

UG

LAB EXAM 1

IBM18CS071

13/11/2020

20CS5PCAIP

5<sup>TH</sup> SEM 'B' SECTION

Computer VS Computer Tic Tac Toe

BATCH B2

Algorithm :-

function main()

board = [' ' for \_ in range(10)]

display board()

while board is not full:

// Agent (X)

move = makeMove(), board[move] = 'X'

if isWinner(board, 'X'):

print "Agent 1 wins"

break

// Agent 2 (O)

move = makeMove(), board[move] = 'O'

if isWinner(board, 'O'):

print "Agent 2 wins"

break

if not move or board is full:

print "Tic game"

function makeMove():

possible moves = [i for i in range(1, 10)]

if board[i] == ' ']

move = 0

// check if us/opb can win

for i in possible moves: for char in ['O', 'X']

board copy = board.copy()

board copy[i] = char

if isWinner(board copy, char):

move = i

return move

```
import random
```

```
// corners
```

```
cornersOpen = []
```

```
for i in possible moves:
```

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

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

```
if cornersOpen:
```

```
    return random.sample(cornersOpen, 1)
```

```
// Center
```

```
if j in possible moves:
```

```
    return 5
```

```
// Edges
```

```
edgesOpen = []
```

```
for i in possible moves:
```

```
    return 5
```

```
EdgesOpen = []
```

```
for i in possible moves:
```

```
    if i in [2, 4, 6, 8]:
```

```
        edgesOpen.append(i)
```

```
if edgesOpen:
```

```
    return random.sample(edgesOpen, 1)
```

```
return move
```