

Week 04

Review Coding Concepts

Assignment 1 - Tic-Tac-Toe (Due Oct 5th)

Write a program that simulates Tic-Tac-Toe. Assume all the normal rules for tic-tac-toe. 3 in a row in any direction wins the game. If all spaces are filled and no player has a match the game results in “Cats Game”.

Hint: Start by using a 2D array of chars. Using the char of ' '(blank space) will make this assignment much easier to code.

This will primarily be an assessment of your understanding of documentation & efficient design driven programming and not simply a *working* program.

Grading Rubric:

5 Points Program Compiles

10 Points for Proper Use of 2D Arrays

15 Points Efficiency

- **Well Purposed Control Flow**
- **Identifying Segments of Code for Reuse (p1 and p2 use the same code!)**

15 Points for Documentation

- **Well Thought Out Comments**
- **Descriptive Variable Names**

45 Points Total

Please refer to the sample output to view what is expected from you.

Normal Game Example

```
<terminated> Driver (4) Java Applet
Welcome to Tic-Tac-Toe
=====
Player 1 turn 'X'
| |
-----
| |
-----
| |
-----
Which Row would you like?
0
Which Col would you like?
0
Player 2 turn 'O'
X| |
-----
| |
-----
| |
-----
Which Row would you like?
1
Which Col would you like?
0
Player 1 turn 'X'
X| |
-----
O| |
-----
| |
-----
Which Row would you like?
1
Which Col would you like?
1
Player 2 turn 'O'
X| |
-----
O|X|
-----
| |
-----
Which Row would you like?
1
Which Col would you like?
1
Illegal Move
Which Row would you like?
0
Which Col would you like?
2
Player 1 turn 'X'
X| |O
-----
O|X|
-----
| |
-----
```

```
Which Row would you like?
2
Which Col would you like?
2
X Player Wins!
X| |O
-----
O|X|
-----
| |X
-----
```

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Cat's Game Example

```
0
Player 1 turn 'X'
O| |X
-----
|X|
-----
O| |
-----
Which Row would you like?
1
Which Col would you like?
0
Player 2 turn 'O'
O| |X
-----
X|X|
-----
O| |
-----
Which Row would you like?
1
Which Col would you like?
2
Player 1 turn 'X'
O| |X
-----
X|X|O
-----
O| |
-----
Which Row would you like?
2
Which Col would you like?
2
Player 2 turn 'O'
O| |X
-----
X|X|O
-----
O| |X
-----
Which Row would you like?
0
Which Col would you like?
1
Player 1 turn 'X'
O|O|X
-----
X|X|O
-----
O| |X
-----
Which Row would you like?
2
Which Col would you like?
1
Cat's Game!
O|O|X
-----
X|X|O
-----
O|X|X
-----
```

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