Ajay Nittur 10⁹/11/20
IBM18CS006
AI ~~~~ Lab Test1

classmate
Date _____
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1) Implement 2 agent tic-tac toe algorithm

Program/Algorithm:

```
function main():
    board = [' ' for _ in range(10)]
    ~~while~~ ~~not full (board):~~
    displayBoard()
    while board is not full:
        // Agent 1 (x)
        move = ~~~~ makeMove(❓❓), board[move] = 'x'
        if isWinner(board, 'x'):
            print "Agent1 wins"
            break
        // Agent 2 (0)
        move = makeMove(❓❓), board[move] = '0'
        if isWinner(board, '0'):
            print "Agent2 wins"
            break
        if not move or board is full:
            print "Tie game"


    function makeMove(❓❓):
        possibleMoves = [ i for i in range(1,10)
                              if board[i] == ' ']
        move = 0
        ~~opponent = 'x' if char == '0' else '0'~~
                          us/opp
        //check if opp can win
        for i in possibleMoves: for char in ['0','x']
            boardCopy = board.copy()
            boardCopy[i] = ~~~~ char
            if isWinner(boardCopy, char):
                move = i, ~~~~ ~~~~
        return move
```

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```python
import random
# Corners
    cornersOpen = []
    for i in possibleMoves:
        if i in [1, 3, 7, 9]:
            cornersOpen.append(i)
    if cornersOpen:
        return random.sample(cornersOpen, 1)
    # Center
    if 5 in possibleMoves:
        return 5
    # Edges
    edgesOpen = []
    for i in possibleMoves:
        if i in [2, 4, 6, 8]:
            edgesOpen.append(i)
    if edgesOpen:
        return random.sample(edgesOpen, 1)

    return move
```