**Homework 2 – Program Report**

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Functional Requirements

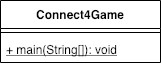
As a player of the connect 4 game, I get to pick the number of players so multiple people can play. As a player, I can assign each player their own individiaul token so I can distinguish each player from another. I get to pick the number of rows, columns, and number of markers in a row needed to win the game to customize the game for myself. As a player, I get to pick what type of board I want to play on. As a player, I get to see the board, with the specified condition from before, 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 specified tokens in a row either horizontally, vertically, or diagonally to win. As a player, I get asked to pick a column (between 0 and the column number I picked) 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. As a player of the game, if I choose to play again, I can re-specify my board dimensions and markers needed in a row in order to win so I can keep playing with a board that I want.

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

A screenshot of a cell phone

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UML Activity Diagrams

checkIfFree(int c)

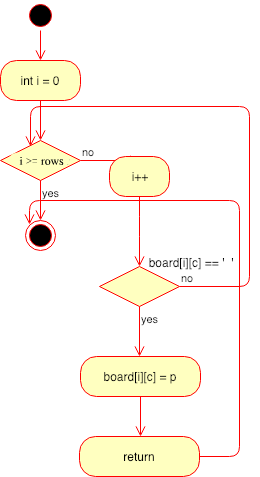
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checkForWin(int c)

A close up of a map

Description automatically generated

placeToken(char p, int c) GAMEBOARD



checkHorizWin(int r, int c, char p)

A picture containing text, map

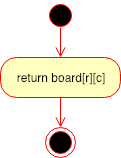
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###### A picture containing text, map Description automatically generated

checkDiagWin(int r, int c, char p)

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whatsAtPos(int r, int c) GAMEBOARD

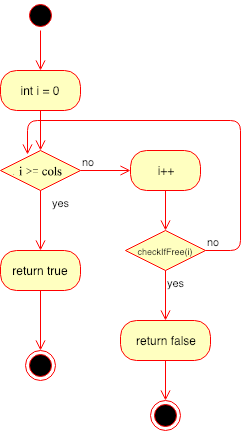


toString ()

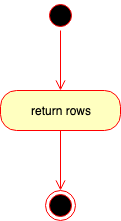
A close up of a map

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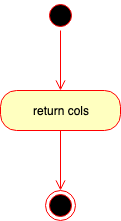
###### checkIfTie()



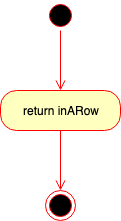
getNumRows()



getNumColumns()



getNumToWin()



placeToken(char p, int c) GAMEBOARDMEM

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main(String[] args)

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Deployment

1. Navigate to the project directory on your command-line terminal

2. Enter the command “make”

3. Enter the command “make run”