Game of Life

Problem Description:

The "Game of Life" was developed by mathematician John Conway at Cambridge. It is not a game in the conventional sense. There are no players, and no winning or losing. Once the "pieces" are placed in the starting position, the rules determine everything that happens later. Nevertheless, Life is full of surprises! In most cases, it is impossible to look at a starting position (or pattern) and see what will happen in the future. The only way to find out is to follow the rules of the game.

The game of life is played on a large, two-dimensional board, much like a chessboard. Each square is capable of growing one "cell". Life progresses in generations. Each new generation is determined by a few simple rules from the previous generation. Each cell's fate is determined by it neighbors in the previous generation. Each cell has 8 neighbors, up, down, left, right, and the four diagonals. The rules are:

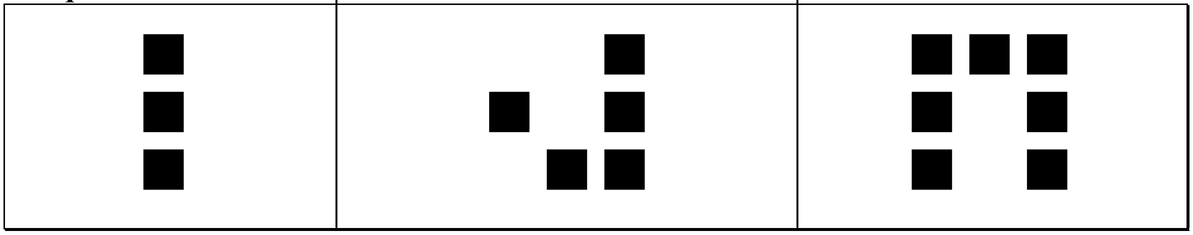
- If an occupied cell has zero or one neighbors, it dies of loneliness.
- If an occupied cell has more than three neighbors, it dies of overcrowding.
- If an empty cell has exactly three neighbors, there is a birth of a new cell in the empty cell.

In order to get you started, I have coded some of the basics of the game board. You must add the code that creates the next generation of *Life*. You will find the code in my instructor folder.

Example Output:

```
On this assignment you do not need to hand in any output but
run the three test cases shown below.
```

Required Test Cases:



Skills:

●Var ●Con I/O ○Format ●Logic ●Loops ●Functions ○Call by Ref ○File I/O ●Arrays ○Strings ●GM