**Scoring Rubric for Project 4 : TicTacToe**

*Due 10/09/2019 @ 8 pm*

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|  | **Score** | **Maximum** |
| **Execution (50 pts):** | | |
| Program compiles without errors (warnings are okay). | 50 | **50** |
| **Implementation (45 pts):** | | |
| Uses the given class without modifications. | 5 | **5** |
| Asks for a choice of a one or two-player game. | 5 | **5** |
| Asks the player(s) to choose a location (all or nothing). | 5 | **5** |
| Prints out a message if the chosen location is outside of the bounds of the board dimension and asks for another location (all or nothing). | 5 | **5** |
| Prints out a message if the chosen location has been taken and asks for another location (all or nothing). | 5 | **5** |
| In one-player game, uses random number generator to choose a location on the board or implements a smarter approach (all or nothing). | 0 | **5** |
| In a one-player game, randomly determines whether the player or the computer goes first. | 0 | **5** |
| Correctly updates and prints out board with each player’s input (all or nothing). | 0 | **5** |
| The game successfully ends with one of the two players winning or with a draw. | 5 | **5** |
| **Style (5 pts):** | | |
| The driver and functions are easy to follow based on the use of comments | 3 | **3** |
| Easily identifiable variable names | 2 | **2** |
| **Total (100 pts):** | 85 | **100** |

Notes:

It’s always a good idea to check any input from the user. You should be checking if the user enters ‘y’ or ‘n’ and number of players correctly.

You only need to seed your random number generator once at the beginning of the program.

For the one player game, you’re not printing out the computer’s board after it’s turn (you’re just printing before the human player goes, so we can see the computer’s output there), but because of that, when the computer wins, you don’t see the actual final board.

You’re getting stuck in an infinite loop at times when the computer generates random numbers. The issue is because rand() % 3 returns a number between 0 and 2, but when you call the placeMark function, you’re subtracting 1 from the input row and column, so the index is out of bounds.