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CPSC 2150 Section 002

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Project Report:

Project 1 – Part 2

Requirements Analysis

Functional Requirements

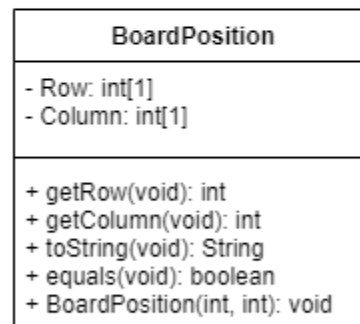
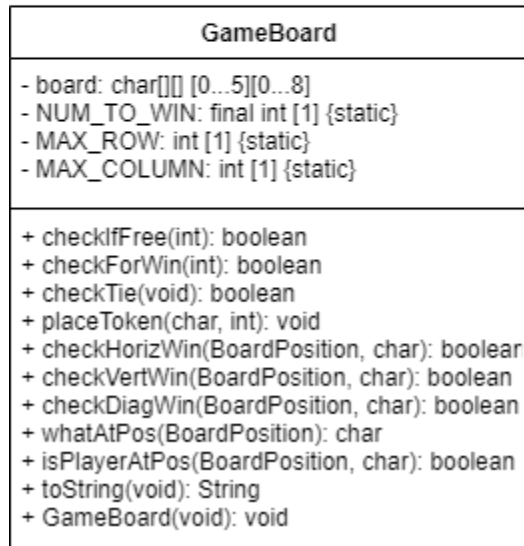
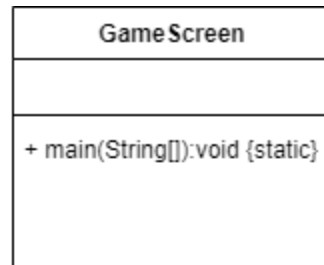
- As a user, I can input a column number, so I can mark a spot on the game board and progress the game.
- As a user, I can input a Y or an N after the game has concluded, to start a new game or terminate the game session, respectively.
- As a user, I can place four markers touching horizontally, to conclude the match and receive a congratulatory message and a request to play again.
- As a user, I can place four markers touching vertically, to conclude the match and receive a congratulatory message and a request to play again.
- As a user, I can place four markers touching diagonally, to conclude the match and receive a congratulatory message and a request to play again.
- As a user, I can defend the opponent from connecting four markers in a row while also failing to connect four markers myself, resulting in a tie game and a request to play again.

Nonfunctional Requirements

- Must have a device that supports Java.
- Must have a keyboard to play the game.
- Must run on the Schools of Computing's virtual machine.
- Must have adequate memory to allocate towards objects.

