A Hybrid Backtracking and Pencil and Paper Sudoku Solver

Abstract

In an earlier research [1] it was found that based on the number of iterations taken to solve puzzles from [2] the pencil and paper (PnP) was the most efficient method for solving Sudoku puzzles rated easy and medium by [2]. However for more difficult puzzles this method proved ineffective. Next, the method of alternating projections proved more efficient at solving all test puzzles compared to the backtracking (BT) algorithm. In this research work, a hybrid solver is created using the pencil and paper method and backtracking methods. This method solves all sample puzzles in finite seconds. The execution time outperforms the BT method for most of the sample puzzles.

References


Index Terms

Computer Science Information Sciences

Keywords

Hybrid, backtracking, pencil and paper, Sudoku, algorithms