

Homework 1 – Program Report

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Functional Requirements

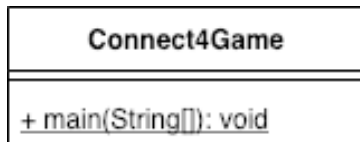
As a player of the connect 4 game, I get to see the board to decide where to place my token. As a player, I will take turns dropping tokens into the grid in order to win. I need to get four tokens in a row either horizontally, vertically, or diagonally to win. As a player, I get asked to pick a column (between 0 and 6) to place my token into so I can make a move. As a player, I get to view the board after placing my token so I can see what the board looks like. The game alternates and asks the other player so there is competition. As a player, I can't add tokens to a full column because it wouldn't fit. As a player, I keep dropping tokens until either me or the opponent wins or draws. After that, I get to choose if I want to keep playing so I can quit if I wanted to.

Nonfunctional Requirements

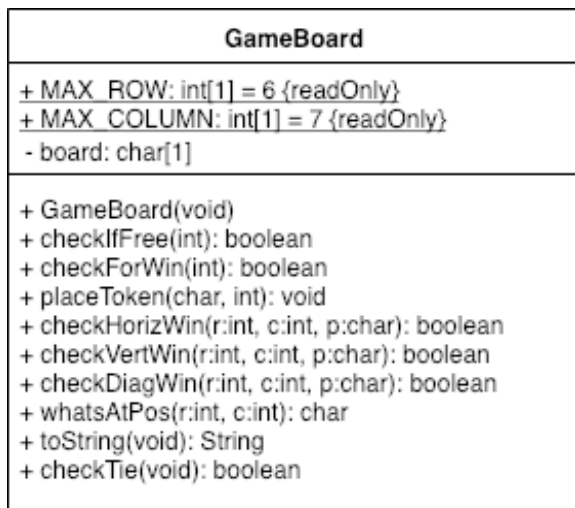
The program must be coded in Java. The program must run on Unix (console-based). The program must be robust and be compatible for updates/ add-ons.

