATA
 *
**
 *
```

The above file will produce the following grid



Your Java Conway GoL will run 5 generations (iteration) of GoL. For every generation, evaluate each cell according to the above rule. The neighbours of a cell are the adjacent cells.

After iterating a generation, print out the new grid before evaluating the next generation.