

'''

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'''

board = [' ' for x in range(10)]

def insertLetter(letter, pos):
 board[pos] = letterdef spaceIsFree(pos):
 return board[pos] == ' 'def printBoard(board):
 print(' / / ')
 print(' ' + board[1] + ' / ' + board[2] + ' / ' + board[3])
 print(' / / ')
 print('-----')
 print(' / / ')
 print(' ' + board[4] + ' / ' + board[5] + ' / ' + board[6])
 print(' / / ')
 print('-----')
 print(' / / ')
 print(' ' + board[7] + ' / ' + board[8] + ' / ' + board[9])
 print(' / / ')def isWinner(b, le):
 return (b[7] == le and b[8] == le and b[9] == le) or (b[4] == le and b[5] == le and
 b[6] == le) or (b[1] == le and b[2] == le and b[3] == le) or (b[1] == le and b[4] == le and
 b[7] == le) or (b[2] == le and b[5] == le and b[8] == le) or (b[3] == le and b[6] == le and
 b[9] == le) or (b[1] == le and b[5] == le and b[9] == le) or (b[3] == le and b[5] == le and
 b[7] == le)

I

```
def playerMove():
    run = True
    while run:
        move = input('Please select a position to place an \'X\' (1-9): ')
        try:
            move = int(move)
            if move > 0 and move < 10:
                if spaceIsFree(move):
                    run = False
                    insertLetter('X', move)
                else:
                    print('Sorry, this space is occupied!')
            else:
                print('Please type a number within the range!')
        except:
            print('Please type a number!')
```

```
def compMove():
    possibleMoves = [x for x, letter in enumerate(board) if letter == ' ' and x != 0]
    move = 0

    for let in ['O', 'X']:
        for i in possibleMoves:
            boardCopy = board[:]
            boardCopy[i] = let
            if isWinner(boardCopy, let):
                move = i
                return move

    cornersOpen = []
    for i in possibleMoves:
        if i in [1,3,7,9]:
```

```
cornersOpen = []
for i in possibleMoves:
    if i in [1,3,7,9]:
        cornersOpen.append(i)

if len(cornersOpen) > 0:
    move = selectRandom(cornersOpen)
    return move

if 5 in possibleMoves:
    move = 5
    return move

edgesOpen = []
for i in possibleMoves:
    if i in [2,4,6,8]:
        edgesOpen.append(i)

if len(edgesOpen) > 0:
    move = selectRandom(edgesOpen)

return move

def selectRandom(li):
    import random
    ln = len(li)
    r = random.randrange(0,ln)
    return li[r]

def isBoardFull(board):
    if board.count(' ') > 1:
```

```
untitled2.py ✘ tic tac toe.py* ✘
01 def isBoardFull(board):
02     if board.count(' ') > 1:
03         return False
04     else:
05         return True
06
07 def main():
08     print('Welcome to Tic Tac Toe!')
09     printBoard(board)
10
11     while not(isBoardFull(board)):
12         if not(isWinner(board, 'O')):
13             playerMove()
14             printBoard(board)
15         else:
16             print('Sorry, O\'s won this time!')
17             break
18
19         if not(isWinner(board, 'X')):
20             move = compMove()
21             if move == 0:
22                 print('Tie Game!')
23             else:
24                 insertLetter('O', move)
25                 print('Computer placed an \'O\' in position', move , ':')
26             printBoard(board)
27         else:
28             print('X\'s won this time! Good Job!')
29             break
30
31     if isBoardFull(board):
32         print('Tie Game!')
```

```
if isBoardFull(board):
    print('Tie Game!')

while True:
    answer = input('Do you want to play again? (Y/N)')
    if answer.lower() == 'y' or answer.lower == 'yes':
        board = [ ' ' for x in range(10)]
        print('-----')
        main()
    else:
        break
```

Do you want to play again? (Y/N)y

Welcome to Tic Tac Toe!

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Please select a position to place an 'X' (1-9): 5

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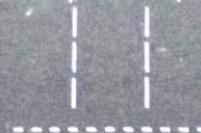
x

|

|

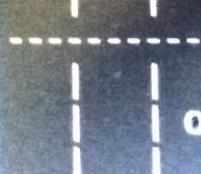
Console 2/A X

Computer placed an 'o' in position 9 :

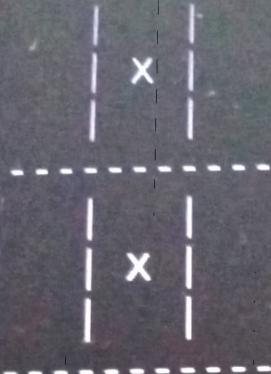


I

Please select a position to place an 'x' (1-9): 2

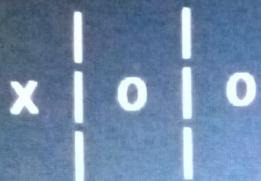
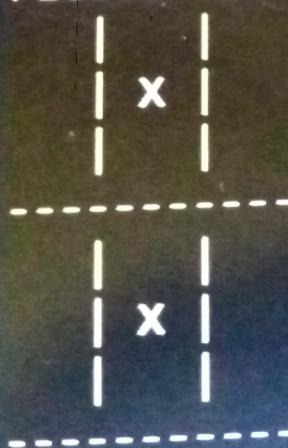


computer placed an 'o' in position 8 :



I

Please select a position to place an 'x' (1-9): 7



computer placed an 'o' in position 3 :

Computer placed an 'O' in position 3 :

x	o
---	---

x

x	o	o
---	---	---

I

Please select a position to place an 'X' (1-9): 6

x	o
---	---

x	x
---	---

x	o	o
---	---	---

Console 2/A X

Computer placed an 'O' in position 4 :

X	O
---	---

O	X	X
---	---	---

X	O	O
---	---	---

I

Please select a position to place an 'X' (1-9): 1

X	X	O
---	---	---

O	X	X
---	---	---

X	O	O
---	---	---

Tie Game!

Tie Game!

Do you want to play again? (Y/N)Y

History