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AI LAB Test

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5B1

1. Implement Tic-tac-toe computer vs. computer

Source Code:

```
import random

def board():
    board=[['0','0','0'],['0','0','0'],['0','0','0']]
    return (board)
p1,p2 = '0','X'
weights = [[3,2,3],[2,4,2],[3,2,3]]

def possibility(board):
    p = []
    for i in range(len(board)):
        for j in range(len(board)):
            if board[i][j] == '0':
                p.append((i,j))
    return(p)

def randomplay(board, player):
    selection = possibility(board)
    location = random.choice(selection)
    board[location] = player
    return(board)

def row(board, player):
    for x in range(len(board)):
        win = True
        for y in range(len(board)):
            if board[x,y] != player:
                win = False
                continue
```

```
        if win == True:
            return(win)
    return(win)

def column(board, player):
    for x in range(len(board)):
        win = True
        for y in range(len(board)):
            if board[y][x] != player:
                win = False
                continue
        if win == True
            return(win)
    return(win)

def diagonal(board, player):
    win = True
    y = 0
    for x in range(len(board)):
        if board[x,x] != player
            win = False

    if win:
        return win
        for x in range(len(board)):
            y = len(board) - 1 - x
            if board[x,y] != player:
                win = False
    return win
```

```
def evaluate(board):
    winner = 0
    for player in [1, 2]:
        if (row(board, player) or
            column(board, player) or
            diagonal(board, player)):
            winner = player
    [illegible]
        [illegible]
    [illegible]
        winner = [illegible] -1
    [illegible]
    for x in range(len(board)):
        for y in range(len(board)):
            if board[x][y] == 0:
                winner = [illegible]0
    return winner
def play():
    board, = (board())
    print(board)
    while winner == 0
        for player in [1,2]:
            board = random_play(board, player)
            print(board)
            print(" str(player) + "Player")
            winner = evaluate(board)
            if winner != 0:
                break
    return(winner)
```

```
def main():
    winner = play()
    print("winner of the game is Player" + str(winner))

main()
```