CSCI 1302 Introduction to Programming Principles

Student Name: Alexander Fields

**Due: August 23, 2016 by 1:55pm (Folio Dropbox)**

**Project: Tic-Tac-Toe (Exercise 8.9 in the textbook)**

Problem Description:

Write the following method that returns the location of the largest element in a two-dimensional array.

In a game of tic-tac-toe, two players take turns marking an available cell in a 3 \* 3 grid with their respective tokens (either X or O). When one player has placed three tokens in a horizontal, vertical, or diagonal row on the grid, the game is over and that player has won. A draw (no winner) occurs when all the cells on the grid have been filled with tokens and neither player has achieved a win. Create a program for playing tic-tac-toe.

The program prompts two players to enter an X token and O token alternately. Whenever a token is entered, the program re-displays the board on the console and determines the status of the game (win, draw, or continue). **See sample run in the textbook.**

(is it supposed to look exactly like the sample or close to?)

Analysis:

(Describe the problem including input and output in your own words.)

Creating a tic tac toe first would require a 3 by 3 2d array then a way for both players to take turn a way for one to win and a possible way to have a draw. Also each move needs to be shown after their move has been made. Since there’s 209,088 win possibilities and 46,080 draw possibilities you probably don’t want to attempt to use a String.

Design:

(Describe the major steps for solving the problem.)

1)First things first you want a way to input X or O so import a scanner

2)Since there’s 209,088 win possibilities and 46,080 draw possibilities so cast numerical values for X, O, Player 1 OR 2 winning, and draw

2.5) Figure out who’s going first

3)Allow player 1 to make a move

4)Check win condition (IF true skip to step 10)

5)Outprint the board

6)Allow player 2 to make a move

7)Check win condition (IF true skip to step 10)

8)Outprint the board

9)Return to step 4

10)Display winner or draw

Submit the following items:

1. Complete this Word file and Submit to the dropbox.

2. Compile, Run, and Test your code then **submit the .java file** to the dropbox.

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