Design

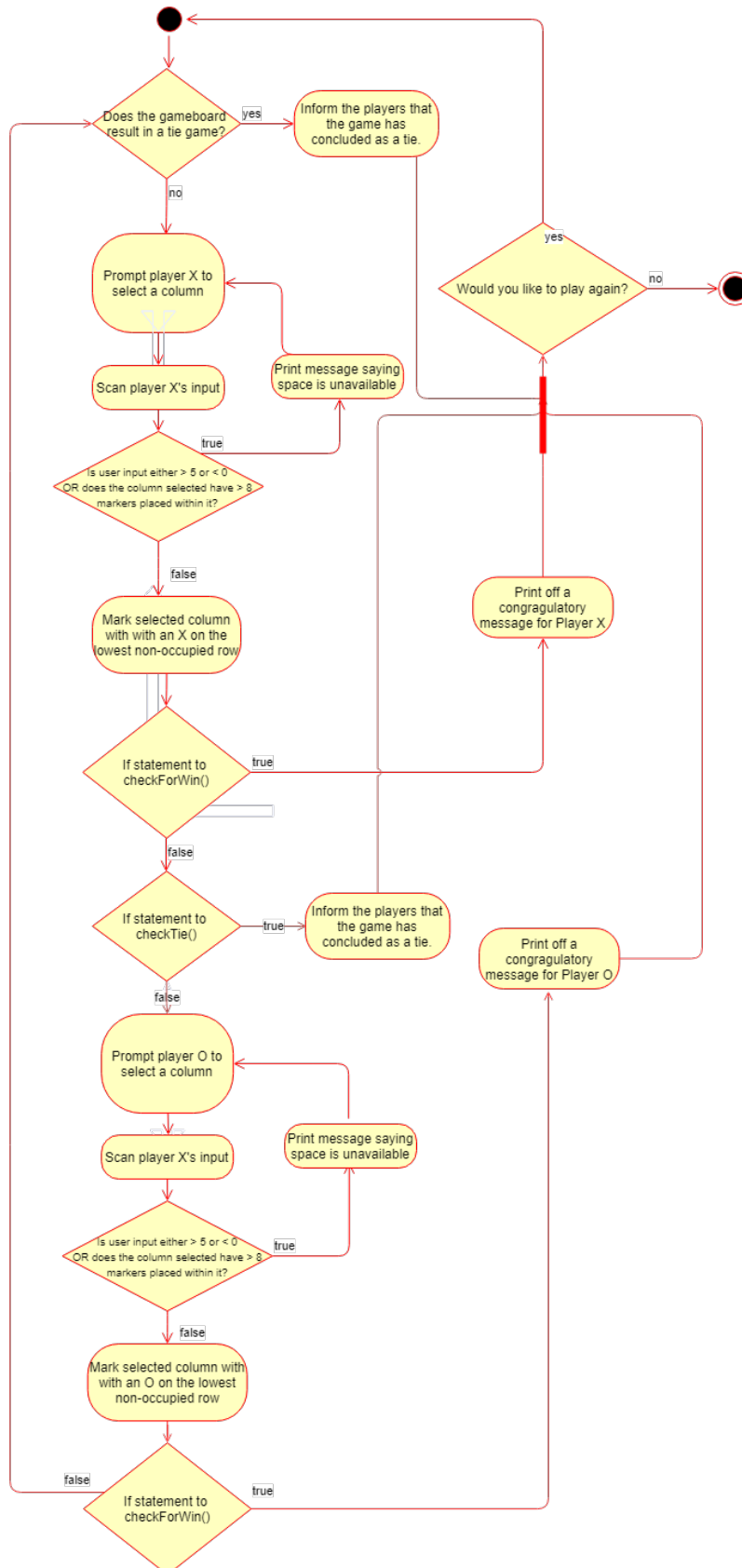
UML Class Diagrams



UML Activity Diagrams

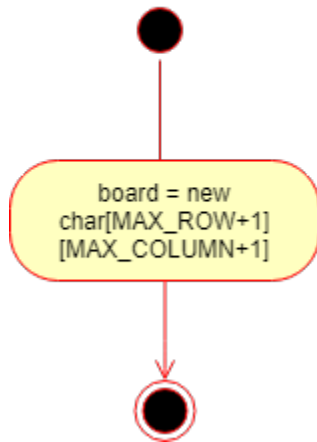
- GameScreen.java:
 - o main function

public static void main(String[] args)

