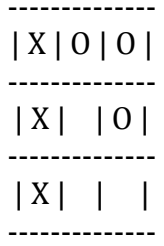
CSC 202

Project 2 – ASCII Tic-Tac-Toe!



Objective: To get better experience with 2-dimensional arrays.

Instructions: Create a Tic-Tac-Toe game where two players take turns until one of the players wins.

Here is the general idea:

1. When the game starts welcome the player.
2. Present an empty Tic-Tac-Toe board, the possible numbers that correspond to the board, and indicate that it is X's turn. For example (don't worry if it doesn't look exactly like this):

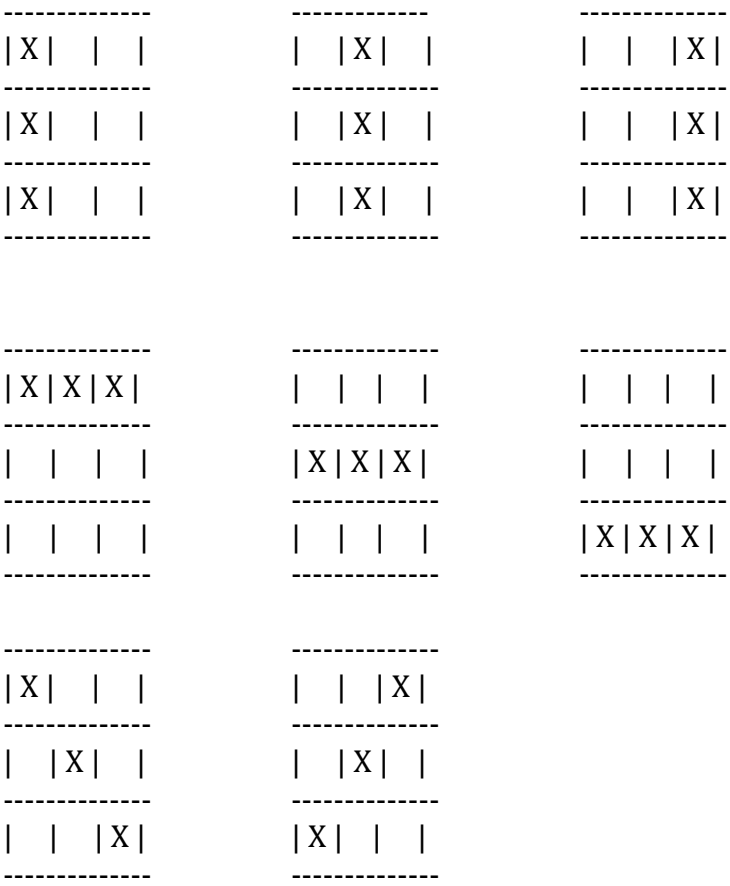
```
--------------          --------------
|   |   |   |         | 1 | 2 | 3 |
--------------          --------------
|   |   |   |         | 4 | 5 | 6 |
--------------          --------------
|   |   |   |         | 7 | 8 | 9 |
--------------          --------------
```

3. Ask the first player to pick which position they want to play (1-9).
4. If the position is not filled, then let the next person play. For example, if the first person chose "5," then it would now look like this:

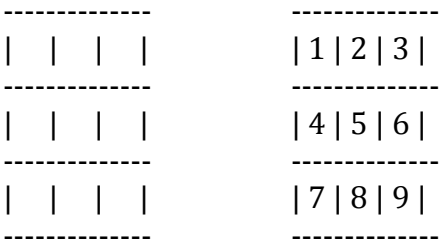
```
--------------          --------------
|   |   |   |         | 1 | 2 | 3 |
--------------          --------------
|   | X |   |         | 4 | 5 | 6 |
--------------          --------------
|   |   |   |         | 7 | 8 | 9 |
--------------          --------------
```

5. If the position is filled then indicate that the position is already filled and that they have to choose again.
6. If the player now has a winning position, then indicate that they won!

Here are the winning positions (either the X or the O can win):



Here is an example play:
Welcome to Bob's Tic-Tac-Toe!
It is X's turn:



1

Good move. It is O's move:

```
-------------       -------------
| X |   |   |       | 1 | 2 | 3 |
-------------       -------------
|   |   |   |       | 4 | 5 | 6 |
-------------       -------------
|   |   |   |       | 7 | 8 | 9 |
-------------       -------------
```

5

Good move. It is X's move:

```
-------------       -------------
| X |   |   |       | 1 | 2 | 3 |
-------------       -------------
|   | O |   |       | 4 | 5 | 6 |
-------------       -------------
|   |   |   |       | 7 | 8 | 9 |
-------------       -------------
```

1

I'm sorry, that position is already filled; try again. It is X's move:

```
-------------       -------------
| X |   |   |       | 1 | 2 | 3 |
-------------       -------------
|   | O |   |       | 4 | 5 | 6 |
-------------       -------------
|   |   |   |       | 7 | 8 | 9 |
-------------       -------------
```

4

Good move. It is O's move:

```
-------------       -------------
| X |   |   |       | 1 | 2 | 3 |
-------------       -------------
| X | O |   |       | 4 | 5 | 6 |
-------------       -------------
|   |   |   |       | 7 | 8 | 9 |
-------------       -------------
```

8

Good move. It is X's move:

```
--------------          --------------
| X |   |   |           | 1 | 2 | 3 |
--------------          --------------
| X | O |   |           | 4 | 5 | 6 |
--------------          --------------
|   | O |   |           | 7 | 8 | 9 |
--------------          --------------
```

7

Congratulations X! You win! The winning game:

```
--------------
| X |   |   |
--------------
| X | O |   |
--------------
| X | O |   |
--------------
```

Rubrics:

Points	Items
1	Tic-Tac-Toe Board is shown
1	"Number Pad" is shown
2	User can input the correct number and it shows up at the correct location
1	If user inputs invalid number then the program does not crash
1	If user inputs invalid number then the program does not keep going to the next turn
2	User can win correctly
1	The game correctly takes turns
1	Programmer used at least 3 methods

NOTE: If you do not use a 2-dimensional array then you do not get credit for the program.