CS Final Project Design Jing

1. It’s a Sudoku game. The goal of Sudoku is to fill in a 9×9 grid with digits so that each column, row, and 3×3 section contain the numbers between 1 to 9. At the beginning of the game, the 9×9 grid will have some of the squares filled in. The player’s job is to use logic to fill in the missing digits and complete the grid. Don’t forget, a move is incorrect if:

Any row contains more than one of the same number from 1 to 9

Any column contains more than one of the same number from 1 to 9

Any 3×3 grid contains more than one of the same number from 1 to 9

There will be three levels of difficulties, namely, easy, medium and hard.

The easy level will generate most of known numbers, and less numbers for the user to put. The hard level will generate least of known numbers.

There will be infinite chances to check the answer. The user can check anytime. The correct input will appear as green, and the wrong input will appear as red, thus the color tells the user which one is right/wrong.

(b) There will be 3 classes. A button class, grid class and a Sudoku class. Button class is used to create buttons. There are several new methods such as replacing the original label by a new text, returning the text, and drawing an entry box. Grid class creates a matrix of button classes. Sudoku class is the main class for the game. It reads through the text file that has the Sudoku numbers. Initializing all the numbers to their corresponding button objects. It also makes an answer matrix that corresponds to the question matrix in the purpose of checking each user input.

(c) My initial plan is to give output to the user (as a prompt) that whether the user has gotten something wrong or not. I tried different method to check if all the user inputs are right, but I failed. So I choose to not give any text-like output, but give the output in the form of the change of color.

In order to check if all the inputs are right, first I have to see if there are places that don’t have entry box yet. (i.e. the user has not clicked on that box yet) And to see if the answers are right. I failed to make a mark/label that works. This was my first try. After that, I tried to only check if all the boxes are green, if they are, it means the user has already clicked all the empty squares and gotten all the numbers right. And I failed too. I tried to return the color of each button, and then put them into a list. And then check if there is not-green in the list, if there is, then it’s not correct yet. But for some reason I failed.