

The Sudoku Project

WEEK 2: 1/08/2021 to 8/08/2021

Ishika De and Yashvi Donga

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Agenda

- Brief Overview
- Current Status
- Toolchain
- Difficulties
- Learnings

Brief Overview

The goal of this project is to investigate a variety of algorithms (backtracking, brute force, stochastic search, depth first search) that are capable of solving standard Sudoku puzzles, of ranging difficulties, in order to learn more about Sudoku solving techniques.

We also wanted to create the sudoku solver using OpenCV that will read a puzzle from an image and solve it. We plan on using OpenCV for multiple programming languages.

Current Status

- Researched about different types of algorithm that can be used and how we can proceed with the project.
- Used the backtracking algorithm to solve any type of sudoku grid in Python.
- Generated solved sudokus using backtracking algorithm in Python.
- Researched about OpenCV library of multiple languages like Java, C++ and Haskell.
- Used Backtracking Algorithm to solve Sudoku in Java and C++.
- Generated Solved Sudoku using backtracking algorithm in Java and C++.

- Languages: Python, Haskell, Elixir, C++, Java.
- Open CV - Possible in Python, C++ and Java.

- The backtracking algorithm took some time to implement because we had few challenges implementing the recursive function.
- Removing Spaces from the Solved Sudoku for Generating Sudoku was a challenge.

- learning about the backtracking Algorithm - Generating and Solving a Sudoku in Python.
- Collaboration and understanding git commands, discovered about VSCode live share.
- Backtracking Algorithm in Java and C++.
- Explaining our code, thought process and ideas to each other.