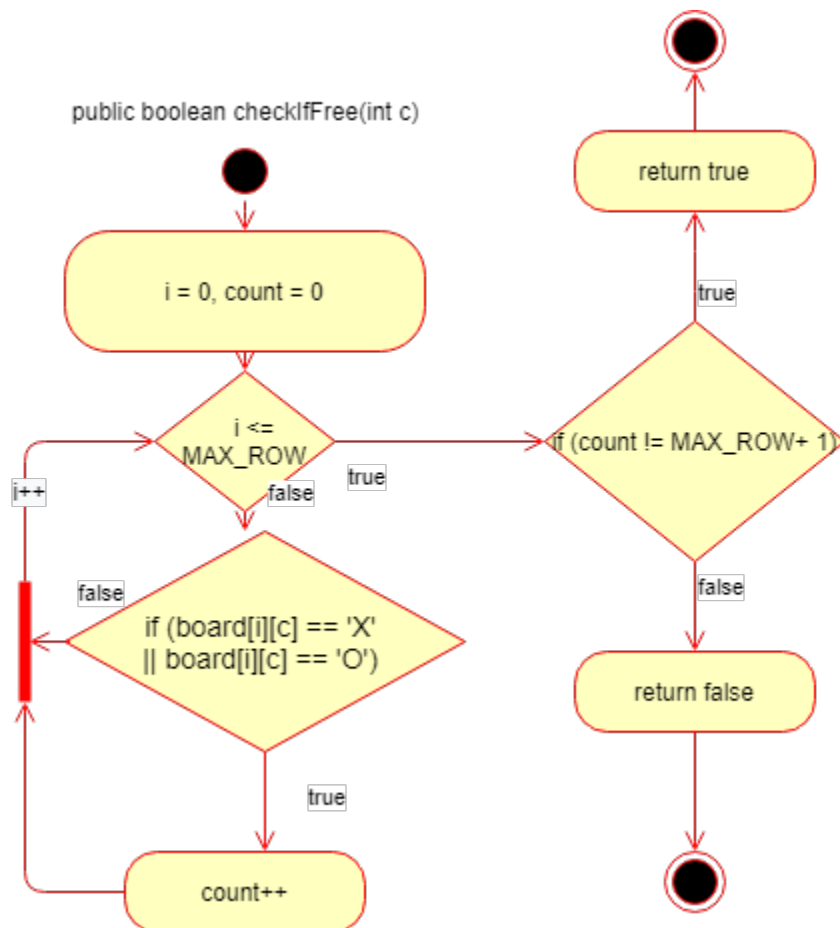


- GameBoard.java
 - o GameBoard constructor

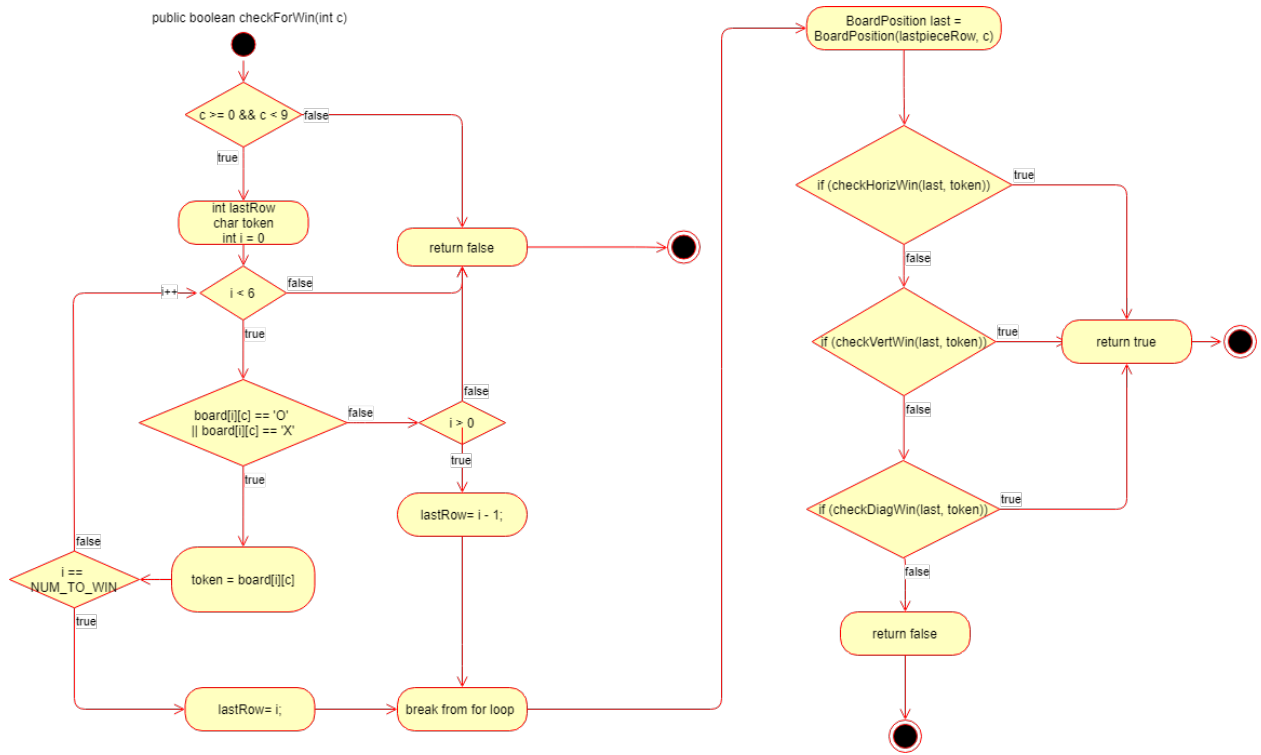
`public GameBoard()`



- o checkIfFree method

