



Programme

AL_KCENG_7	Bachelor of Engineering in Computer Engineering
AL_EELCE_C	Higher Certificate in Engineering in Electronics and Computer Engineering
AL_EMACD_7	Bachelor of Science in Software Development (Mobile Apps and Connected Devices)
AL_ECOMP_6	Higher Certificate in Engineering in Computer Engineering

Module

Software Development 2.1

PROG06007-15545

Project

Academic Year 2023/2024

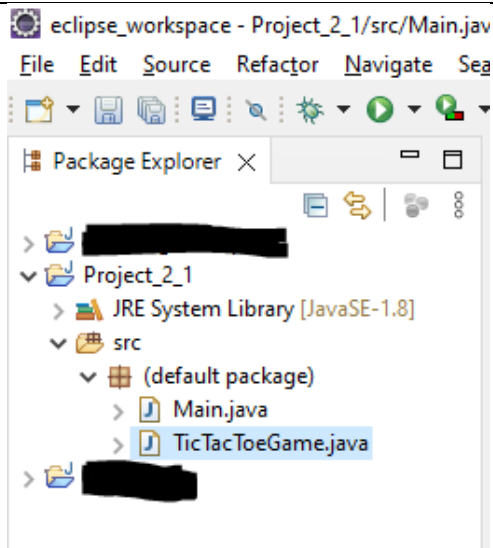
Computer and Software Engineering

Technological University of the Shannon: Midlands

Implement logic for Tic-Tac-Toe game

Download two classes from the Moodle:

- Main.java
- TicTacToeGame.java



To start you should create a project in eclipse.

Download TicTacToeGame.java and Main.java and copy them to src folder.

The TicTacToeGame.java class holds game itself, you don't have to edit it, it is there for GUI.

Your work should be done in the Main.java class.

```
7 @Override
8 public int moveMade(String[][] gameBoard, int player) {
9     // Based on the gameBoard[][]
10    // and player who made the move
11    // determine who won the game
12
13    for(int i = 0; i<3;i++) {
14        for(int j = 0; j<3;j++) {
15            System.out.printf("[%s]\t", gameBoard[i][j]);
16        }
17        System.out.println();
18    }
19    System.out.printf(" player : %d\n", player);
20
21    // return 1 if X wins
22    // return 2 if O wins
23    // return 0 if draw
24    return -1;
25 }
```

In the Main.java class you will find method:

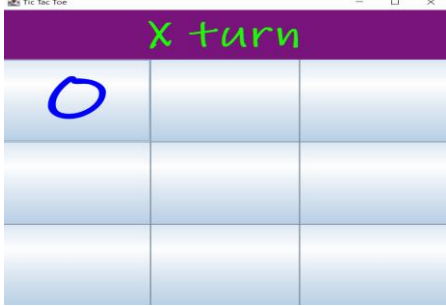

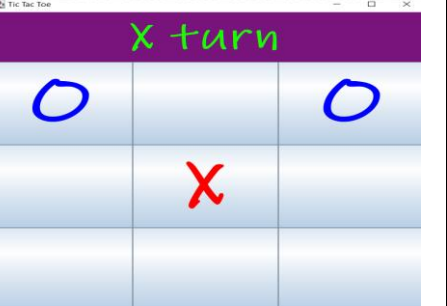
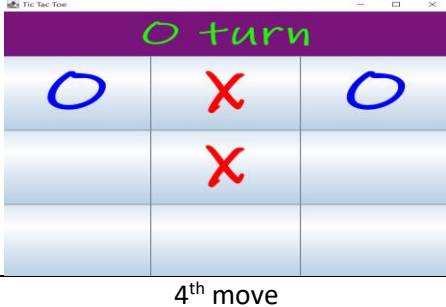

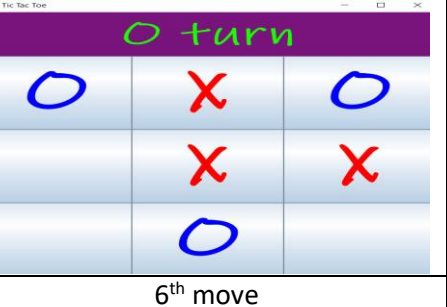
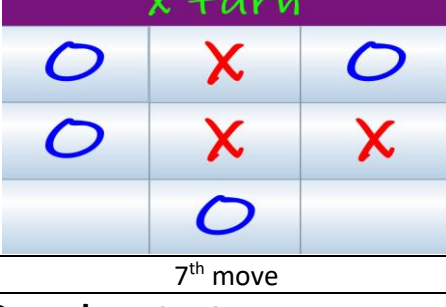

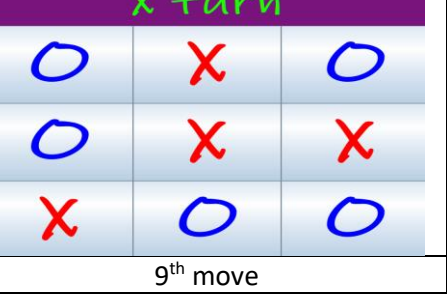
```
public int moveMade(String[][] gameBoard, int player)
```

Each time player makes a move, the “moveMade” method will fire. The method is providing the game board and player number per move.

