

For my final project for 15-112 I will be implementing a Sudoku game. Sudoku is a number puzzle that uses a 9x9 board divided into 9 3x3 sub grids. The point of the game is to fill in the squares so that each row, column, and sub grid contains all the digits from 1 to 9. Each game starts with a partially completed board depending on the difficulty level and the user must fill the squares in based on the idea that there can be no repetition of numbers in any row, column, or 3x3 square. I plan to use the classic rules of Sudoku listed here and not include other variants of the game.

I will be implementing my own algorithm to create the game boards with three different difficulty levels; easy, medium, and hard. This algorithm will also be capable of giving hints to the user if he/she so desires. I will also create an option to add a count-up timer for the user to race against the clock and try to beat his/her best time. There will be a scoreboard accessible from the main menu with the least amount of time taken to complete a puzzle for each difficulty level. Another option that will be available from the main menu is a few different background colors/styles and different fonts for the numbers to choose from so that the user can personalize their game. The libraries I will be using are Tkinter, image, random, and pygame.

The features I will demo at the first checkpoint will include the main menu which will only list the options available at the demo, the game board interface which will only be displayed in the default background and font type at this time, and the freeplay option which will be demoed by a pre-made sample game at each difficulty level.

I believe my project is an 'A' project because instead of simply using a bank of pre-made puzzles, I will be designing and implementing my own algorithm to create puzzles allowing for an endless supply of random puzzles for the user to enjoy. In addition to that, the extra option to add a timer adds a new challenge for the user to enjoy. The different styles and fonts makes the game interface more personal and thus more enjoyable for the user.