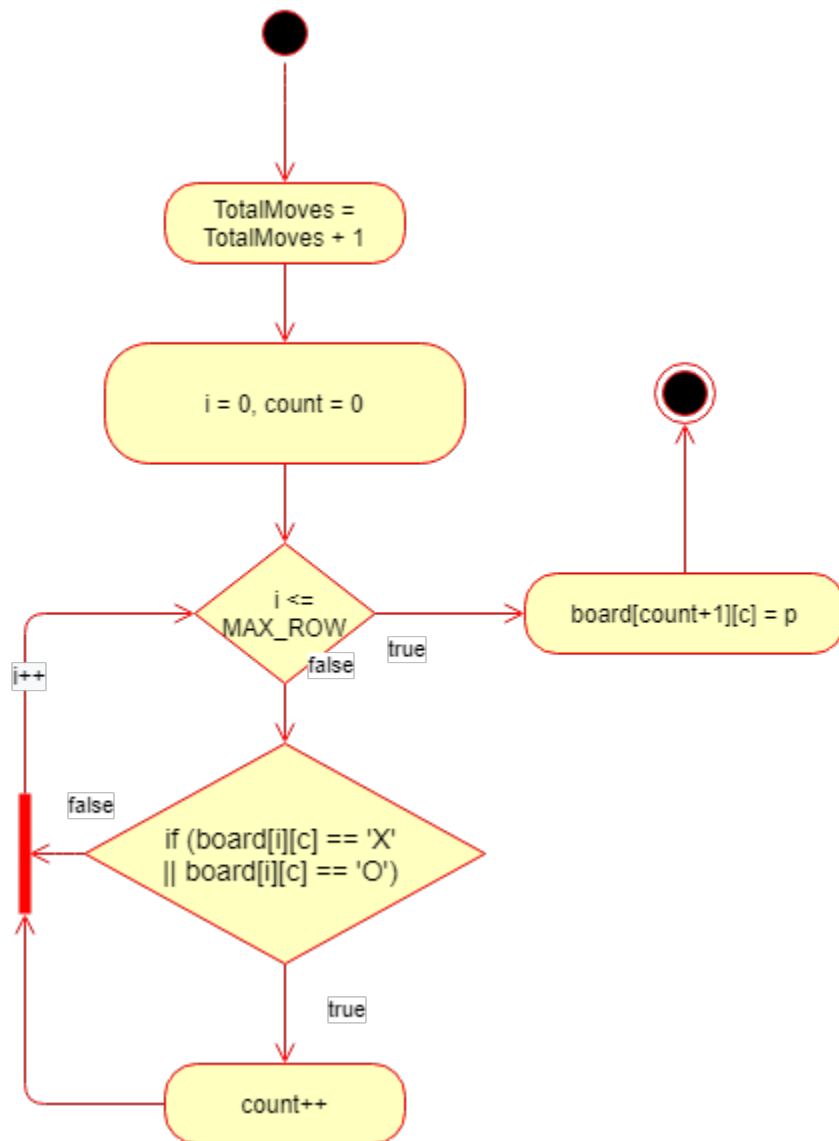


- checkForWin method



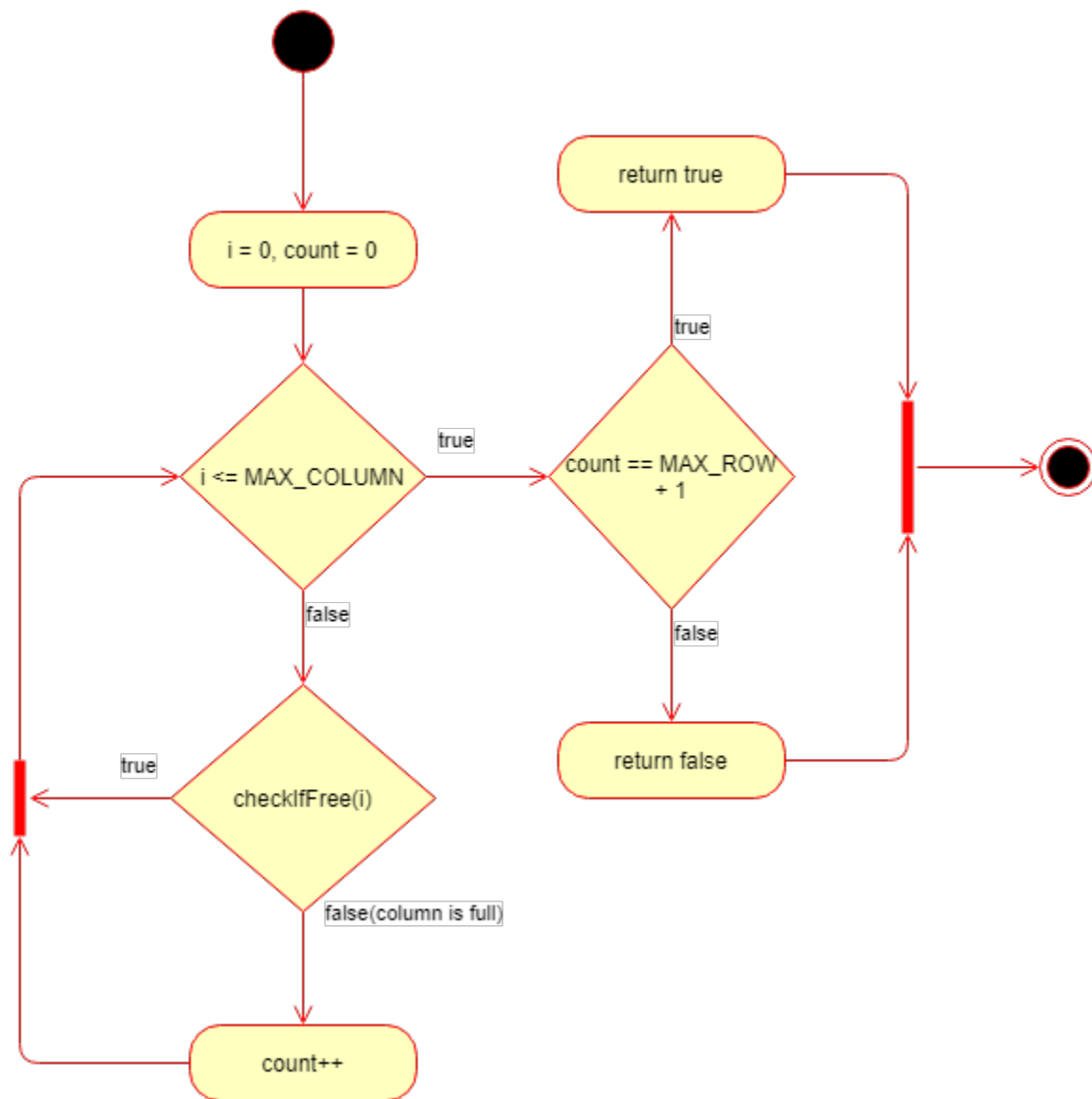
- placeToken method

public void placeToken(char p, int c)



