

Assignment #3

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Python and Applications to Business Analytics Fall 2018, Module 1

October 8, 2018

Exercise 1. Tic-tac-toe (also known as noughts and crosses or Xs and Os) is a paper-and-pencil game for two players, X and O, who take turns marking the spaces in a 3 by 3 grid. The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal wins the game. If you have never heard of this game, please take a look at the wikipedia page about tic-tac-toe at <https://en.wikipedia.org/wiki/Tic-tac-toe> to better understand the game.

At the following site <https://inventwithpython.com/chapter10.html>, there is a complete python solution for playing tic-tac-toe. Please note that the solution presented talks about the design process, coding, and some rudimentary artificial intelligence. Read this completely to understand before any coding begins.

Modify the code to create a new game called Connect Four, in which a player wins who can succeed in placing four of their marks in a horizontal, vertical, or diagonal in a grid of 6 rows by 7 columns. Please check out the wikipedia page about Connect Four at https://en.wikipedia.org/wiki/Connect_Four to better understand the game. Add artificial intelligence to make the computer player as competent as possible. Also, note that not all open positions are valid moves.