UML Class Diagrams

Connect4Game UML class diagram

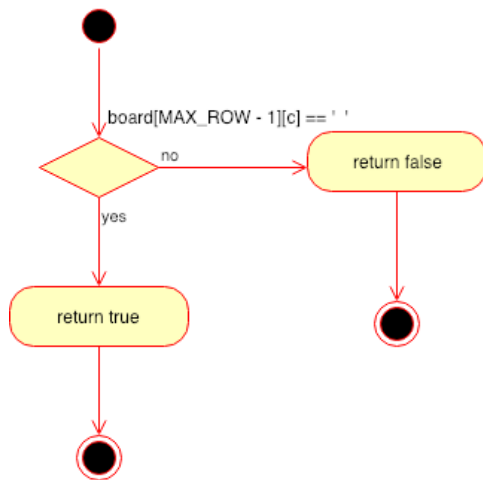


GameBoard UML class diagram

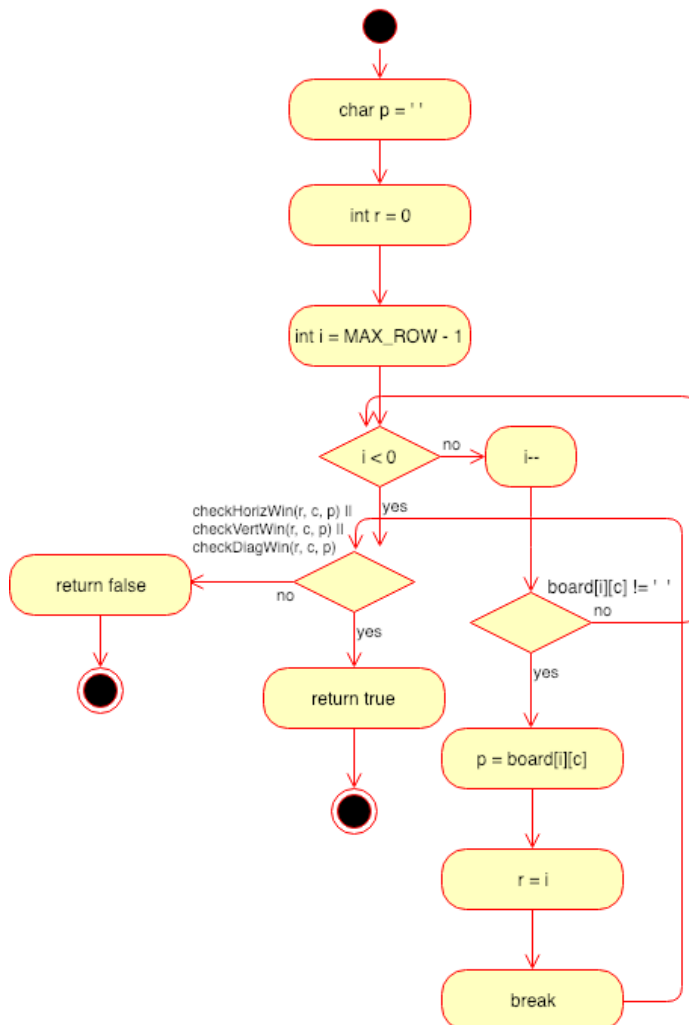


UML Activity Diagrams

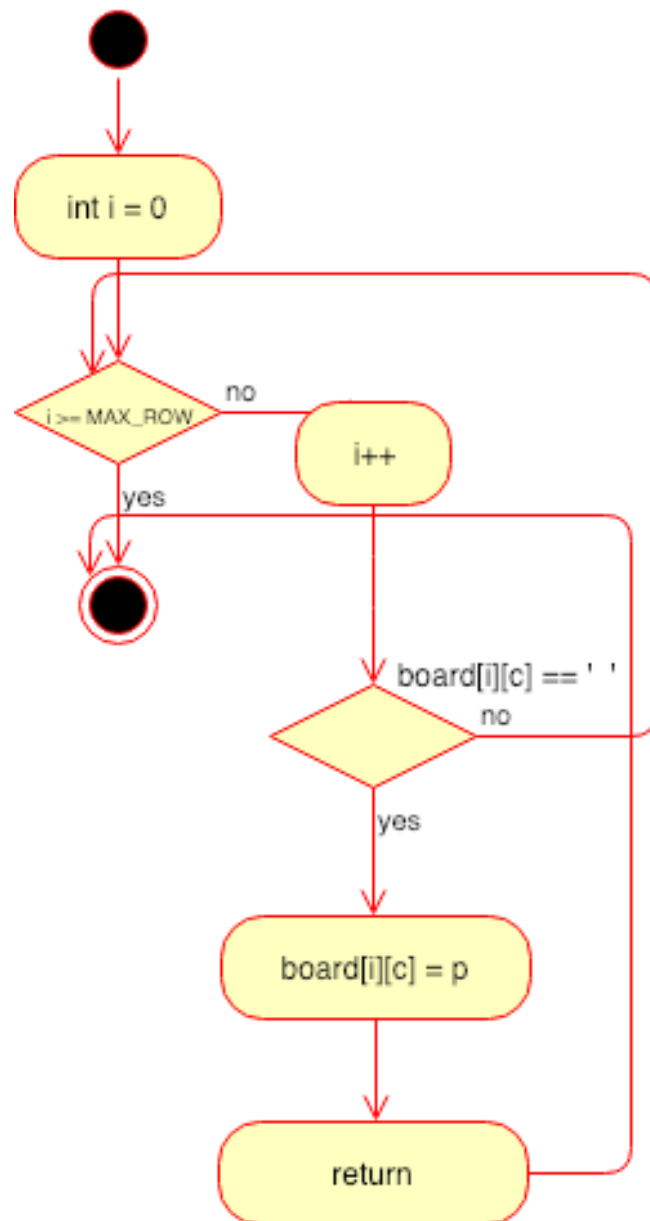
checkIfFree(int c)