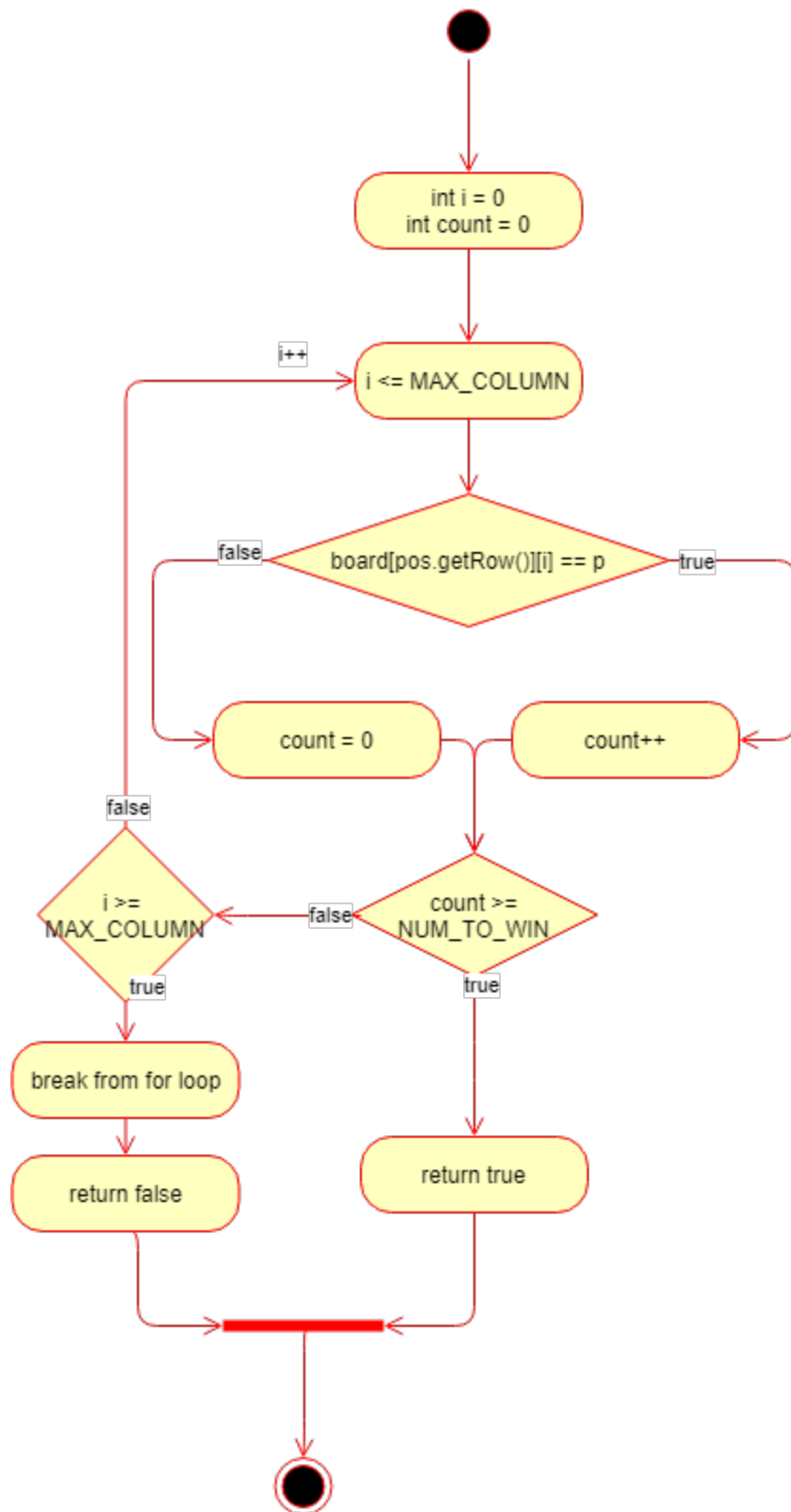
- checkTie method

public boolean checkTie()



