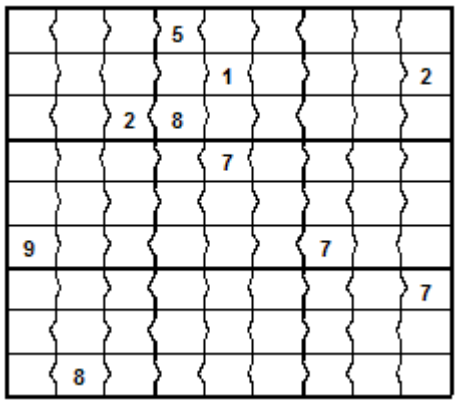
Relation Sudokus

Horizontal Relation

This type of Sudoku, the horizontal relations between the various positions in the puzzle indicated by "<" (less) or ">" (greater).

For example:



4	7	6	5	9	2	8	1	3
8	3	9	4	1	7	6	5	2
1	5	2	8	6	3	9	7	4
2	1	8	3	7	9	4	6	5
7	6	5	2	8	4	3	9	1
9	4	3	6	5	1	7	2	8
3	2	1	9	4	6	5	8	7
5	9	4	7	2	8	1	3	6
6	8	7	1	3	5	2	4	9

Vlg	*Nr*	*Ry*	*Kol*	*Opl*	*Cd*
1	1	1	6	2	>H
	2	2	3	9	>V
	3	1	3	6	RH
	4	3	7	9	>H
	5	4	2	1	>V
	6	4	3	8	>V
	7	4	6	9	1M

Figure: Horizontal Relation Sudoku.

Explanation: Row 1 in the number in column 1 is smaller than the one in column 2. The number in column 2 is higher than the one in column 3, etc..

Explanation of the solution:

Step 1 in row 1 the 2 can only be placed in column 5 or 6. Column 5 is larger than column 4 and there is a 5. So the 2 can only be placed in column 6.

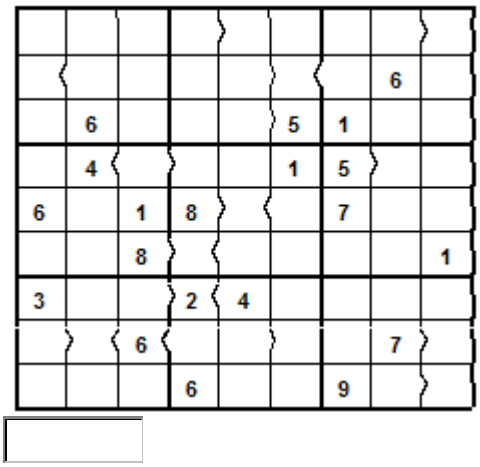
Step 2 in column 3 the 9 can only be placed in row 2 or 4. The nine should have a > sign left and right while this number is the highest vailable number. The block where column 4 is located does however have a nine so that Row / Column 2 / 3 must be a nine.
And so on.

Step 3 At position 1 / 3, 6, 7, 8 and 9 are possible, is greater than 5. At 2 / 3 is already a nine so left are 6, 7 and 8. At position 1 / 2 (> 1 / 3) is 7, 8 or 9 can be placed. The 8 is already present in Row 2 and 9 in the block. The solution in position 1 / 2 is a 7. 1 / 3 is a 6.

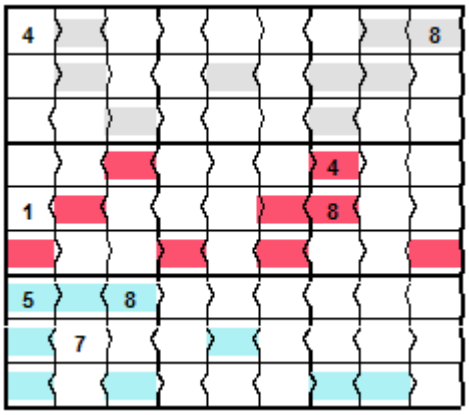
Bovendien is het mogelijk niet alle horizontale relaties te tonen maar een bepaald percentage van het totaal; in onderstaand voorbeeld is dit 30%.

Sudoku Plaza

It is possible that not all horizontal links are shown but only only a certain percentage of the total, in this example is 30%.

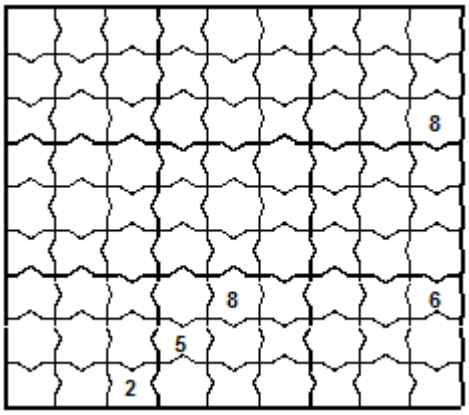


It is also possible to combine a relation Sudoku with patterns as described in in this site as well:

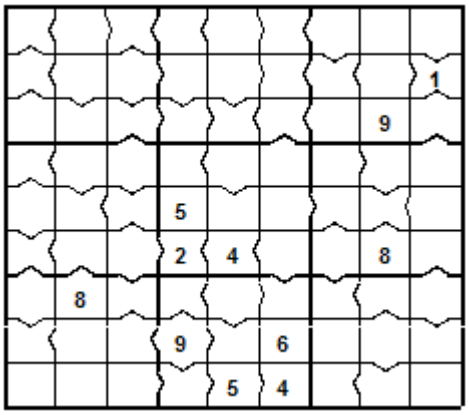


Horizontal and Vertical Relations

In this type of Sudoku there are beside the horizontal relations vertical relations as wel, for example:

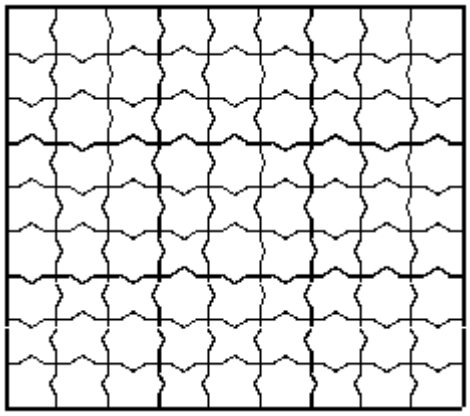


Moreover, not all relations can be show but only a certain percentage of the total, in this example 50%.



Sudoku Plaza

The most extreme Sudoku can be solved without visible numbers, for example:



7	8	4	3	1	2	6	5	9
3	6	5	4	9	7	1	2	8
2	9	1	6	5	8	4	7	3
4	5	2	9	8	3	7	1	6
8	1	7	5	2	6	9	3	4
9	3	6	1	7	4	2	8	5
6	2	3	8	4	1	5	9	7
1	4	9	7	3	5	8	6	2
5	7	8	2	6	9	3	4	1

Vlg	Nr	Ry	Kol	Opl	Cd
1	1	1	5	1	>H
	2	2	5	9	>H
	3	2	7	1	>H
	4	3	3	1	>V
	5	4	4	9	>B
	6	5	7	9	>B
	7	6	1	9	>H
	8	6	4	1	>H

Figuur relatie Sudoku zonder zichtbare cijfers.

Verklaring van de oplossing:

Stap 1 In rij 1 kan de 1 alleen in kolom 5 staan. Dit is de enige positie die rondom kleiner is dan zijn omgeving.

Stap 2 In rij 2 kan de 9 alleen in kolom 5 staan. Dit is de enige positie die rondom groter is dan zijn omgeving.

Bij dit type Sudoku zijn de eerste oplosbare posities de velden waar de 1 dan wel de 9 kan worden geplaatst, vervolgens de 2 en de 8 en de cijfers 4, 5 en 6 als laatste.

Figure relation Sudoku without visible numbers.

Explanation of the solution:

Step 1 in row 1, the 1 can only be placed in column 5. This is the only position that is less than its surrounding.

Step 2 In row 2, the 9 in can only be placed in column 5. This is the only position higher than its surrounding.

This type of Sudoku, the first sovable positions are the ones where the 1 or 9 can be placed, after that the 2 and 8 and the numbers 4, 5 and 6 last.