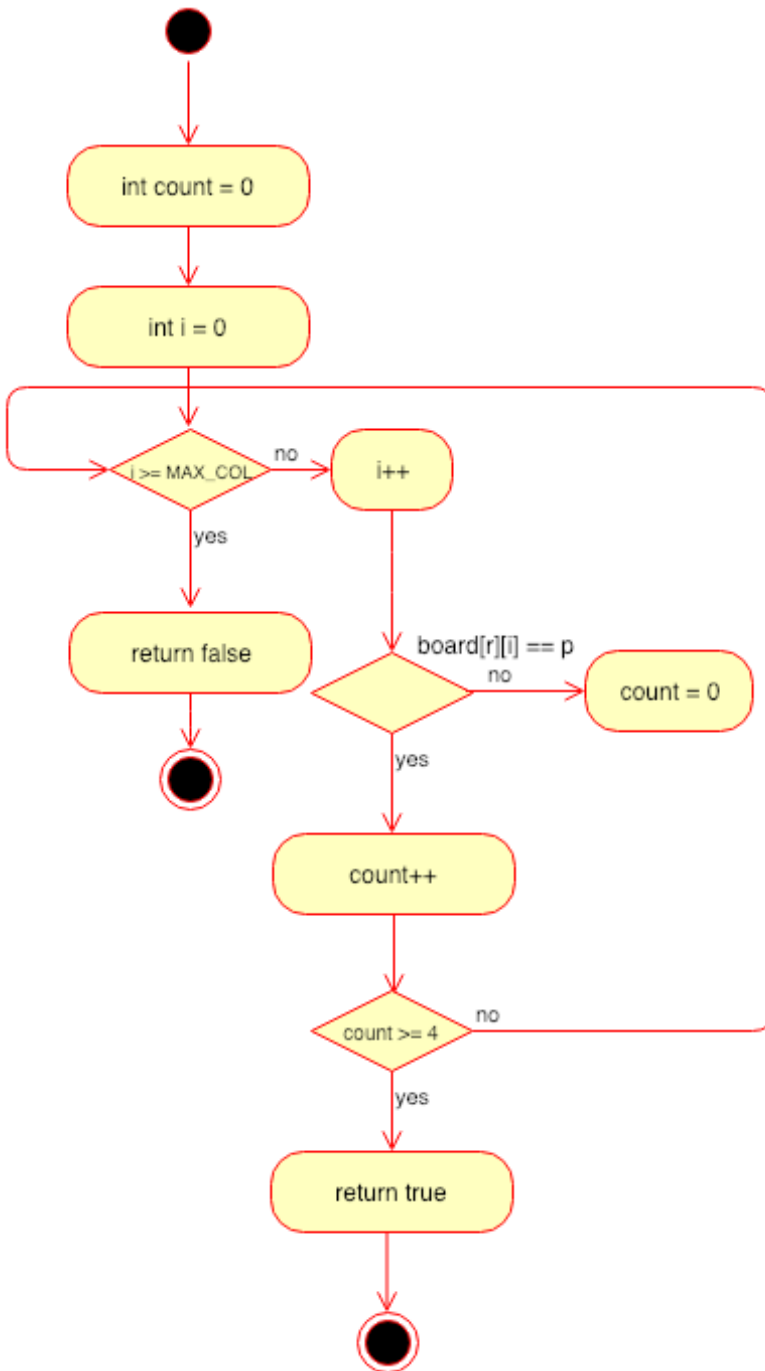
checkForWin(int c)



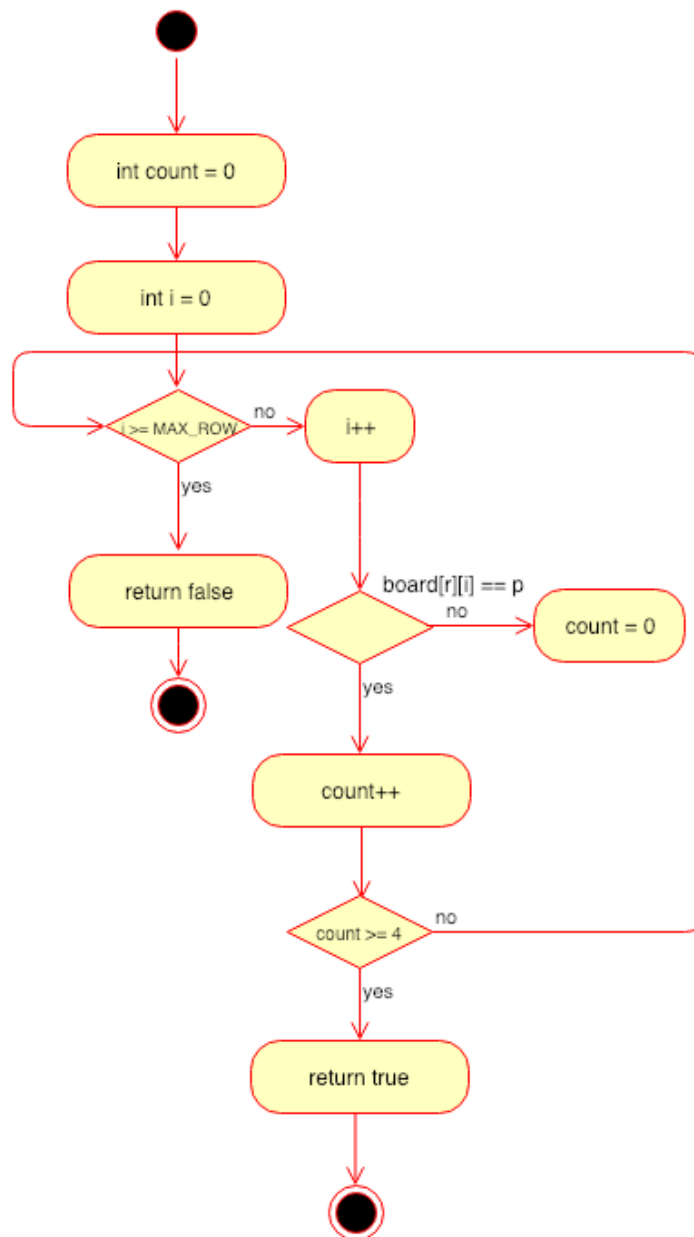
placeToken(char p, int c)



