1 Abstract

Sudoku is a number placement puzzle which requires logic to solve. The objective is to fill 9x9 grid such that each row, each coloumn, and each 3x3 sub-grid to get values from 1-9 without repetition. i.e., no value can be repeated in the same row, same column and same box (3x3 grid). Many solutions to SuDokus are available such as *backtracking technique* and *brute fore technique.* In the technique discussed, a *mathematical apporach* is given to solve sudoku using *SET theory operations.* Set data structure and associated Set operations such as *Union, Intersection and Difference* are implemented using *BitVectors* and will help in reducing space and time complexity.

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