

```

def display_board(board):

    print('  '+board[7]+'|' + board[8]+'|'+ board[9])
    print('-----')
    print('  '+board[4]+'|' +board[5]+'|'+ board[6])
    print('-----')
    print('  '+board[1]+'|' +board[2]+'|'+ board[3])
    print('-----')

test_board=['a','x','o','x','o','x','o','x','o','x']

def player_input():
    maker =''

    while not (maker=='x' or maker == 'o'):
        maker = input('player one want you want to be x or o')
        if maker=='x':
            return('x','o')
        else:
            return('o','x')

#print(player_input())
def place_marker(board,marker,position):
    board[position]=marker
#place_maker(test_board,'$',8)
#print(displayr_board(test_board))
def win_check(board,mark):

    return ((board[7] == mark and board[8] == mark and board[9] == mark) or #
across the top
    (board[4] == mark and board[5] == mark and board[6] == mark) or # across the
middle
    (board[1] == mark and board[2] == mark and board[3] == mark) or # across the
bottom
    (board[7] == mark and board[4] == mark and board[1] == mark) or # down the
middle
    (board[8] == mark and board[5] == mark and board[2] == mark) or # down the
middle
    (board[9] == mark and board[6] == mark and board[3] == mark) or # down the
right side
    (board[7] == mark and board[5] == mark and board[3] == mark) or # diagonal
    (board[9] == mark and board[5] == mark and board[1] == mark)) # diagonal

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#print(win_check(test_board,'x'))
import random

def choose_first():
    if random.randint(0, 1) == 0:
        return 'Player 2'
    else:
        return 'Player 1'

def space_check(board, position):

    return board[position] == ' '

def full_board_check(board):
    for i in range(1,10):
        if space_check(board, i):
            return False
    return True

def player_choice(board):
    position = 0

    while position not in [1,2,3,4,5,6,7,8,9] or not space_check(board, position):
        position = int(input('Choose your next position: (1-9) '))

    return position

def replay():

    return input('Do you want to play again? Enter Yes or No: ').lower().startswith('y')

print('Welcome to Tic Tac Toe!')

while True:
    # Reset the board
    theBoard = [' '] * 10
    player1_marker, player2_marker = player_input()
    turn = choose_first()
    print(turn + ' will go first.')

    play_game = input('Are you ready to play? Enter Yes or No.')

    if play_game.lower()[0] == 'y':
        game_on = True

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else:
    game_on = False

while game_on:
    if turn == 'Player 1':
        # Player1's turn.

        display_board(theBoard)
        position = player_choice(theBoard)
        place_marker(theBoard, player1_marker, position)

        if win_check(theBoard, player1_marker):
            display_board(theBoard)
            print('Congratulations! You have won the game!')
            game_on = False
        else:
            if full_board_check(theBoard):
                display_board(theBoard)
                print('The game is a draw!')
                break
            else:
                turn = 'Player 2'

    else:
        # Player2's turn.

        display_board(theBoard)
        position = player_choice(theBoard)
        place_marker(theBoard, player2_marker, position)

        if win_check(theBoard, player2_marker):
            display_board(theBoard)
            print('Player 2 has won!')
            game_on = False
        else:
            if full_board_check(theBoard):
                display_board(theBoard)
                print('The game is a draw!')
                break
            else:
                turn = 'Player 1'

if not replay():
    break
```

- Output:

```
Welcome to Tic Tac Toe!
player one want you want to be x or ox
Player 1 will go first.
Are you ready to play? Enter Yes or No.y
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```
  | |
-----
  | |
-----
  | |
-----
```

Choose your next position: (1-9) 4

```
  | |
-----
 x| |
-----
  | |
-----
```

Choose your next position: (1-9) 9

```
  | |o
-----
 x| |
-----
  | |
-----
```

Choose your next position: (1-9) 9

Choose your next position: (1-9) 3

```
  | |o
-----
 x| |
-----
  | |x
-----
```

Choose your next position: (1-9) 7

```
 x| |o
-----
 x| |o
-----
  | |x
-----
```

Choose your next position: (1-9) 1

```
 x| |o
-----
 x| |o
-----
 o| |x
-----
```

Choose your next position: (1-9) 5

```
 x| |o
-----
 x|x|o
-----
 o| |x
-----
```

Congratulations! You have won the game!

Do you want to play again? Enter Yes or No: n

