

Final Project UML Checkers Board Game

Class Woo

Instance Variables:

- Boolean ingame
- Int xpos
- Int ypos
- InputStreamReader isr
- BufferedReader in
- String move //store the user input for movement (fl, fr, br, bl)
- Int numMove //store the number of moves the user made
- String userName //store the player's username to be displayed in scoreboard

Method

- + Default constructors
- + Int getPos()
- + Int getnumMove()
- + String getUsername
- + Void runGame()
- + boolean inBoardx(xpos)
- + Boolean inBoardy(ypos)

Class Board:

Instance Variables:

- Final static int SIZE = 8
- Checkers[][] board

Method

- + Default constructor
- + void initBoard(): populate the board with correct number of checkers on each side
- + void printBoard(): print the checker pieces and empty space. Add label to each column and row to insure clarity

Abstract Class Checkers

Instance Variables:

- Int Rleft; //Check how many red checkers are left
- Int Bleft; //Check how many black checkers are left
- Boolean redTurn // true = red turn and false = black turn

- char color // r for red, b for black

Method

- + Default constructor
- + Abstract boolean frValid(xpos, ypos)
- + Abstract void frMove(xpos,ypos)
- + Abstract boolean flValid(xpos, ypos)
- + Abstract void flMove(xpos,ypos)
- + Abstract Boolean forcedCapture(xpos,ypos)
- + Void MultJump() // I am not sure where to put the mult jump though
- + Int getrlft()
- + Int getbleft()
- + Boolean getTurn()
- + Abstract char getColor
- + Abstract char setColor

Class RCheckers

New Instance Variables:

- Can't think of any new ones

Method

- + constructors
- + Boolean frValid(xpos, ypos)
- + Void frMove(xpos,ypos)
- + Boolean flValid(xpos,ypos)
- + Void flMove(xpos,ypos)
- + Boolean inBoard(xpos,ypos)

Class BCheckers

New Instance Variables:

- Can't think of any right now

Method (different implementation from RCheckers):

- + constructors
- + Boolean frValid(xpos, ypos)
- + Void frMove(xpos,ypos)
- + Boolean flValid(xpos,ypos)
- + Void flMove(xpos,ypos)
- + Boolean inBoard(xpos,ypos)

Class BKings

New Instance Variables:

- Can't think of any right now

Method:

- + constructors
- + Boolean isKing()
- + Boolean frValid(xpos, ypos)
- + Void frMove(xpos,ypos)
- + Boolean flValid(xpos,ypos)
- + Void flMove(xpos,ypos)
- + Boolean blValid(xpos,ypos)
- + Void blMove(xpos,ypos)
- + Boolean brValid(xpos,ypos)
- + Void brMove(xpos,ypos)
- + Boolean inBoard(xpos,ypos)

Class RKings

New instance Variables:

- Can't think of any right now

Method:

- + constructors
- + Boolean isKing()
- + Boolean frValid(xpos, ypos)
- + Void frMove(xpos,ypos)
- + Boolean flValid(xpos,ypos)
- + Void flMove(xpos,ypos)
- + Boolean blValid(xpos,ypos)
- + Void blMove(xpos,ypos)
- + Boolean brValid(xpos,ypos)
- + Void brMove(xpos,ypos)
- + Boolean inBoard(xpos,ypos)

Class Scoreboard

New Instance Variables:

- Comparable hiScores[][] // for the current hiScores

Method:

- + Void changeScores(userWin, userLose, numMoves) //puts the info into the scores.txt file in a format of "userWin beat userLose in numMoves moves" at the correct location to keep the scores sorted. Removes lowest score from the list to keep the amount of scores at 5.
- + String toString() //overloaded toString method