

A Few in a Row Project Testing

Component Tests

ID: 3 - Win the game when win condition is met

1. Compile and run Game_Logic.java
2. Enter the size of the board you will be testing by typing the number into the console and hitting enter.
3. Paste in an array of text that mimics a game board. 0 is no piece, 1 and 2 are for player 1 and 2 pieces respectively.
4. After a full board has been pasted in, compare the output of true or false with the expected outcome.
5. Repeat Steps 2-4 for many different board configurations, including:
 - a. An empty board
 - b. A full board with no winners
 - c. Boards with player 1 and player 2 winning by vertical, horizontal, and both diagonal directions, in a variety of different spots including the edges of the board and the corners.

ID: 17 - Load and Save games

1. Open up Load_Save_Game.java.
2. Edit the array called x in main to test different board configurations.
 - a. Test an empty array
 - b. Test incorrect board numbers
 - c. Test a full board
 - d. Test multiple valid configurations
3. Edit the variables, goal, player, and size to test different configurations.
4. Compile and run Load_Save_Game.java
5. Ensure the load/save functions worked by seeing True printed out.
6. Check for the 3 text files, "t1.txt", "t2.txt", "t3.txt" and make sure the text files all contain the same input, and check that it matches the input from the array.

User Tests

ID: 1-2 - Select the grid size and Select the win #

1. Click on the drop down menu called "Game" in the top left corner of the screen.
2. Select the menu item labeled "New Game" (an undecorated window should appear, containing four combo boxes and single button labeled "Play")
3. Click on the combo box labeled "Board size" and select a dimension to be tested.
4. Click on the combo box labeled "# in a row" and select a win condition to be tested.
5. Click the button labeled "Play" and visually check if the board scales according to the selection. Also force a win to check if the win condition is the same as the one selected.
6. Perform steps 3 – 5 for all possible combinations of board sizes and win conditions.

ID: 4 - Place pieces where the user clicks

1. Launch the game and click on the menu called "Game" in the top left corner of the screen
2. Select the menu item labeled "New Game" (an undecorated window should appear, containing four combo boxes and a single button labeled "Play")
3. Select a board size, that has not been tested yet, and click "Play"
4. Click on every corner starting at the top left hand corner, moving to the bottom right hand corner.
5. Repeat step 4 multiple times, clicking in different spots each time to ensure there are no spots where user input does not match what the board shows
6. Repeat steps 3-5 until all board sizes have been tested

ID: 5 - Run the game from the jar file

1. Double click the jar file. (The game should launch and be playable)

ID: 6 - Open the Game to fill most of the screen

1. Upon launch the game will detect the screen height (in pixels) of the user and create the game to be 0.8 times the height of the screen tall by 0.94 times the height of the screen wide. (the main window of the game is not resizable)

ID: 7 - Play multiplayer locally

1. After setting the desired board size and win condition, simply click on an intersection to place a piece.
2. Then player 2 takes the mouse and makes a selection.
3. The two players continue to do that until one manages to place the goal amount of pieces in a straight line (column or row) or a diagonal.

ID: 8 - See when a game is done

1. Click on the drop down menu called "Game" in the top left corner of the screen.
2. Select the menu item labeled "New Game" (an undecorated window should appear in the middle of the screen, containing four combo boxes and a single button labeled "Play")
3. Click the play button. (the board will be clear and the game will start in default mode unless settings are applied from the combo boxes)
4. Force a win or a draw by clicking on the board and placing pieces.
5. The Game will finish and a box will pop up on the screen displaying which player won.

ID: 12 - Detect screen size to draw optimal size

1. Double click the game icon to launch the game.
2. Observe that the game opens up to a window approximately 90% of the height of the given screen and approximately 45% of the width of the screen.

ID: 14 - Clear the board when a game is done

1. Click on the drop down menu called "Game" in the top left corner of the screen.
2. Select the menu item labeled "New Game" (an undecorated window should appear in the middle of the screen, containing four combo boxes and a single button labeled "Play")
3. Click the play button. (the board will be clear and the game will start in default mode unless settings are applied from the combo boxes)
4. Force a win or a draw by clicking on the board and placing pieces.
5. The game will end when the win condition is met, and the board will become empty and remove all pieces.

