Project: Sudoku Solver

Group Name:

Credible Collection

Group Members:

- Shaheer Kamal
- Badar Azeemi
- Ammar Khawaja

Project Description:

Our project works on using data structures like nested lists, a backtracking algorithm and a GUI to simulate a common board game – Sudoku. We have divided our project into two steps; the first step involves converting our raw data i.e. a nested list into a sudoku board to give a visual of what our sudoku board would look like. We then fill up all the empty spaces (solve the game) by using a backtracking algorithm with the help of several helper functions using iteration and/or recursion. Once the sudoku solver is ready, we will code the graphical user interface (GUI) for our game using the pygame library; this will be our second step.

Project Outcomes:

I.   Using a simple backtracking algorithm, the code gives a solution of the complete sudoku board in minimum time. Users will be notified if no solution exists of a particular board thus helping them identify which boards have valid solutions and which do not.

II. While playing the game (once the GUI is made), if a particular number does not fit in the space given, the game will instruct the user to enter a different number, thus helping beginners to learn the game.

III. Players can also compare their own answers using our program to cross check if their solution is correct.