You have to determine if the move won the game.

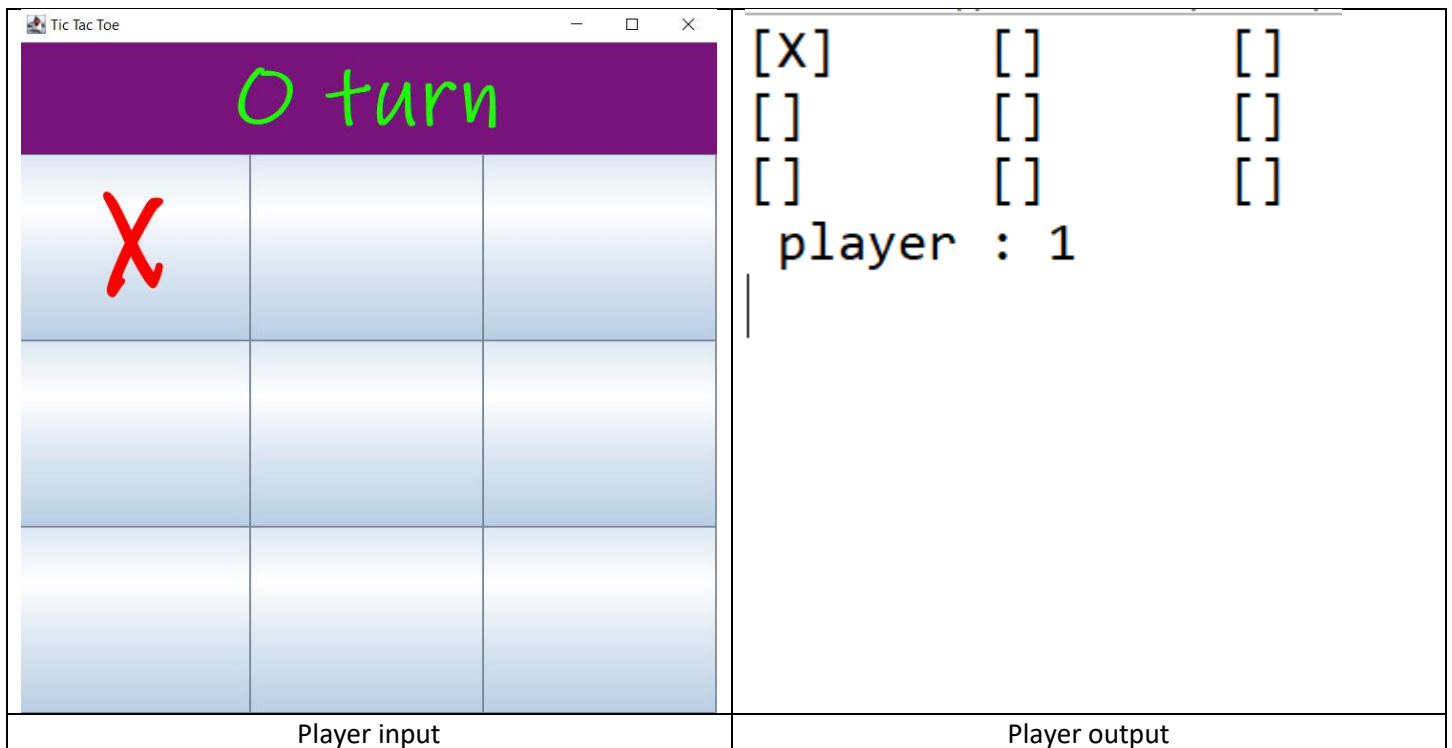
The “moveMade” method expect decision in form of return. See line 24.

Have look at this scenario:

		
1th move	2 nd move	2th move
		
4 th move	5 th move	6 th move
		
7 th move	8 th move	9 th move

Console output:

<pre>[O] [] [] [] [] [] [] [] [] player : 2</pre>	<pre>[O] [] [] [] [X] [] [] [] [] player : 1</pre>	<pre>[O] [] [O] [] [X] [] [] [] [] player : 2</pre>
1th move	2 nd move	2th move
<pre>[O] [X] [O] [] [X] [] [] [] [] player : 1</pre>	<pre>[O] [X] [O] [] [X] [] [] [O] [] player : 2</pre>	<pre>[O] [X] [O] [] [X] [X] [] [O] [] player : 1</pre>
4 th move	5 th move	6 th move
<pre>[O] [X] [O] [O] [X] [X] [] [O] [] player : 2</pre>	<pre>[O] [X] [O] [O] [X] [X] [X] [O] [] player : 1</pre>	<pre>[O] [X] [O] [O] [X] [X] [X] [O] [O] player : 2</pre>
7 th move	8 th move	9 th move



You should alter Main.java class, specifically the inner method `public int moveMade(String[][] gameBoard, int player)` beginning at line 8.

The `moveMade()` method should **return**

- 1 if X wins
- 2 if O wins
- 0 if draw

If the move made was not significant, and the game is still being played, the method should **return -1**.

The `String[][] gameBoard` 2d array will give you the game board per move.

You should submit the Main.java class on the moodle.

All the best..