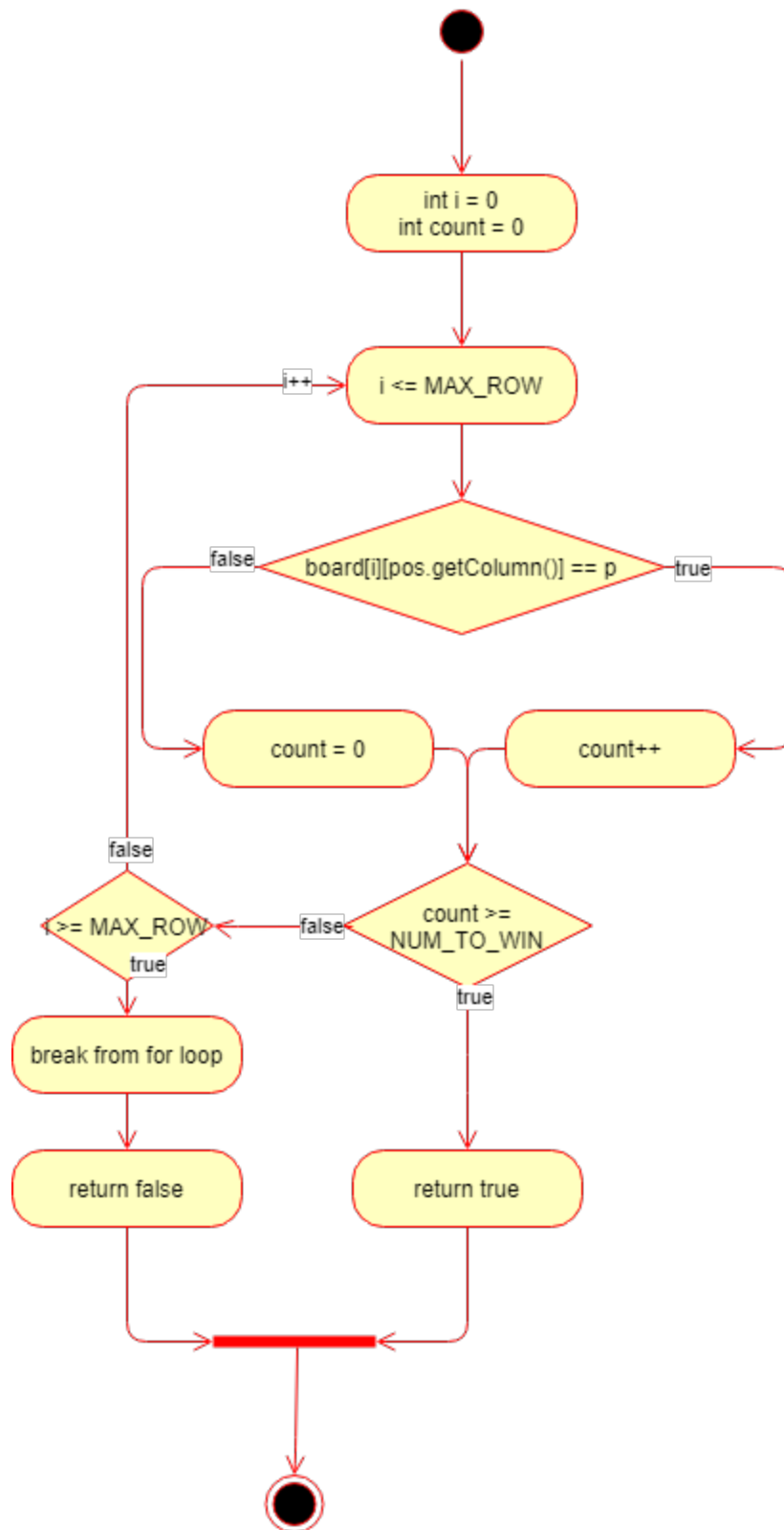
- checkHorizWin method

```
public boolean checkHorizWin(Boardposition pos, char p)
```