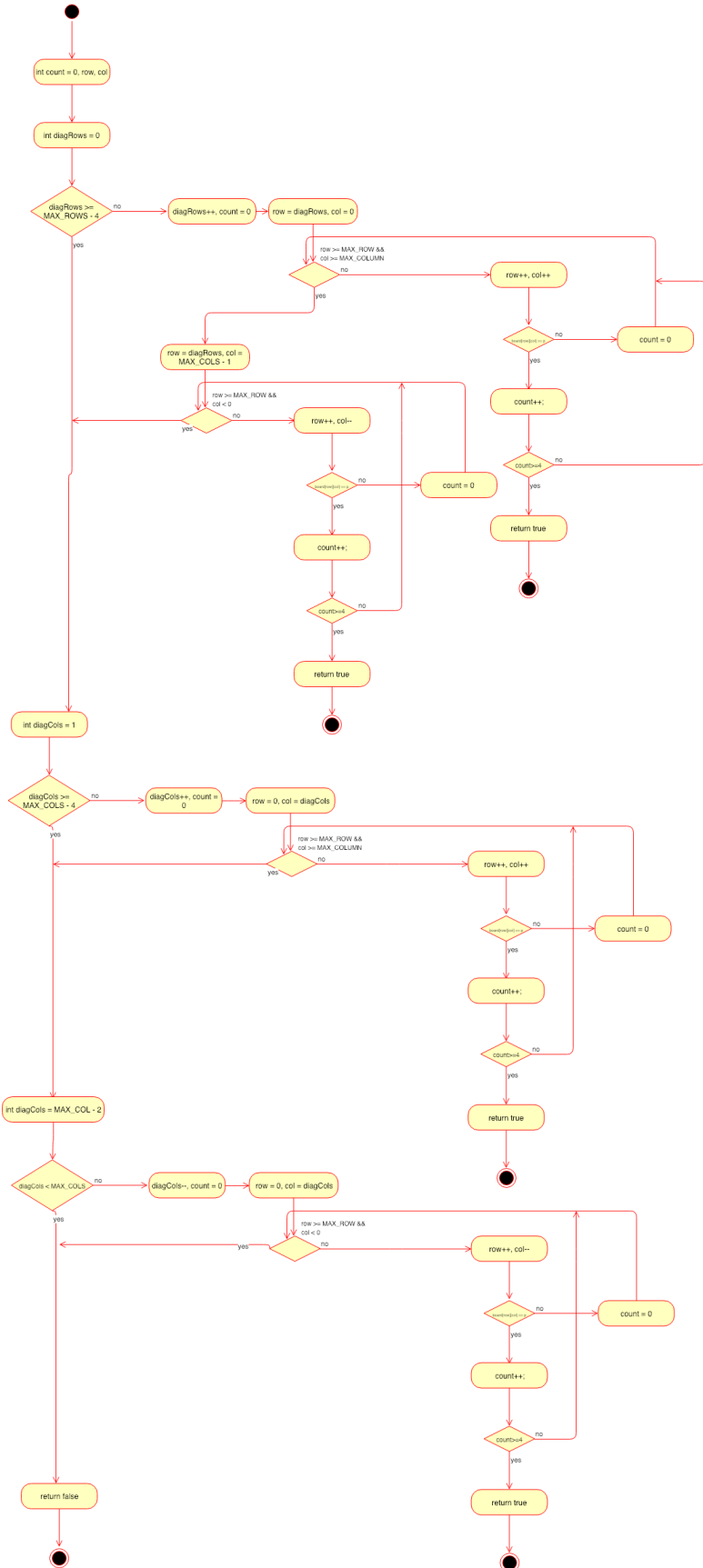
checkHorizWin(int r, int c, char p)



