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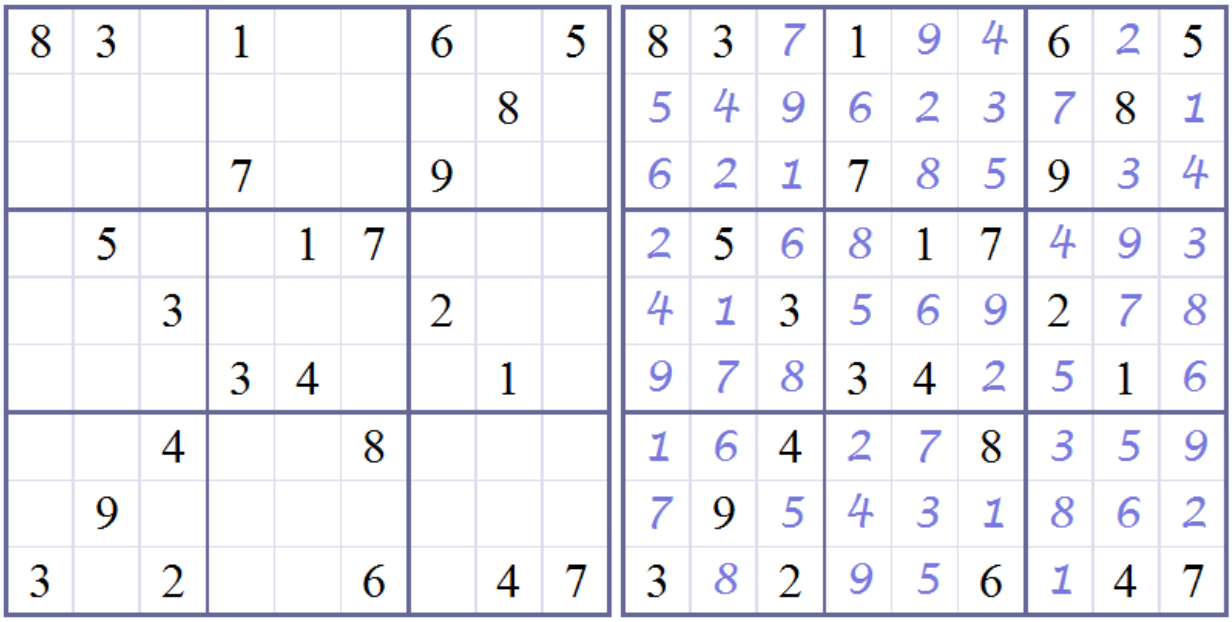
Sudoku Solver Proposal



Problem statement:

Sudoku Table consists of **9x9 cells**, each cell receiving a single digit between **1 and 9, inclusive**. Sub-tables consisting of **3x3 cells are specifically grouped**, as shown in the picture. To solve it correctly, sudoku table must satisfy seemingly simple criteria:

- On every **row** and **every column** each digit must appear exactly **once.**
- On every **3x3 block** each digit must appear exactly **once.**

The two criterias must be satisfied together.

Proposed solution:

This problem will be solved using **eight different algorithms**, each ensuring that all Sudoku constraints are satisfied. To ensure a fair comparison, **all algorithms will be tested on the same Sudoku puzzle**. Their performance will be evaluated based on metrics such as execution time, efficiency, and success rate, with the goal of identifying the **most effective algorithm**.

The used algorithms:

- Depth-First Search (DFS)
- Breadth-First Search (BFS)
- Backtracking
- Forward Checking
- Constraint Propagation
- A* Search
- Hill Climbing
- Simulated Annealing

Team member	Tasks	Tool
Esraa	DFS Algorithm	Python
Rawda Aboalyazed	BFS Algorithm	Python
Eman	Backtracking Algorithm	Python
Sara	Forward checking Algorithm	Python
Maryam	Constraint propagation + Problem proposal	Python + word
Sama	A* Algorithm	Python
Rana	Hill climbing Algorithm	Python
Rawda Rashed	Simulated annealing	Python