Course Number	*CSci 120*
Descriptive Title	*Object-oriented Programming*
Programming Language	*Java*

Problem Number	*3*
Activity Title	*Tic Tac Toe*

Procedure Proper:

1. Write a program that will allow two users to play tic-tac-toe. The program should ask for moves alternately from player X and player O. The program displays the game positions as follows:

   1 2 3
   4 5 6
   7 8 9

2. The players enter their moves by entering the position number they wish to mark. After each move, the program displays the changed board. A sample board configuration is as follows:
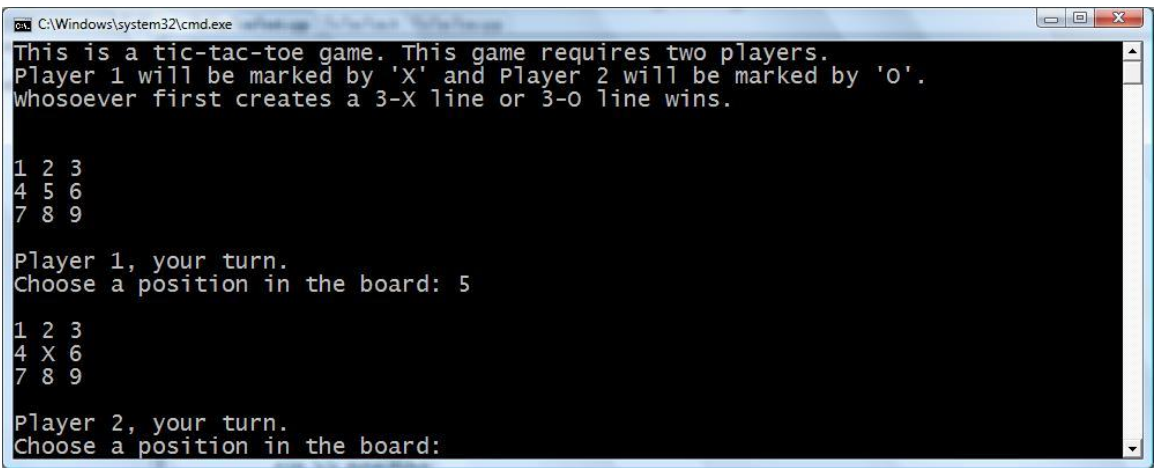
   X X O
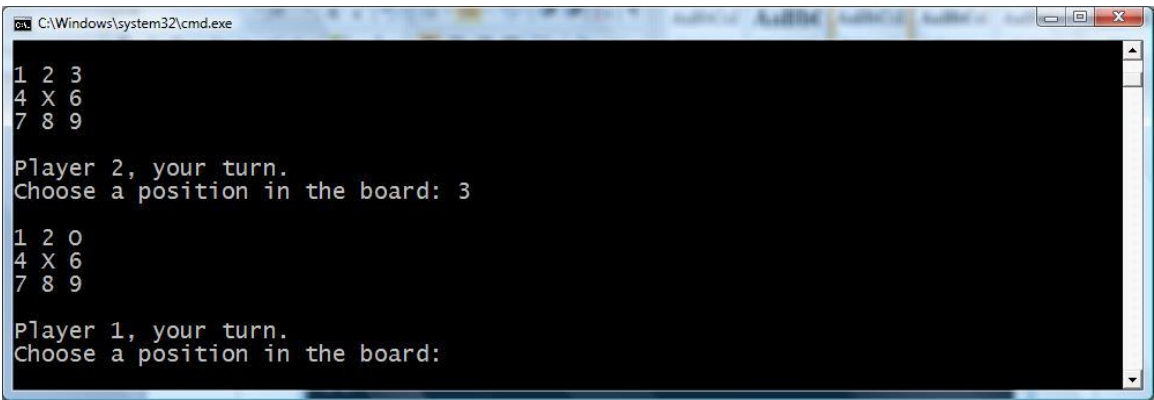   **4 5 6**
   O 8 9

Note:
   - ✓ You need to work with this problem using a two-dimensional array.
   - ✓ You might need to create some helper functions to at least easily solve the problem.
   - ✓ There is always a possible winner right after the 5th move (a total of 5 moves made by both players).
   - ✓ The game will not end until a winner is declared or the game is a draw.

Runtime Requirement(s):

1. If the first player chooses position 5 in the board;

```
C:\Windows\system32\cmd.exe

This is a tic-tac-toe game. This game requires two players.
Player 1 will be marked by 'X' and Player 2 will be marked by 'O'.
Whosoever first creates a 3-X line or 3-O line wins.


1 2 3
4 5 6
7 8 9

Player 1, your turn.
Choose a position in the board: 5

1 2 3
4 X 6
7 8 9

Player 2, your turn.
Choose a position in the board:
```

2. If the second player chooses position 3 in the board;

```
C:\Windows\system32\cmd.exe

1 2 3
4 X 6
7 8 9

Player 2, your turn.
Choose a position in the board: 3

1 2 O
4 X 6
7 8 9

Player 1, your turn.
Choose a position in the board:
```

3. If by chance any of the two players chooses a position that is already taken;

```
C:\Windows\system32\cmd.exe
1 O O
4 X 6
7 X 9

Player 1, your turn.
Choose a position in the board: 2

Error: Invalid position. Please choose a position not marked an 'X' or 'O'.


1 O O
4 X 6
7 X 9

Player 1, your turn.
Choose a position in the board:
```

4. If it detects a winner (first player), it displays the following;

```
C:\Windows\system32\cmd.exe
Player 2, your turn.
Choose a position in the board: 7

X O O
4 X 6
O X 9

Player 1, your turn.
Choose a position in the board: 9

X O O
4 X 6
O X X

Player 1 wins!
```

5. If it detects a winner (second player), it displays the following;

```
C:\Windows\system32\cmd.exe
Player 1, your turn.
Choose a position in the board: 2

X X 3
O O 6
X 8 9

Player 2, your turn.
Choose a position in the board: 6

X X 3
O O O
X 8 9

Player 2 wins!
```

6. If it detects a draw, it displays the following;

```
C:\Windows\system32\cmd.exe
Player 2, your turn.
Choose a position in the board: 9

X O O
O X X
X 8 O

Player 1, your turn.
Choose a position in the board: 8

X O O
O X X
X X O

The game was a draw!
```