Stimulating New Insights into Sudoku

The Hidden Logic Of Sudoku

“The Hidden Logic of Sudoku”, a book by Denis Berthier, provides stimulating new insights into the game. It proposes new graphical representations and new resolution rules. Additionally, it sets new standards of rigor in the approach to Sudoku.

The Hidden Logic of Sudoku provides stimulating new perspectives of the game and proposes the first systematic exploitation of its logical symmetries. These lead to new graphical representations and to new kinds of resolution rules based on them. Moreover, the book defines a complete resolution method based on a precedence ordering of the rules.

The set of rules defined in this 380-page book suffices to solve almost any valid puzzle (without making guesses or assuming the uniqueness of a solution), even those that are so complex one would never imagine they can be solved. Many of the rules are relative to various kinds of chains, for which a compact and intuitive (but logically grounded) graphical notation is introduced.

As they have been fed into an Artificial Intelligence (AI) system and tens of thousands of puzzles have been processed, the book provides the first precise evaluation of the relative efficiency of each rule. The Hidden Logic of Sudoku is illustrated with a hundred of puzzles with their full resolution paths, carefully chosen so that they also prove that all the resolution rules are independent from each other (a very useful property in practice).

Intended Audience

The Hidden Logic of Sudoku is intended both for advanced Sudoku players (who will discover many new facets of the game and a new, systematic approach to the resolution rules) and for teachers or students of Logic or AI (who will appreciate the strict logical foundations and may use it as a background for projects in AI or computer science).

About the Author

Pr. Denis Berthier teaches Logic, Artificial Intelligence and Epistemology of Information Technologies at INT, a part of the French “Groupe des Ecoles des Télécommunications”. Both a researcher and an engineer, he graduated from Ecole Polytechnique, Paris, France. This is his third book.

Practical Informations

An extended preview of the book and online supplements are available on the author’s Web pages (http://www.carva.org/denis.berthier).

The Hidden Logic of Sudoku has been published by Lulu (www.lulu.com), the world’s fastest-growing provider of print-on-demand books.

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Contact: Antoine Cheret, Communications Department, antoine.cheret@int-edu.eu
Tel.: 33 1 60 76 43 19

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