

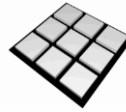
COMP 141

Tic-Tac-Toe with 2-D Lists



1

Tic-Tac-Toe



- Two player game, *X* and *O*
- Take turns marking the spaces in a 3×3 grid.
- The player who succeeds in placing three respective marks in a horizontal, vertical, or diagonal row wins the game



2

Tic-Tac-Toe

- Use a 3x3 grid of numbers to store the game of tic-tac-toe
- Initial grid is filled with all zeros
- A move for X uses a 1 on the board.
- A move for O uses a -1 on the board.
 - Makes life easier later on.



3

Code for Printing Board

```
def main():
    grid = [[0,0,0],[0,0,0],[0,0,0]]
    print_board(grid)

def print_board(board):
    for row in range(0, len(board)):
        for col in range(0, len(board[row])):
            if board[row][col] == 1:
                print("X", end=" ")
            elif board[row][col] == 0:
                print("-", end=" ")
            else:
                print("O", end=" ")
        print()

main()
```



4

What other functions do we need?

- Think about the following:
 - How do moves get saved on our board?
 - How to determine if the game is over?
 - Can we make helper functions for the winning scenario functions?