

Homework 1 of CSC I0600 Fundamental Algorithms, Fall 2020

given September 3, 2020, due September 27

It is the aim of this project to create a game-program for the game “Linkage”, as mentioned in the lecture. This is a two-player game on a seven-by-seven gameboard, whose middle field is blocked. Each game field can be empty, or have one of the six available colors, or be the blocked middle field; so it is natural to represent the game board as an array[7][7] of integers. The two sides have different goals; so your program needs first to ask the player which side he wants to play, “Less” or “More”, and needs to set up the game play accordingly. Although you need only one function to get the move from the player, you need to create two strategy functions, if your computer player plays for “Less” or for “More”. And you need to have a function which checks after each move whether the game is finished (no additional 2 by 1 tile can be placed), and, if it is finished, counts the connected components for each color, and reports whether “Less” or “More” has won.

I ask you to create the graphical interface for the game using the xlib system; I send out example code for its use. An alternative would be to create an interface for text screens, with the curses library; that should achieve maximum portability.

Your code needs to be C or C++, I need to be able to compile it on my laptop, and test it. Do not share code, and do not use code you found on the web. It is essential that what you submit is your code, anything else is cheating.