

CSCI 2380

Topics: Dynamic 2D arrays, classes and methods

In this assignment, you are to create a connect-4 game. The standard game has 6 rows and 7 columns. The interface will look like this (with the highlighted numbers being user input).

	0	1	2	3	4	5	6
0							
1							
2							
3							
4							
5							

- It is X's turn:
Column: 3

	0	1	2	3	4	5	6
0							
1							
2							
3							
4							
5				X			

- It is O's turn:
Column: 3

	0	1	2	3	4	5	6
0							
1							
2							
3							
4			O				
5			X				

- It is X's turn:
Column:

The requirements are as follows:

- ⑩ it must follow the rules (gravity and such)
- ⑩ must check for winning conditions
- ⑩ if a user wins, the game ends and the winner is declared
- ⑩ the program should check for illegal input (columns less than 0 and greater than number of columns)
- ⑩ there needs to be a 1-player option with a basic AI that plays the game. There is no constraint on this; it can play poorly.
- ⑩ The game and logic should be contained in a Connect4 class with the following methods
 - void DrawBoard()
 - bool GameOver()
 - char Winner()
 - bool MakeMove(char piece, int column)
 - Connect4() //sets up standard game
 - Connect4(int NumRows, int NumColumns) //custom gameboard size ➤ int GetAIMove()
- ⑩ The connect 4 class should be in a separate header file.
- ⑩ The main.cpp file should contain the basic game loop and start up which asks the user how many players and whether it is the standard game or a custom board.