Assignment 2 documentation

6. Four game

This a two-player game is played on a board consists of *n* x *n* fields, where each field contains a value between 0 and 4. Initially, all the fields contain the value of 0. If a player chooses a field, then the value of the field and its neighbours incremented by one (if the value is less than 4). The player's score represents how many fields did he make to have the value of 4. If a value of a field reaches 4, then the field is colorized with the color of the actual player (red or blue). The game ends, when all fields have the value of 4. The player having the higher score wins.
Implement this game, and let the board size be selectable (3x3, 5x5, 7x7). The game should recognize if it is ended, and it has to show in a message box which player won. After this, a new game should be started automatically.

isOver() – Checks whether all the field are colorized and if it finds one that it isn't it returns false otherwise it returns true.

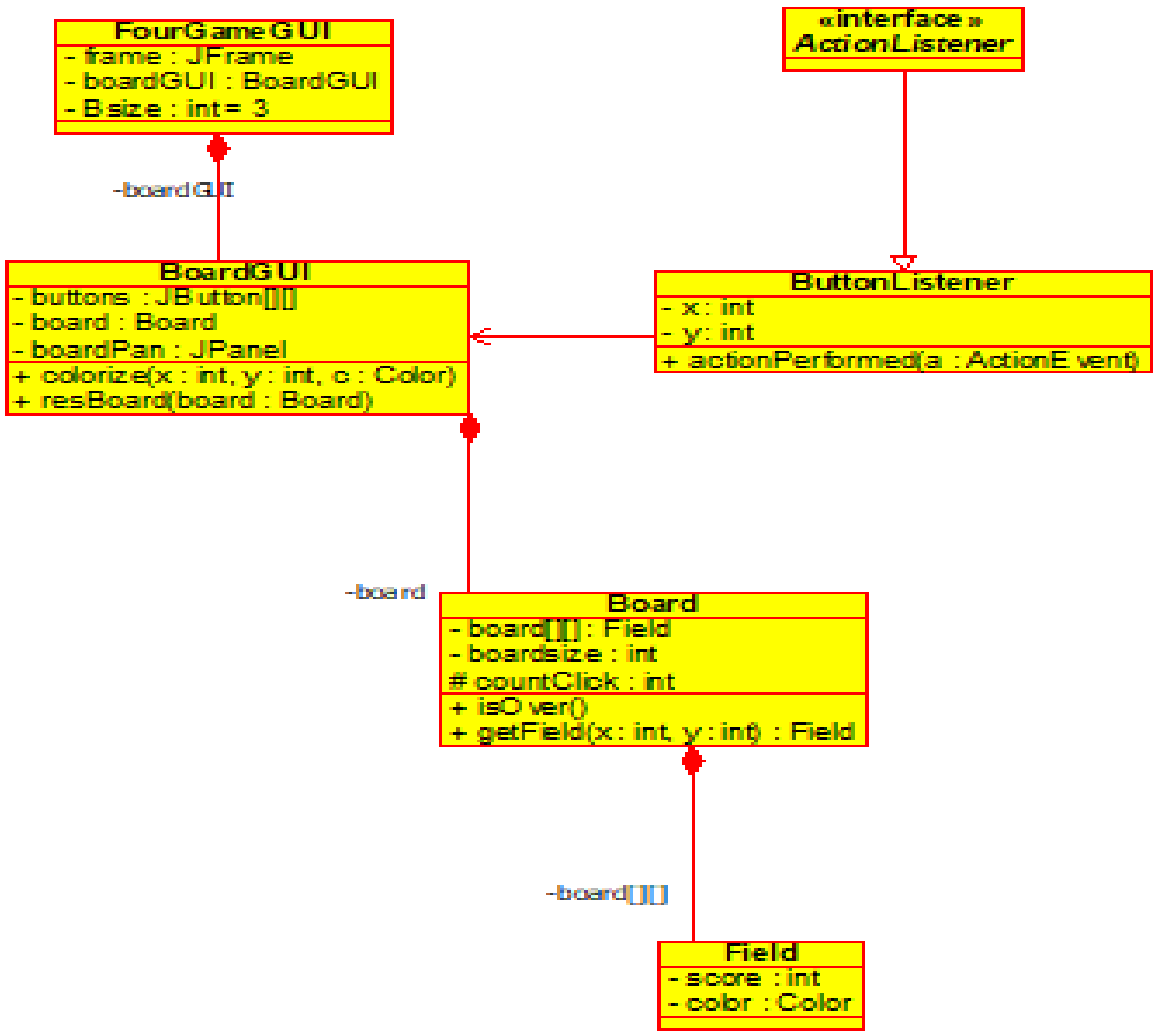
Colorize(int x, int y)- This takes the coordinates of the field and sets its background to the color of the player.