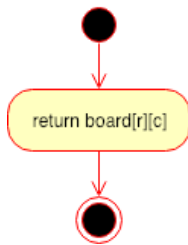
checkVertWin(int r, int c, char p)



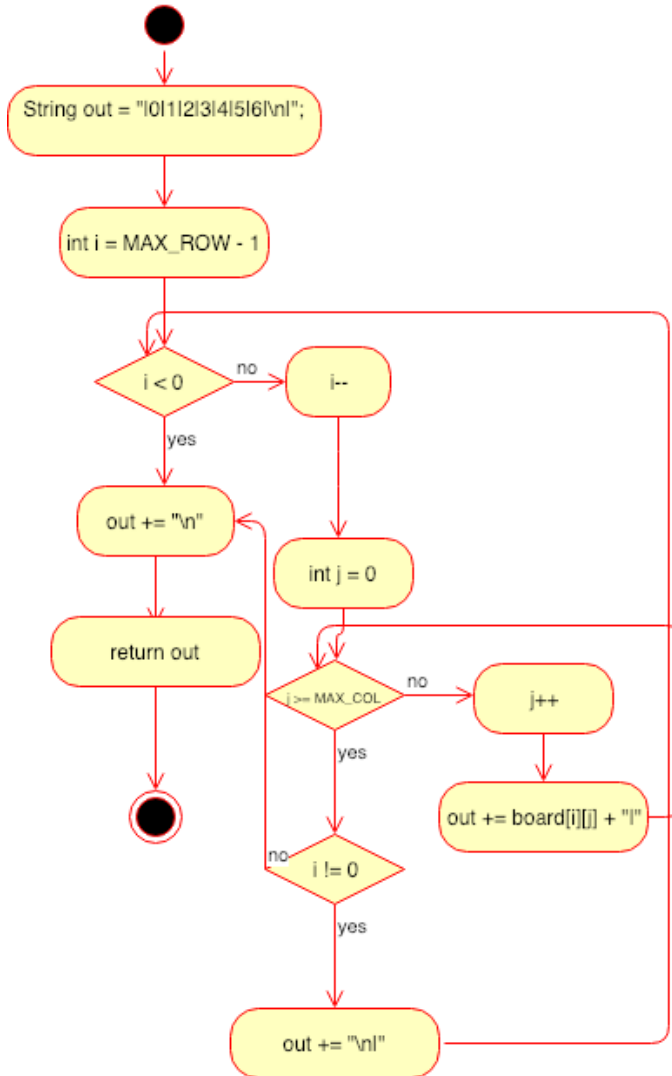
checkDiagWin(int r, int c, char p)



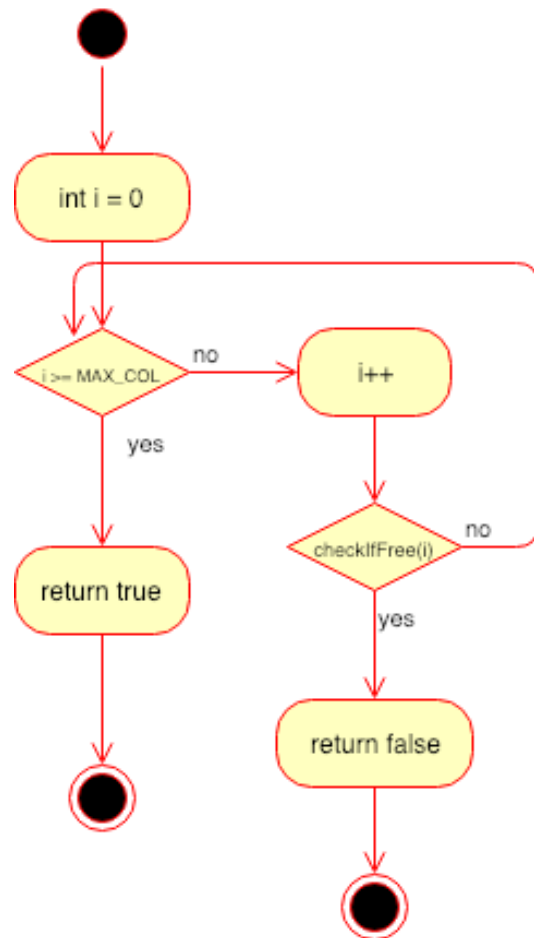
whatsAtPos(int r, int c)



