

# KenKen Solver - User Manual

This user manual is intended to explain how to use the kenken solver application including these actions stated below:

- Starting the program
- Loading puzzles
- Solving using Cultural Algorithm
- Solving using Backtracking
- Saving results

## 1. Overview

This solver is a graphical user interface (gui) that can solve puzzle instances of the game KenKen (also stated as kenDoku/calcDoku) using two algorithms separately.

Cultural Algorithm, and Backtracking

Supports sizes from 4x4 up to 8x8

## 2. Starting the Application

Main window will appear with a few functions including:

Puzzle selection dropdown, Algorithm selection dropdown, Cage grid display, Solve / Force-Stop Buttons, Backtracking animation controls, Status and information labels.

## 3. Loading a puzzle

- i. Open the dropdown menu at the top-left named “Choose Puzzle”
- ii. Select a puzzle from the list
- iii. Click Load Puzzle

#### 4. Solving with Cultural Algorithm

- i. Select Cultural Algorithm from the algorithm dropdown
- ii. Click Solve

#### 5. Solving with Backtracking

- i. Select Backtracking from the algorithm dropdown
- ii. Click Solve

Extra: You can skip animation and get to the result by pressing the Skip Animation button; that is only if the solver has successfully solved the puzzle.

#### 6. Comparison Mode

- i. Enable the Checkbox “Comparison Mode”

Displays two side-by-side grids

Left: Cultural Algorithm

Right: Backtracking

## 7. Saving results

Once puzzle is solved:

- i. Click Save Result
- ii. Choose filename
- iii. A file will be generated containing info on the run