ActionPerformed(ActionEvent a) of the ButtonListener – Basically this implements the whole game first it goes by checking if the button or its neighbors are colorized and aren't 4 if not then it will add up the score by one and if the scores reaches 4 of the actual button or its neighbors then the button will be colorized by the color of the player which we count with the button clicks so one player clicks on odd numbers of buttonclicks and the other on the even numbers, after this it checks whether the game its over and decides which of the player won then shows the message and restarts the whole game by calling resBoard().

resBoard(Board board) = It takes the board as the parameter and resets everything back by using the loops.

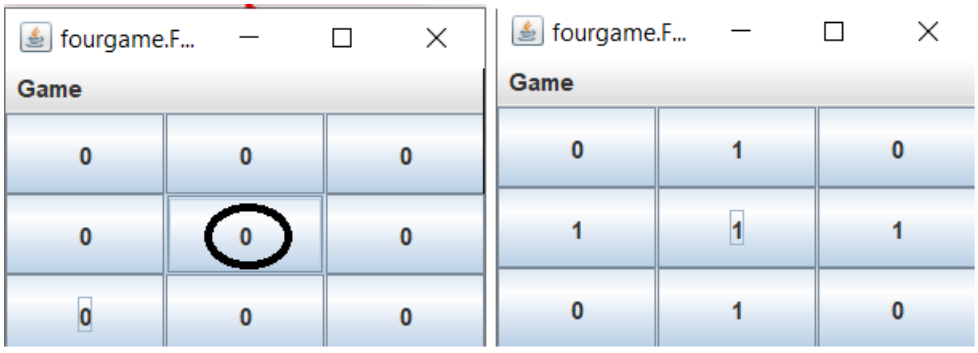
ActionPerformed in the sizeMenus – So basically this is called in every size when its assigned to the frame and what it does it's that removes the current board and creates a new one based on the size that we clicked on and then adds it back to the frame.

Exit menu ActionPerformed – just calls the system.exit(0);

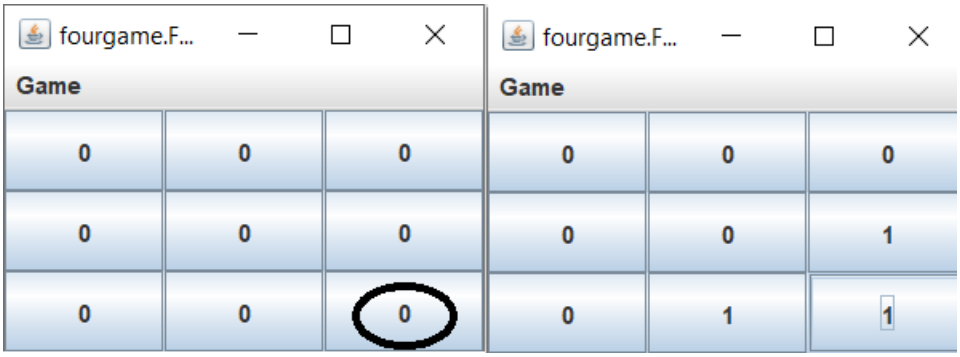


TEST CASES

First test case:



Second test case:



Third test case:

Fourth test case: