

**COSC 1420.S01
PROGRAM SEVEN**

ASSIGNMENT:

Write a program to implement the simulation of life as described in Scientific American by Martin Gardner. The program will be implemented on a two dimensional surface of size 60 by 60 visible elements. The rules of the simulation are as follows:

- 1) An initial set of cells are marked as “alive” by the user. This is generation 0. Your program will ask the user to input a set of row and column values to let the user determine which cells are “alive”. Display this generation.
- 2) Cells change for each succeeding generation by the following rules:
 - a. A living cell dies of overcrowding in the next generation if it currently has 4 or more living neighbors.
 - b. A living cell dies of loneliness in the next generation if it currently has only 0 or 1 living neighbors.
 - c. An empty cell becomes a “birth” cell (becomes alive) in the next generation if it has exactly 3 living neighbors.
 - d. All other cells remain unchanged.
- 3) The new generation becomes the current generation and is displayed.
- 4) After displaying each new generation, ask the user if they wish to continue to the next generation or stop at this point.

DUE: 6 Mar 2019

- 1) An electronic copy of the .c file in the project folder as created by Visual Studio. This will be emailed to the instructor with the subject line “COSC 1420.S01 – Lab 7”.
- 2) If you wish any feedback on your work, turn in a printed listing of the .c file that you created.