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CS 2420
Assignment 3 -- Sudoku

Purpose of this project: The purpose if this project is to explore data structures and hash sets by using the puzzle game, Sudoku, to test and organize the information.

Classes: This classes of this program are relatively simple, and could go as follows: Sudoku class - the Sudoku class is the "problem solver" of this project. It will determine what moves are available by scanning for number duplicates in boxes, rows, and columns. It will also do the back work of manages data sets for each individual unit. Main – main class will load a Sudoku puzzle, initiate solvers, and express results. The Set class – will be the backing data structure for the cells

Set Class: the Set class is what will be organizing the data. It will make sure that no numbers are duplicated, and manage what numbers are available in the Set. For example, it may not be valid to place certain numbers in certain cells. By organizing with the Set class, we will ensure that taking care of these numerical values is done without too much complexity.

1D/2D: A 1D array is only a single set of numbers, where a 2D array is an array of arrays of numbers. A 2D approach may seem more logical (or at least easier to visualize), whereas a 1D array is going to be a linear representation of the puzzle. Both are doable.

Time: I personally don't think this will be as hard as the previous assignment, as there is no GUI/animation/moving parts. Once I can grasp the main concept of the assignment I think I will be able to figure out the details much more easily. Most likely around 10 hours.

Solver: I personally think that both recursive and constraint solvers will successfully solve this puzzle. I have recently been amazed at the power of recursive methods, and am excited to be able to implement a reasonable recursive method in this assignment.