

lab 2 working process of tic-tok-toe78sxb

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constructor

in metod1, i tried to make 3/3 list of O's as per question and set up variables that will be used as steps progress.

method, change_turn()

on part 2 am switching turn between two players

method, play_game()

This is the main method to play for the game based upon flow of turn and game methods are arranged. get_setting() takes input from the player and help in modifying the variable set up in constructor.

method 4, print_board()

in this method i tried to print out the 3/3 list of lists. and it will update once the player uses their turn.

method5, get_move()

This method is used to get the input from the human player as row and col and stores as (row,col)tuple. If user put row:2 and column:2 it goes to row 2 and column 2 of the game board. i converted indexing form 0,1,2 to 1,2,3.

method6, make_move()

this is little bit complex. in this method i tried to move the player turn based on player input for human player and available smart squares for AI moves.

part7, check_winner()

in this method I tried to find all possible rows, columns and diangonal that can be used to win the game using indexing rows and column. Also, based on available squares, it will find the if game is tie

method8, random_move()

this is used for finding available squares and choosing randomly from those available squares,

method 9 smart move ():

In this method there are two method winning_move and threat_to_lose() was call in this smart move mthod.. there are 24 different possible wining moves and same number of threat_to_lose moves. If a column, row, or diagonal has two of its squares filled up by "O" then third row will be winning move. And each row, column and diagonal can have 3 possible ways to have those that makes 24 possible squares. Similarly, in theeat_to_lose method, two of the squares

filled up by "X" and third square will be a move to be blocked by "O". Also, priority was given for winning_move and then threat_to_lose and then at last random_move.

Method10, get_settings()

In this method, get the input from user whether user wants to play with AI if user answers yes then it will follow one human user and AI setting while it is false two human play setting will follow. Also, this method has another input whether user wants to go first or second. Also, this method validates the user's input.