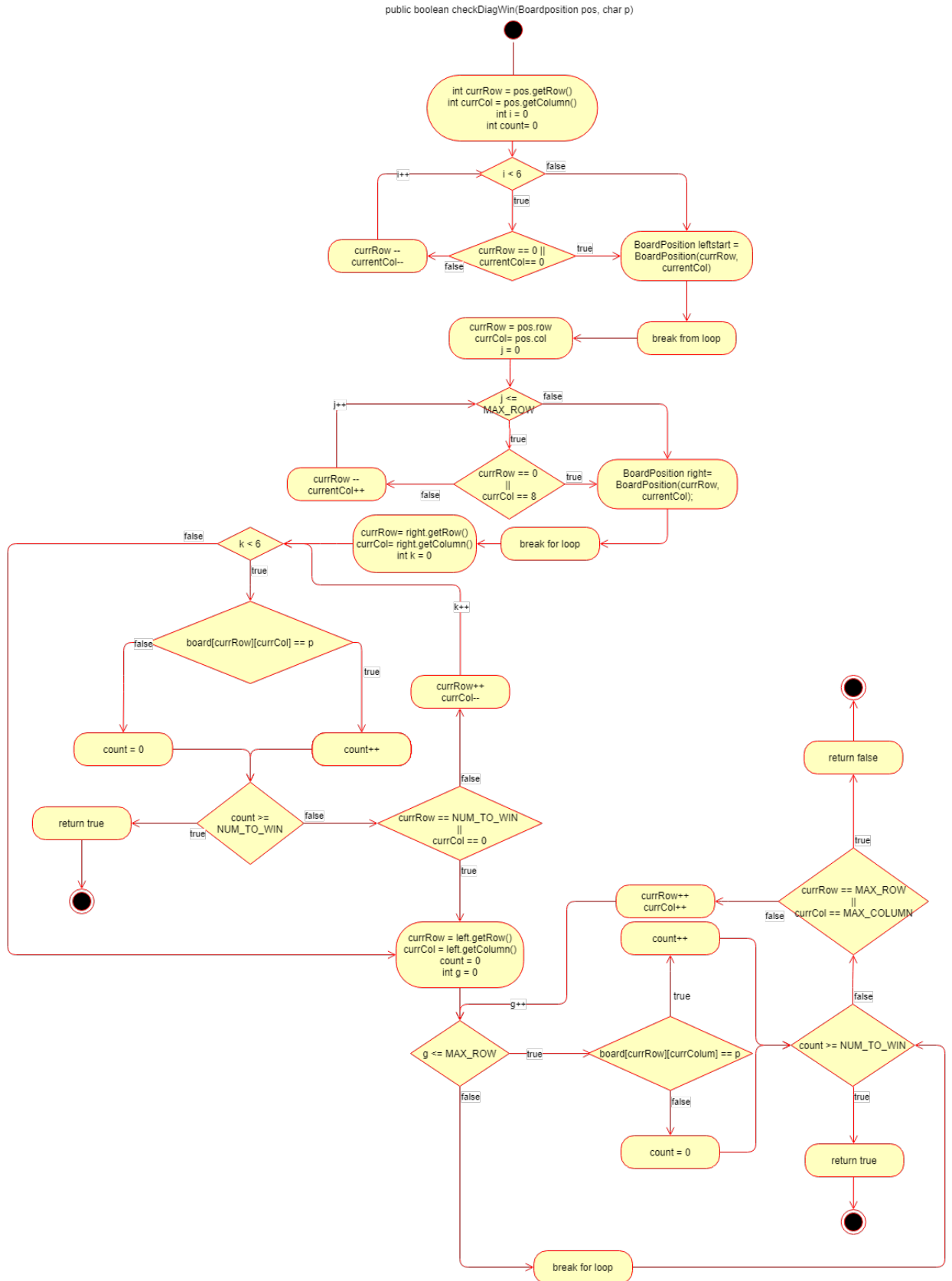


- checkVertWin method

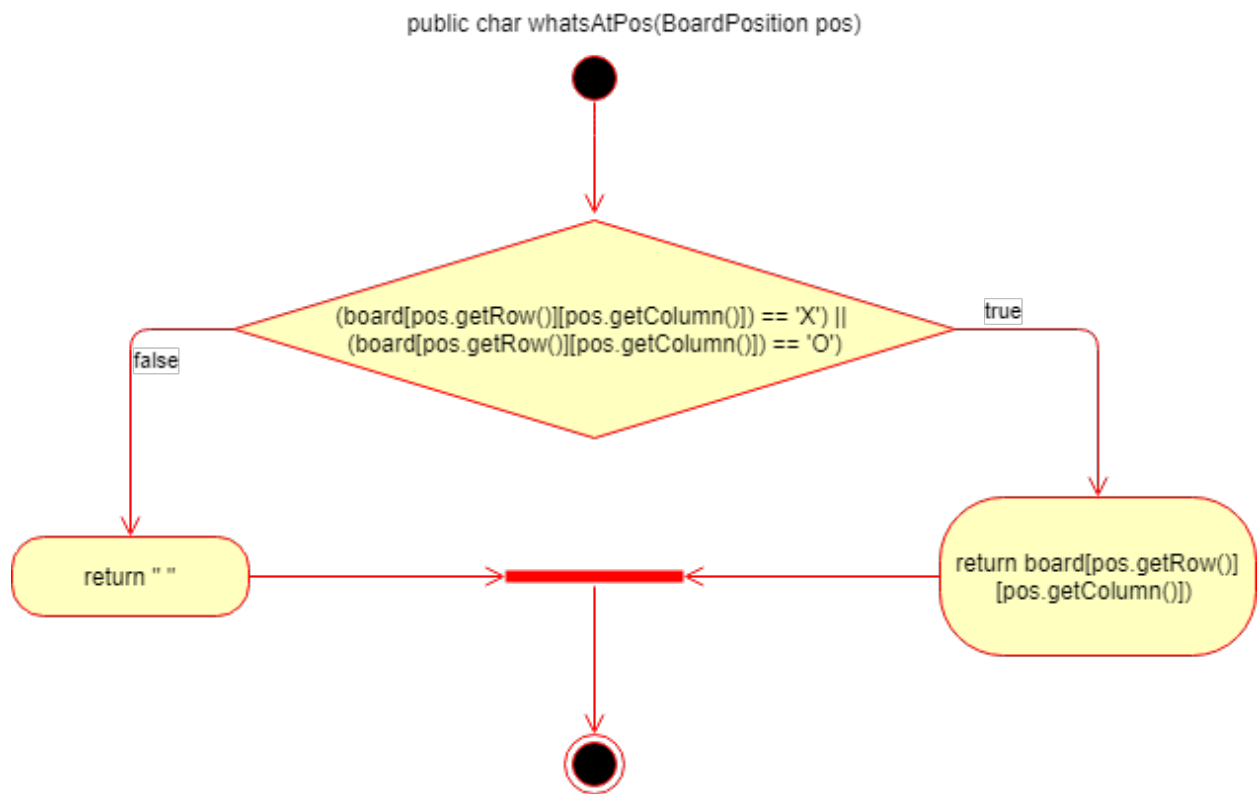
public boolean checkVertWin(Boardposition pos, char p)