ID: 17 - Load and Save games

Load:

1. Click on the drop down menu called "Game" in the top left corner of the Screen.
2. Select the menu item labeled "Load" (a window should appear in the middle of the screen, containing a list of selectable saved files from the default save directory ../Desktop and a button labeled "Select")
3. Click on a previously saved file from the list and then click the "Select" button

Save:

1. Click on the drop down menu called "Game" in the top left corner of the Screen.
2. Select the menu item labeled "Save" (a window should appear in the middle of the screen, containing a text field and a button labeled "Save")
3. Click on the text field and type a desired name for the save, then click the "Save" button. (the file will now be saved in the default save location ../Desktop)

ID: 20 - Play multiplayer over LAN

1. Launch the game and click on the menu called "Game" in the top left corner of the screen.
2. Select "New Wifi Game"
3. Complete steps 1-2 on a second computer. Ensure that both computers are connected to the same wireless network with firewall disabled.
4. On Computer A type in the IP displayed on Computer B's screen

5. On Computer B type in the IP displayed on Computer A's screen.
6. Set Computer A to Player 1 and set computer B to player 2.
7. Select Play on both computers
8. Place a piece on computer A
9. Place a piece on computer B.
10. Repeat steps 8-9 until one of the player's wins.

ID: 21 - Play against the computer

1. Launch the game and click on the menu called "Game" in the top left corner of the screen.
2. Select "New CPU Game".
3. Select the Board Size and # in a row.
4. Play pieces until game finishes
5. Repeat Steps 3&4 for each board size and # in a row combination.

ID: 26 - Increase Piece Placement Accuracy

1. Launch the game and click on the menu called "Game" in the top left corner of the screen
2. Select the menu item labeled "New Game" (an undecorated window should appear, containing four combo boxes and a single button labeled "Play")
3. Select a board size, that has not been tested yet, and click "Play"
4. Click on every corner starting at the top left hand corner, moving to the bottom right hand corner.
5. Repeat step 4 multiple times, clicking in different spots each time to ensure there are no spots where user input does not match what the board shows
6. Repeat steps 3-5 until all board sizes have been tested

ID: 27 - Choose which color a player is

1. Click on the drop down menu called "Game" in the top left corner of the screen.
2. Select the menu item labeled "New Game" (an undecorated window should appear, containing four combo boxes and single button labeled "Play")
3. Click on the combo box labeled "Player 1" and select a color (player 2's color will change to be the opposite color of the selected one)
4. Click on the combo box labeled "Player 2" and select a color (player 1's color will change to be the opposite color of the selected one)
5. Click the button labeled "Play" and visually check if the player's pieces have changed to the selected settings.

ID: 28 - Start a new game when the previous one end

1. Click the "Okay" button on the message notifying which player won the game.
2. Click on the drop down menu called "Game" in the top left corner of the screen.
3. Select the menu item labeled "New Game" (an undecorated window should appear in the middle of the screen, containing four combo boxes and a single button labeled "Play")
4. Click the play button. (the board will be clear and the game will start in default mode unless settings are applied from the combo boxes)

ID: 30 - Retrieve Players Local IP

1. Launch the game and click on the menu called "Game" in the top left corner of the screen.
2. Select "New Wifi Game"
3. Observe that the IP Address displayed is the same IP Address of your computer
4. To find your computer's IP Address open up the command line and type "ipconfig"
5. The IP address is displayed after: "Ipv4 address"

ID: 31 - Grey window on opponent turn (wifi)

1. Launch the game and click on the menu called "Game" in the top left corner of the screen.
2. Select "New Wifi Game"
3. Complete steps 1-2 on a second computer. Ensure that both computers are connected to the same wireless network with firewall disabled.
4. On Computer A type in the IP displayed on Computer B's screen

5. On Computer B type in the IP displayed on Computer A's screen.
6. Set Computer A to Player 1 and set computer B to player 2.
7. Select Play on both computers
8. Place a piece on computer A
9. Observe that computer A's screen is greyed out
10. Place a piece on computer B
11. Observe that computer B's screen is greyed out