BLM1552
BBG – II
SEMESTER PROJECT
(Due 03/06/2016)

Important Note: **This document might be updated to answer your FAQ, so please frequently check website for updates and check the version number of document to see if it is updated.**

SUBJECT

Design a number connecting game, namely COLOR WAYS, on matrix(N by N). Suppose that N = 5, the numbers between 1 and 5 placed in pairs randomly in the matrix below. **(Colors are insignificant)**

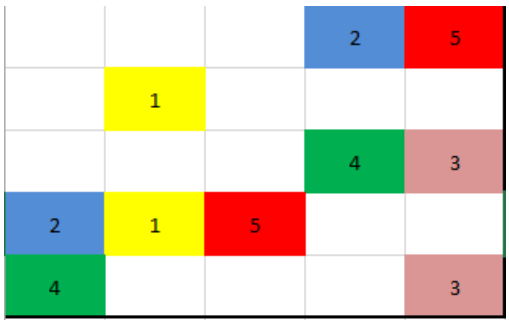

Figure 1. The initial state of the board of COLOR WAYS

- The above matrix will be read from a text file. To do this, the necessary code is given in my website .

Numbers will be matched according to the following conditions

1- The same numbers must match each other.
2- Five different paths must be obtained. These paths cannot intersect.
3- At the end of the game there should be no blank cells.

- The completed board should be appear as given in Figure 2. will be completed as follows:

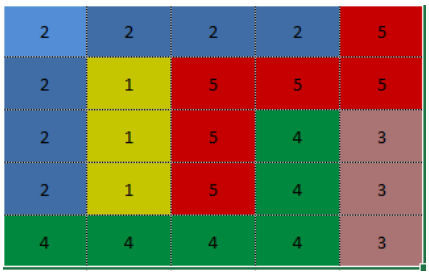

Figure 2. The completed color ways at the end the game

- The game can be played N times. The score of each game should be calculated according to completion time and it should be saved into the memory.

2. System Details

To connect two points, you will use matrix indices until you reach from source to destination.

For example to connect 5 to 5:

1st STEP: Source: (3,2) , Destination: (1,2)

2nd STEP: Source: (1,2) , Destination: (1,4)

3rd STEP: Source: (1,4) , Destination: (0,5) The goal has been reached!

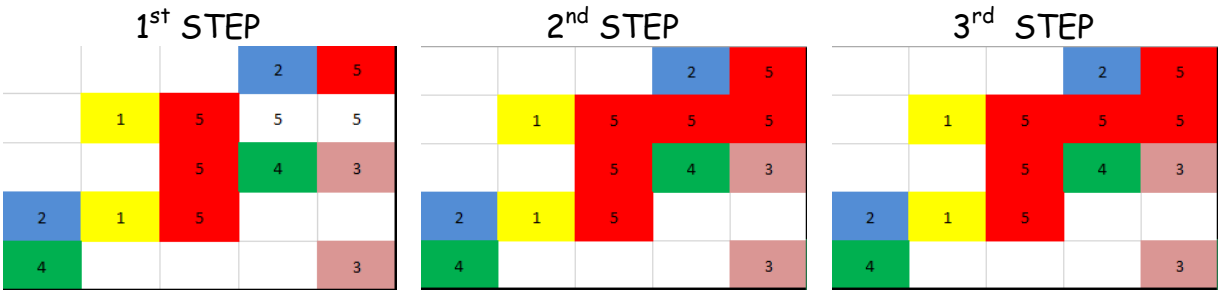

Figure 3. The board appearance after 1st, 2nd and 3rd steps

You must add the undo function to come back to previous state of matrix. When you apply it, numbers between 0 and 4 have to be deleted completely from the matrix.

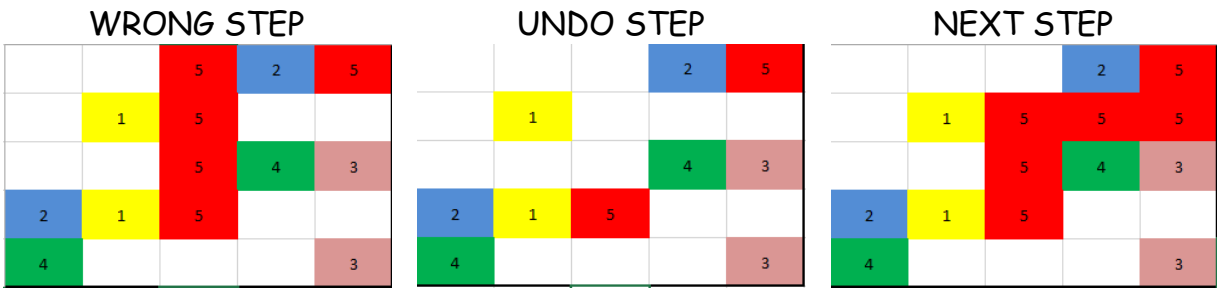

Figure 4 Undo Operation