**Sudoku Solver Using CSP**

The 9x9 Sudoku puzzle is modeled as a Constraint Satisfaction Problem (CSP) to assign values to empty cells while satisfying Sudoku rules. The CSP framework systematically explores possible assignments using a backtracking algorithm.

* **Variables**:  
  Each empty cell in the 9x9 grid is a variable. Empty cells are identified by a value of 0 in the initial board, with 81 potential variables (cells) in total, though only unfilled ones are assigned values.
* **Domains**:  
  The domain for each variable is the set of integers [1, 2, ..., 9], representing the possible values that can be assigned to an empty cell.
* **Constraints**:  
  Each value must be unique in its row, column, and 3x3 box. These constraints ensure no duplicate numbers appear in any row, column, or 3x3 subgrid, as defined by Sudoku rules.

The backtracking algorithm assigns a value to an empty cell, checks constraints, and proceeds recursively. If a constraint is violated, it backtracks to try alternative values, ensuring a valid solution that satisfies all CSP constraints.