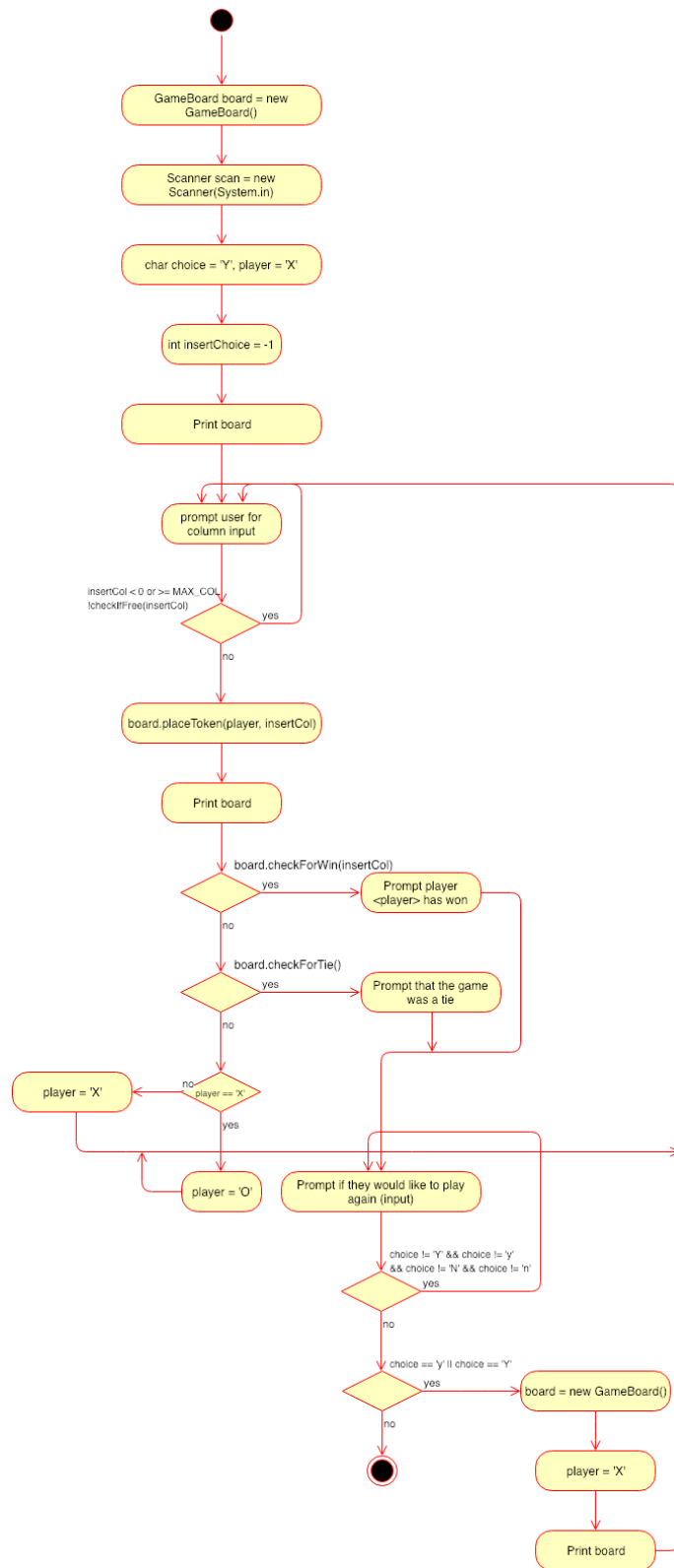
toString()



checkTie()



main(String[] args)



Deployment

1. Navigate to the project directory on your command-line terminal
2. Enter the command “make”
3. Enter the command “make run”