

Su Doku Strategies

by Mark Huckvale

There are three key logical strategies that may be applied to solve Su Doku puzzles.

Rule 1: Elimination

Look at this fragment of a puzzle. What digit can go in cell A? It can't be 1, 2, 3, 4, 5 or 9 since those digits have already been placed in the top row. It can't be 7 or 8 because those digits are already placed in the same 3x3 box. So it must be 6.

5	4	A	2		3	1		9
		7						
	8							

Rule 2: Placement

Whereas Rule 1 is about looking for a cell which can only take a single digit, Rule 2 is about finding a home for a digit that must go somewhere. Look at this fragment of puzzle. We know that the right 3x3 box must contain a 2, but where does it go? We can eliminate cells A, B and C because that row already contains a 2. Likewise we can eliminate cells D, E and F. Thus there is only one place in the box where the 2 can go: cell G.

	2					A	B	C
				2		D	E	F
						3	G	4

Rule 2 is surprisingly powerful, notice how in the last example, Rule 1 would not help us find out what goes into cell G.

Rule 3: Constraint

Although you can solve easy Su Doku puzzles using just Rules 1 and 2, you'll need a third strategy to tackle the difficult ones. Rule 3 is about looking for patterns in the possible positions of a digit. Sometimes even when a digit can go in more than one cell in a box, you can still use that fact to position a digit elsewhere. Look at this fragment of puzzle. What values go in cells A and B? We know they are a 1 and a 6, but which way around do they go?

5	2	7				8	3	1
A	3	4				2	9	5
B	8	9						

Look at the right box – it doesn't have a 6 and we don't know which cell it goes in. But we do know that the 6 must occupy one of the cells in the bottom row of the box. So that means the bottom row of the puzzle already contains a 6, and in the left box, the 6 must go in cell A.

Remember Su Doku puzzles are logical. You should never need to guess, and with luck you'll never need an eraser!