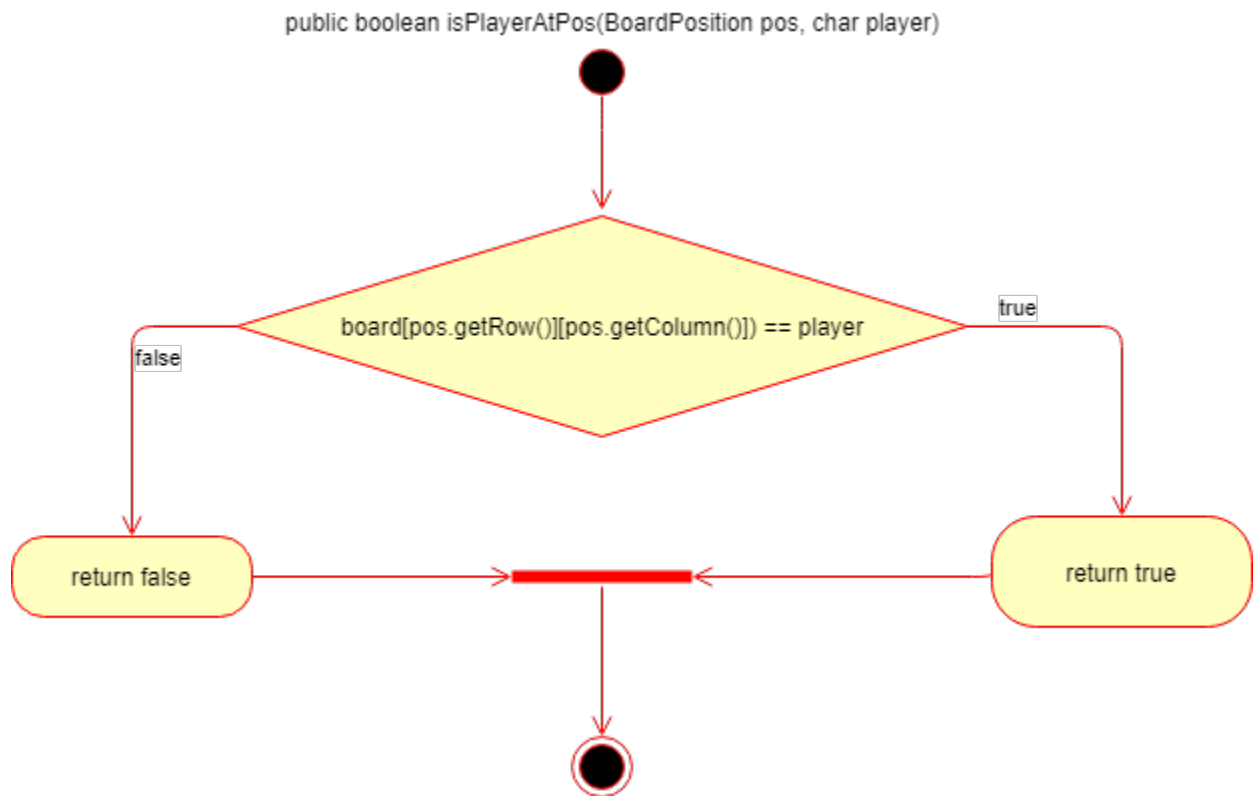
○ checkDiagWin method



- whatsAtPos method



- isPlayerAtPos method



- toString method

