

AJ Lab -1

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CSE 4th B

Batch - 3

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Program - 3

Tic-Tac-Toe.

```
def makeMove(letter, pos):  
    global board  
    board[pos] = letter
```

```
def isFree(pos):  
    return board[pos] == ' '
```

```
def notFull(board):  
    return board.count(' ') > 1
```

```
def isWinner(board, ch):  
    return ((board[7] == ch and board[8] and board[9] =  
                                                    ch) or
```

```
(board[4] == ch and board[5] == ch and board[6] == ch) or
```

```
(board[1] == ch and board[2] == ch and board[3] == ch) or
```

```
(board[7] == ch and board[4] == ch and board[1] == ch) or
```

```
(board[8] == ch and board[5] == ch and board[2] == ch) or
```

```
(board[9] == ch and board[6] == ch and board[3] == ch) or
```

```
(board[7] == ch and board[5] == ch and board[3] == ch) or
```

```
(board[9] == ch and board[5] == ch and board[1] == ch)
```



```
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
```

```
import random
```

```
cornersOpen = []
```

```
for i in possibleMoves:
```

```
    if i in [1, 3, 7, 9]:
```

```
        cornersOpen.append(i)
```

```
if cornersOpen:
```

```
    move = random.sample(cornersOpen, 1)[0]
```

```
    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 edgesOpen:
```

```
    move = random.sample(edgesOpen, 1)[0]
```

```
    return move
```