

# CSCE 145 Program3

Name: \_\_\_\_\_

## Java Program: Tic-Tac-Toe

### Setup

1. In Eclipse go to File/New/Java Project name it: **Program3YourlastnameYourfirstname**
2. Go to File/New/Class name it the exact same as the project
3. Create ASCII art tic-tac-toe board (such as the one below)

```
System.out.println(" | | ");
System.out.println(" | | ");
System.out.println("----|----|----");
System.out.println(" | | ");
System.out.println(" | | ");
System.out.println("----|----|----");
System.out.println(" | | ");
System.out.println(" | | ");
```
4. Create a double array of Char  
a. Assign a space ' ' to every indices

```
char[][] board = new char[3][3];
for(int i=0;i<board.length;i++)
    for(int j=0;j<board[i].length;j++)
        board[i][j]= ' ';
```
5. You can use random for computer move `import java.util.Random;`

### Lab

1. Show the user the empty tic-tac-toe board.
2. Ask them to pick a row and column for their next move.
  - a. Check if the move is legal (on the board and an empty space ' ')
  - b. Ask again if invalid move
3. Add their valid move to the double array by changing it from ' ' to 'X'.
4. Display the updated board (you will have to modify the ASCII art code above).
  - a. Check if user won
5. Make a legal move for the computer by changing an empty ' ' to 'O'.
  - a. Check if computer won
6. Repeat steps 2 through 5 until someone wins or there are no more legal moves
7. Tell the user who won and ask if they want to play again
  - a. If they want to play again go back to step 1 other exit

Be sure to:

1. Use proper and clear comments//usually one comment per section of code
  - a. Include the following information at the **TOP OF YOUR CLASS**:  
**Name:** Your Name      **School:** USC Sumter  
**Assignment:** Program3      **Class:** CSCE 145  
**Semester:** Spring 2015      **Date:** March 24
  - b. Explain each step
2. Pick proper variable types and use clear names for variables and methods

### Grading:

<b>Function:</b> objectives met (places move, tells who won, use of double array)	60%
<b>Organization:</b> doc, code (variable names)	20%
<b>Style:</b> clear explanation (messages to user)	10%
<b>Robust:</b> valid moves checks	10%
<b>Bonus:</b> create a game that never loses (knows how to play tic-tac-toe)	10%