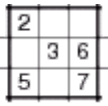
Strategy Families

From sudokuwiki.org, the puzzle solver's site



There are two ways one can group all the strategies for Sudoku: by difficulty and by family. Difficulty is rather subjective but necessary, for example, when selecting the order in which strategies are tried in the solver. Some strategies will always be easier for some people to spot than others, but I believe I have chosen an ordering which is not too controversial. So the main documentation has a side menu organised by difficulty.

Basic Strategies

- Getting Started
- Naked Pairs
- Naked Triples
- Naked Quads
- Hidden Pairs
- Hidden Triples
- Hidden Quads
- Pointing Pairs
- Box/Line Intersection

'Bent' Sets

- Y-Wing
- XYZ-Wing
- WXYZ-Wing

Chaining Strategies

Articles:

- Introducing Chains and Links
- Weak and Strong Links

Strategies:

- X-Wing Family
- Swordfish
- Jellyfish
- Singles Chains
- ~~Multi-Colouring~~
- ~~Y-Wing Chains~~
- XY-Chains
- 3D Medusa
- Remote Pairs
- X-Cycles (Part 1)
- X-Cycles (Part 2)
- Grouped X-Cycles
- Inference Chains
- AIC with Groups
- AIC with ALSs

Forcing Chains subgroup:

- Digit Forcing Chains
- Nishio Forcing Chains
- Cell Forcing Chains
- Unit Forcing Chains

Exotic Strategies

- Almost Locked Sets
- Finned X-Wing
- Finned Swordfish
- Franken Swordfish
- Pattern Overlay
- Aligned Pair Exclusion
- Empty Rectangles
- Exocet
- Double Exocet
- Sue-de-Coq
- Death Blossom
- Bowman's Bingo
- ~~Multivalue X-Wing~~
- ~~Guardians~~

Jigsaw Strategies

- Double Pointing Pairs
- Double Line/Box Reduction
- Law of Leftovers

Windoku Strategies

- The 9 Windows of Windoku

Uniqueness Strategies

- Unique Rectangles
- Extended Rectangles
- Hidden Rectangles
- Avoidable Rectangles
- BUG

Sudoku X Strategies

- Sudoku X Pitfalls
- How Sudoku X breaks symmetries

Killer Strategies

- The Killer Cage Convention
- Cell Combinations
  - An example cage combo
- Cage/Unit Overlap
- Innies and Outies
- Cage Splitting

With chaining strategies, there is definitely a theme going through them. This theme is all about bi-value (only two candidates left in the same cell) and bi-location (only two occurrences of a particular candidate left in the same unit) pairs and the incredible number of deductions one can make from them. You will find, if you read through this group, that earlier strategies become part of a more general theory as the theme develops. Thus, for example, Remote Pairs are a subset of XY-Chains; that is, XY-Chains is a more general approach of which Remote Pairs are a specific instance. Do

read the introductory articles Introducing Chains and Links and Weak and Strong Links.

Exotic strategies do overlap with chaining ones, but they have a peculiar flavour of their own and some wonderful, if obscure, logic. They are definitely worth presenting as a demonstration of people's ingenuity but you will only need to have recourse to them on the extreme puzzles.

There are naturally special strategies for Jigsaw and Killers because of their differences. These are now included for the first time on this site.

This strategy list is by no means complete. Many strategies can be further extended and we do not have a complete theory of all Sudoku puzzles. If you are interested in the concepts behind creation and grading, there is a PDF document here called Sudoku Creation and Grading. With the community's help I hope to extend the documentation here.

For those people wondering why "Escargot" cannot be solved by the solver, there is an article on this special Sudoku here. This is an early 'ultimate puzzle' but this crown has been usurped by the puzzle created by Arto Inkala, which is also in the example list.

Articles

Article: The Relative Incidence of Sudoku Strategies

Article: The 17 Clue 'Proof' - my take on the January 2012 computerised exhaustive search proof.

Article: The Chaos Within Sudoku - A Richter Scale on a paper by Maria Ercsey-Ravasz and Zoltan Toroczkai at the Faculty of Physics, Babes-Bolyai University, Romania. Very interesting paper.

Article: Generalizing Sudoku Strategies by Kevin Gromley, March 2014

My response to Crooks Algorithm is here.

I'm pleased to include on this web site the Sudoku Song (MP3 file) by Peter Levy (official web site here). Peter wrote and recorded this song a couple of years ago and managed to capture the essence of the Sudoku craze to great acclaim.