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//TIC TAC TOE(Py)
def ConstBoard(board):
    print("Current State Of Board : \n\n")
    for i in range(0, 9):
        if((i > 0) and (i % 3) == 0):
            print("\n")
        if(board[i] == 0):
            print("-", end=" ")
        if (board[i] == 1):
            print("O ", end=" ")
        if(board[i] == -1):
            print("X ", end=" ")
    print("\n\n")

def User1Turn(board):
    pos = input("Enter X's position from [1...9]: ")
    pos = int(pos)
    if(board[pos-1] != 0):
        print("Wrong Move!!!")
        exit(0)
    board[pos-1] = -1

def User2Turn(board):
    pos = input("Enter O's position from [1...9]: ")
    pos = int(pos)
    if(board[pos-1] != 0):
        print("Wrong Move!!!")
        exit(0)
    board[pos-1] = 1

def minimax(board, player):
    x = analyzeboard(board)
    if(x != 0):
        return (x*player)
    pos = -1
    value = -2
    for i in range(0, 9):
        if(board[i] == 0):
            board[i] = player
            score = -minimax(board, (player*-1))
            if(score > value):
                value = score
            board[i] = 0
    return value

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if(score > value):
    value = score
    pos = i
    board[i] = 0
if(pos == -1):
    return 0
return value

def CompTurn(board):
    pos = -1
    value = -2
    for i in range(0, 9):
        if(board[i] == 0):
            board[i] = 1
            score = -minimax(board, -1)
            board[i] = 0
            if(score > value):
                value = score
                pos = i
            board[pos] = 1

def analyzeboard(board):
    cb = [[0, 1, 2], [3, 4, 5], [6, 7, 8], [0, 3, 6],
          [1, 4, 7], [2, 5, 8], [0, 4, 8], [2, 4, 6]]
    for i in range(0, 8):
        if(board[cb[i][0]] != 0 and board[cb[i][0]] == board[cb[i][1]] and board[cb[i][0]] ==
           board[cb[i][2]]):
            return board[cb[i][2]]
    return 0

def main():
    choice = input("Enter 1 for single player, 2 for multiplayer: ")
    choice = int(choice)
    board = [0, 0, 0, 0, 0, 0, 0, 0, 0]
    if(choice == 1):
        print("Computer : O Vs. You : X")
        player = input("Enter to play 1(st) or 2(nd) :")
        player = int(player)
        for i in range(0, 9):
            if(analyzeboard(board) != 0):
                break
            if((i+player) % 2 == 0):
                CompTurn(board)
    else:

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    ConstBoard(board)
    User1Turn(board)
else:
for i in range(0, 9):
if(analyzeboard(board) != 0):
    break
if((i) % 2 == 0):
    ConstBoard(board)
    User1Turn(board)
else:
    ConstBoard(board)
    User2Turn(board)

x = analyzeboard(board)
if(x == 0):
    ConstBoard(board)
    print("Draw!!!")
if(x == -1):
    ConstBoard(board)
    print("X Wins!!! Y Loose !!!")
if(x == 1):
    ConstBoard(board)
    print("X Loose!!! O Wins !!!")
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main()