Orasi Monthly Code Challenge

Gold League

September 2013

Challenge Submitted by:

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Challenge Due Date:

9/30/13

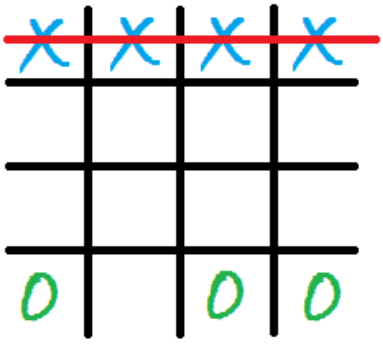
September 2013 Orasi Code Challenge - Gold

Challenge Description

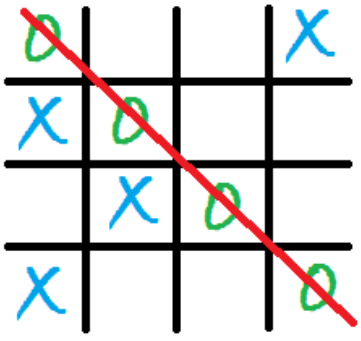
Tic-Tac-Toe is traditionally a paper and pencil game for 2 players, “X” and “O”. These players take turns, “X” going first, placing marks in a 3x3 grid and the first player who gets three marks in a vertical, horizontal or diagonal row is the winner. Unfortunately, assuming that both players are playing perfectly, 3x3 Tic-Tac-Toe will always end in a stalemate. In order to make the game more dynamic players have made various modifications to the game such as increasing the board size and adding additional winning scenarios. One such variation features a 4x4 grid and three distinct ways to win. Like in traditional Tic-Tac-Toe, one way of winning is filling a horizontal, vertical, or diagonal line (now 4 in a row instead of 3). In addition, two other winning scenarios are also added to make the game less likely to end in a tie. These new winning scenarios are completing all four corners and making a 2x2 square. The Gold League challenge for September 2013 is to write a function that can successfully play a turn of this Tic-Tac-Toe variant.

4x4 Tic-Tac-Toe

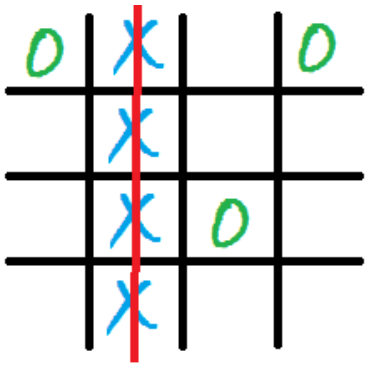
4x4 Tic-Tac-Toe inherits many of the qualities of traditional Tic-Tac-Toe. Like the original game, the “X” player will always go first and can place their mark anywhere in the 4x4 grid. The “O” player will then follow and place their mark in any open place. The players can win be either getting four in a row, four in a square, or four in the corners. Variations of these winning scenarios are shown below. Winning with four corners requires the four corners of the grid to be filled with either “X” or “O”, while winning with four in square involves creating a 2x2 square anywhere on the game board.



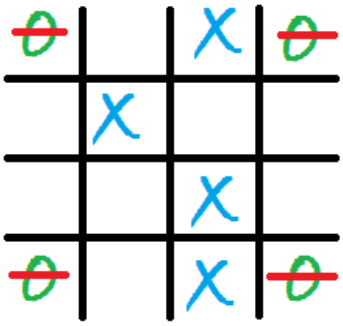
Four in horizontal row



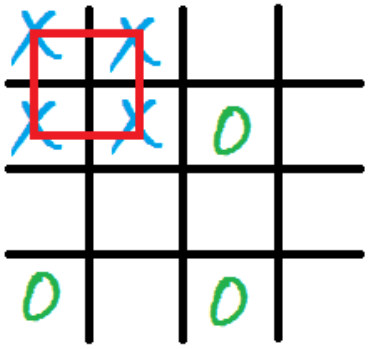
Four in diagonal row



Four in vertical Row



All Four Corners



Four in a square

Submission Requirements:

Your submission must be in the form of a VBScript function that can run inside QTP. The function should accept two argument (the game board, a 4x4 array, and a player identifier, either "X" or "O" uppercase) and return a 4x4 array containing the game board with the addition of one move. A move will consist of adding a single mark to the board ("X" if the player identifier is "X", "O" if "O"). Each move will be verified to be a legal, and attempting to make illegal moves (overwriting an existing mark, etc.) will result in automatically losing the game. Grading will be done by playing functions against each other until a winner is found or the game ends in a tie. Tied games will not count as a win for either player and will not be replayed. Each submission will play every other submission multiple times. The submission at the end that has earned the most wins will be declared the winner.

The function name should be your name. Helper functions are allowed, but they must be named with either your name or initials to insure there are no namespace conflicts. The function must comply with Orasi Coding Standards. You will be allowed 1 minute of execution time to make a single move.

Winning Solution:

********** Future Home of the winning solution **********