TDT4136 Introduction to artificial intelligence - Assignment 3

Elias Søvik Gunnarsson, MTIØT

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1 Overview

In this assignment the objective is to implement a general solver for Constraint Satisfaction Problems, specifically using backtracking search and the arc-consistency algorithm AC-3. I will then use this program to solve Sudoku boards of varying difficulty.

2 How to run the code

Simply run the provided code **Assignment.py**

3 Outputs

The AC-3 algorithm can manage quite easily to solve a wide range of Suduko boards, and in the case for the easy board, the algorithm managed to find a solution within the first iteration. As the boards gets harder with less clue integers, the algorithm run into dead ends, thus the number of backtracks and failed backtracks increases.

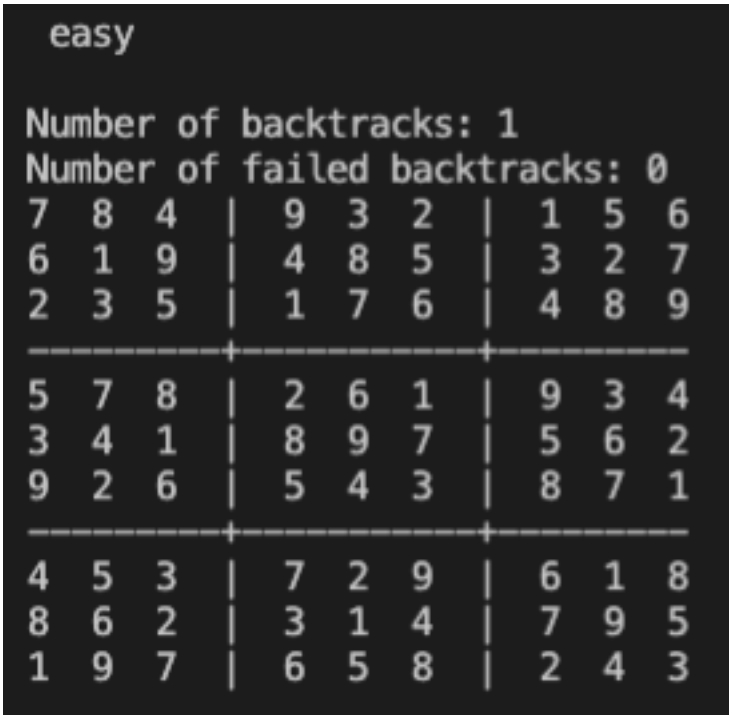

Figure 1: Terminal output easy board

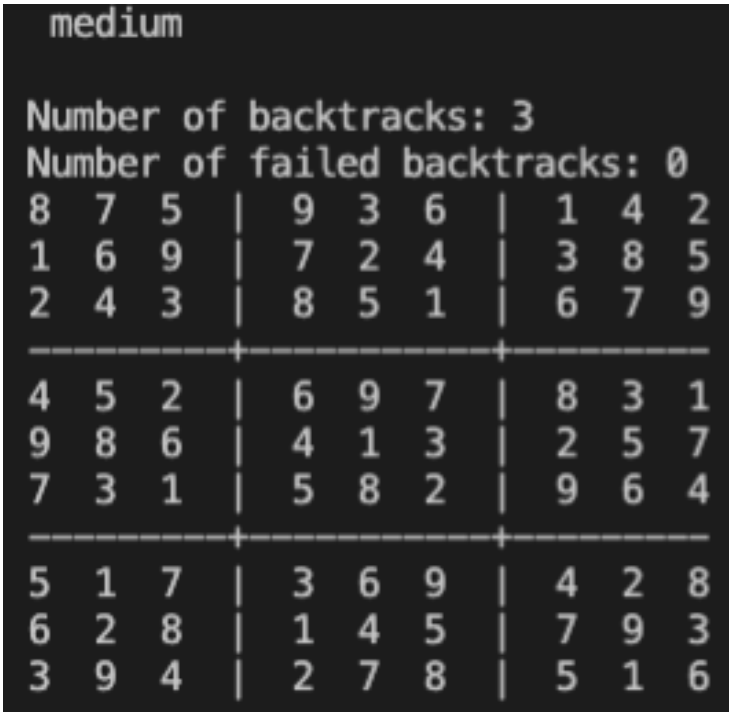

Figure 2: Terminal output medium board

Figure 3: Terminal output hard board

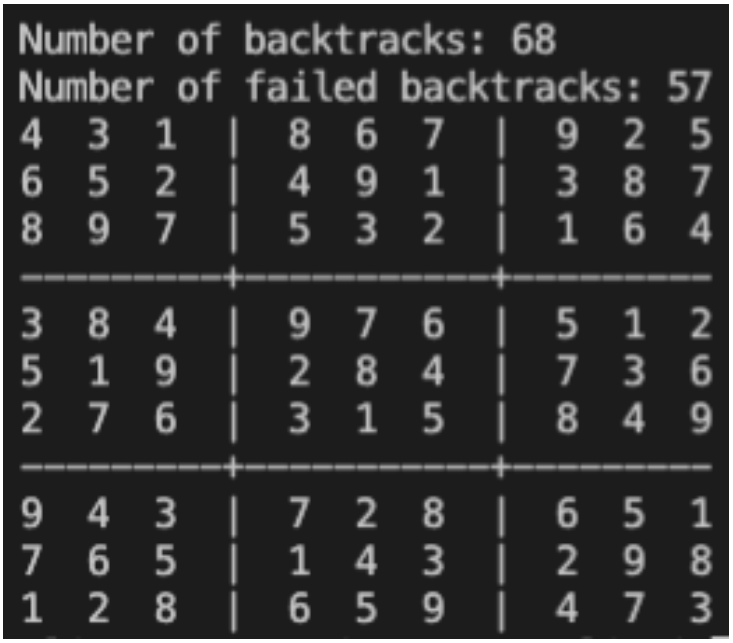

Figure 4: Terminal output very hard board