

Principles of Programming: Coursework 2 – Requirement 1

Connect 4: Error List for the file MyConnectFour.Java

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Class : Lines : Bus/Omission : Type of Bug : Solution

Error List:

Error 1)

MyConnectFour.java : 4 : Incorrect class Name : Syntax error : First letter of each internal word should be capitalized in a class, Connect4.java would be an appropriate Class name.

Error 2,3,4,5)

MyConnectFour.java : 23, 108, 121, 169 : ';' missing from end of statement : Syntax Error : End the statements in the respected lines with ';'.

Error 6)

MyConnectFour.java : 30 : Cannot find symbol method getuserInput() (method not defined) : Syntax error Error : Change getuserInput() to getUserInput with uppercase 'U' as this method is already definted. This was a type by the programmer.

Error 7)

MyConnectFour.java : 32 : String cannot be converted to integer : Syntax error : In the parameters of the method placeCounter() change the second parameter from 'userInput' which is a string to 'move' which is in integer form.

Error 8)

MyConnectFour.java : 121 : variable toReturn is already defined in method getUserInput() : Syntax error : Remove "String" type from this line as it has already been declared before.

Error 9)

MyConnectFour.java : 131 : Cannot find symbol, variable 'baord' (variable not definted) : Syntax error : This is a typo. Correct the spelling of board from "baord" to "board" which is a char type used in the constructor.

Error 10, 11, 12)

MyConnectFour.java : 131, 132, 135 : Cannot find symbol, variable 'i' (variable not definted) : Syntax error : Remove "i;" after the "i" for loop and before the parenthesis on line 130.

Error 13)

MyConnectFour.java : 157 : Cannot find symbol, variable 'ture' (variable not definted) : Syntax error : This is a typo. Change variable "ture" and rename it to "true" a Boolean.

Error 14)

MyConnectFour.java : 165 : incompatible types: char cannot be converted to Boolean : Syntax error : The if statement on line 165 should include a double equals to sign in the form of "==" for comparison purposes.

Error 15)

MyConnectFour.java : Omission : No print statement to make user aware that an input is needed : Omission and Logical error : Add a print statement to obtain an input from the user in the form of integers 1 to 7.

Error 16)

MyConnectFour.java : 130 : Incorrect board tile display in terms of rows (only 5 rows instead of 6) : Logical error: Change "i < board.length - 1" to "i < board.length". Remove -1 in the comparison part of the 'i' for loop

Error 17, 18)

MyConnectFour.java : 132, 135 : incorrect board tile index due to using char [j] in place of [i] and [i] in place of [j] in the if and else statement of the printBoard() function : Logical error : Swap the positions and write in the form [i][j] according instead of [j][i].

Error 19)

MyConnectFour.java : 131 : Incorrect board tile display in terms of columns (right side of 7th column empty) : Logical error : Change " j < board[i].length - 1" to " j < board[i].length". Remove -1 in the comparison part of the 'j' for loop.

Error 20)

MyConnectFour.java : 152,155,156 : Input not reaching the intended column due to incorrect indexing (input '1' reaches column 2) : Logical error : Subtract 1 (-1) in all the position indexes such that it becomes [position - 1] in the placeCounter() method

Error 21)

MyConnectFour.java : Omission and 71-99 : No algorithm for CPU movement so the second input is considered as a turn for 'player 2' which is wrong. CPU should move on its own. : Omission and Logical Error : Implement CPU input algorithm instead of having a player2 as per the guidelines of this game project.

Error 22)

MyConnectFour.java : 40 : More than 4 tokens required for horizontal win: Logical Error : In the horizontal move check algorithm, change count "> 4" to count ">= 4" so 4 tokens in an horizontal row are considered as a win.

Error 23)

MyConnectFour.java : 150 : Program would crash if second token is added by the same player in a column as 'i' will be out of index as i++ used in for loop on this line : Runtime error : integer 'i' at initiation is already equal to (board length - 1) and if 'i' increases after the first input then 'i' will be out of index, so 'int i' should decrease after every iteration and not increase. Therefore, in the for loop so i-- should replace i++.

Error 24)

MyConnectFour.java: Omission : Algorithm for checking diagonal tokens considered when calculating a win : Omission : Implement algorithm for checking wins that consider diagonal tokens.

Error 25)

MyConnectFour.java : Omission : Program would not print any win statement if Player 2 wins : Omission and Logical Error : Restructure the code between line 99 to 116 so a statement declaring a win is printed if player 2 wins.

Error 26)

MyConnectFour.java : Omission : Program would crash if input besides 1 to 7 is used (ArrayIndexOutOfBoundsException) : Omission and Runtime Error : Guard against input other than 1 to 7.

Error 27)

MyConnectFour.java : Omission : Input is accepted if column is already full : Omission and Logical Error : Implement Algorithm so input is not accepted when the column is full and the player must submit a valid input.

Error 28)

MyConnectFour.java : Omission : Program does not calculate a draw : Omission and Logical Error : Implement Algorithm to end the match calculate a draw when the board is full.

Error 29)

MyConnectFour.java : 22 : The print statement includes player 2 instead of a CPU player : Omission and Logical Error : Change the print statement to show that the other player is a CPU player.