Project Title: Sudoku Solvers

Team Members:

- Michael Richards - mrichards2021@my.fit.edu
- Jaden Krekow - jkrekow2021@my.fit.edu
- Alice Luce - pluce2021@my.fit.edu
- Adrian Rodriguez - adrianrodrig2019@my.fit.edu

Faculty Advisor: Raghuveer Mohan - rmohan@fit.edu

Client: Not Applicable

Progress Matrix:

	Completion	Alice	Adrian	Jaden	Michael	To Do
Sudoku Implementation			25%			Enable interaction between algorithms and GUI
Sudoku testing			25%			Ensure visual display represents accurate data (GUI updates cells)
Data structure and solution research	100%	100 %				Develop a novel way to store and access Sudoku boards?
Snapshot/Board Database				100%		
GUI development			50%		50%	Implement GUI and enable functional use of buttons and other features

Tool setup and control					100%	

1. Discussion of each accomplished task for the current Milestone:
    a. Implementation
    b. Testing
    c. Ten additional research papers were surveyed for solving algorithms and data structures to assist in solving. All of them used 2D arrays or strings of digits
    d. A database for Sudoku boards with a field for boards and a field for snapshots were created. The snapshot field is linked to the board field and allows us to graphically display the puzzle being solved with queries to the database. A deletion of a board in the database will cascade and delete all snapshot entries corresponding to the deleted board ID.
    e. GUI has begun to be implemented with focus on visual boards for users to use. Adjusting the layout to display widgets in a way that allows users to quickly access the board along with any additional features. Currently, we have a board, buttons for creating/solving boards, and a timer to reflect time spent on each puzzle.
    f. Jira, Confluence, and Github have been set up and in use. Jira has been set up for task designation and bug reporting, Confluence has been set up for documentation of our code and algorithms, and github has been set up for version control of our project.

2. Discussion (at least a few sentences, ie a paragraph) of contribution of each team member to the current Milestone:
    a. Alice Luce: I have read several papers and taken notes for several solving algorithms, but I could not find anything more useful or efficient than a 2D array for most algorithms and situations.
    b. Adrian Rodriguez: I mainly focused on creating a GUI that can be a basis of how users will interact with the system. It aligns closely with our mockup and will be representative of how it should look like. Features that interact with the board will be setup for use with possible algorithms
    c. Jaden: I created a SQLite3 database where solved boards and snapshots of board states will be saved.
    d. Michael Richards: I have set up Jira, Confluence and Github and have been overseeing operations on those sites. I have also helped with getting the GUI up and running to a functional state.

Plan for the next Milestone:

	Alice	Adrian	Jaden	Michael
Efficiently Solve Sudoku boards	Implement and compare several algorithms to find the most time efficient ones			Help create implementations of algorithms as well as analyze computation time.
Efficiently generate and store well-formed Sudoku boards				
Develop efficient ways to determine the solvability of a Sudoku board	Attempt to develop a novel solution or at least minimize time with current solutions			
Create a functional GUi		Create a GUI that will be used to navigate features used to play Sudoku and receive user input		Add functionality to display the step by step process that the solving algorithm is taking to solve the puzzle.
History functionality for puzzles			Add functionality into GUI for saving puzzles, viewing history of puzzles, and loading previous puzzles	

1. Discussion (at least a few sentences, ie a paragraph) of each planned task for the next Milestone
    a. Add functionality into GUI for saving puzzles, viewing history of puzzles, and loading previous puzzles. A button will be added to the main menu to view previous games. List of previous boards will be scrollable with basic information including variation and difficulty.
2. Date of meeting with Client during the current milestone:
    a. N/A
3. Client feedback on the current milestone
    a. see Faculty Advisor Feedback below
4. Date(s) of meeting(s) with Faculty Advisor during the current milestone:
    a. 10/24/24
5. Faculty Advisor feedback on each task for the current Milestone
6. Faculty Advisor Signature: _____ Date: _____

------ on a separate page ---------

Evaluation by Faculty Advisor

Faculty Advisor: detach and return this page to Dr. Chan (HC 209) or email the scores to pkc@cs.fit.edu

Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

Alice Luce	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Jane Doe	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Mark Jones	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Adrian Rodriguez	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

Faculty Advisor Signature: _____ Date: _____