

The Last Sudoku Competition Before World Sudoku Championship

24th April 2010, 15:30 GMT



This set of puzzles is based on the official booklet of WSC 2010.

The purpose of the contest is to make a small replica of the championship with the puzzle types which will be used in WSC 2010.

All examples are obtained from the PuzzleWiki page for the Fifth World Sudoku Championship:

http://www.worldpuzzle.org/wiki/index.php/Fifth_World_Sudoku_Championship

Check WPF forum for questions about the puzzle types:

<http://www.worldpuzzle.org/wpfforum/list.php?6>

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Puzzles tested by Gülce Özkütük.

Answer Format:

Write the contents of the marked rows/columns/diagonals.
 For the **Just One Cell Sudoku** puzzles, first write the coordinate of the cell, then the digit.

Classic Sudoku

Place the digits 1 through 9 into the empty cells in the grid (a single digit per cell) so that each digit appears exactly once in each of the following regions: the nine rows, the nine columns, and the nine outlined 3x3 regions.

Easy difficulty -- The puzzle can be solved with basic techniques, such as Hidden Single, Hidden Pair, Pointing Pair, and Box-Line Reduction.

Integer Division Sudoku (6x6 grid)

Some edges between cells are marked with a number. The number denotes the quotient received when the bigger number is divided by the smaller number, with any remainder discarded. For example, the number between a 3 and a 7, if marked, would be marked with a 2, since 7 divided by 3 is 2 (with a remainder of 1).

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

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

Product Last-digit Arrow Sudoku

Follow Sudoku rules. Additionally, for each arrow, multiply the numbers along that arrow. The last digit of the product is in the cell pointed to by that arrow. Digits can repeat within an arrow, and may also repeat with the cell pointed to by the arrow.

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

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

Countdown Sudoku (6x6 grid)

Follow Sudoku Rules, with the following changes: the regions are of varied size and must contain exactly the numbers from one of the following sets: 9, 98, 987, 9876, 98765, 987654, 9876543, 98765432, 987654321, 87654321, 7654321, 654321, 54321, 4321, 321, 21, 1. Each set is used by exactly one region.

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

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

Double Cairo Sudoku

Follow Sudoku Rules, with the following changes: some cells contain two digits; those cells are shaded in light red. The outside rows and columns “wrap around” and are duplicated on both sides of the diagram. There are 16 regions of 8 cells each, outlined in thick red and black lines.

Deficit Sudoku (5x5 grid)

Follow Sudoku rules, with the following changes: each number appears at most once in each region but might not appear in all regions.

				4
3				
		3		
	1			5

5	3	2	1	4
4	2	1	5	3
3	4	5	2	1
1	5	3	4	2
2	1	4	3	5

Surplus Sudoku (5x5 grid)

Follow Sudoku rules, with the following changes: each digit appears at least once in each region (except for the single-celled region). Only the digits from 1 to 5 are used.

4		5		
	5			
3				
				4
			2	
		3		1

4	3	5	6	1	2
2	5	4	1	6	3
3	2	1	5	4	6
5	1	6	2	3	4
1	6	3	4	2	5
6	4	2	3	5	1

Classic Sudoku

Classic Sudoku puzzle that may need less-common heuristics, such as Naked Single, Naked Pair/Triple, Hidden Triple, and X-Wing.

Altered Sudoku (6x6 grid)

Fill in the cells such that six special cells can be "altered" to turn the grid into a solved standard 6x6 sudoku. The six special cells must contain six distinct numbers, and there must be exactly one special cell in each row, column, and region. Each special cell, when altered, must turn into a different number than the original, and all six cells turn into different numbers. The arrowed indicators to the right/below the grid describe how the special cell in that row/column must be altered.

	3	4			
			2	3	
4					5
6					1
			4	6	
	3	6			

	3				6
↓	↓	↓	↓	↓	↓
		2		5	

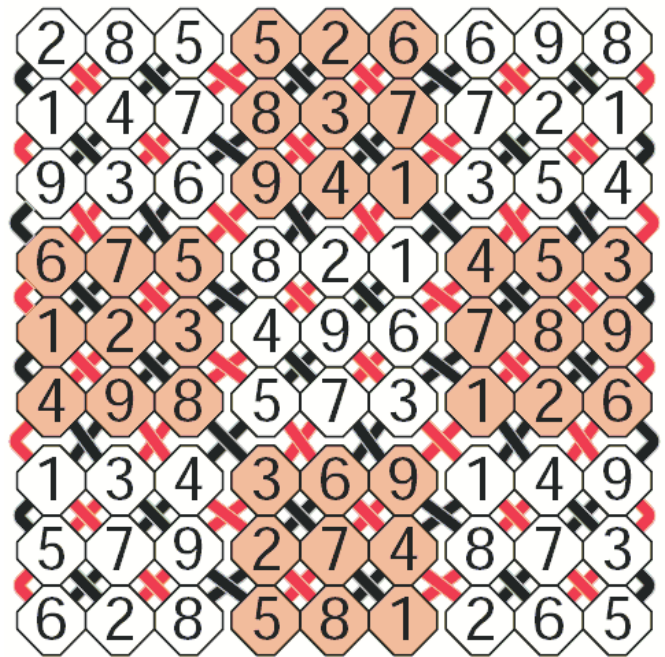
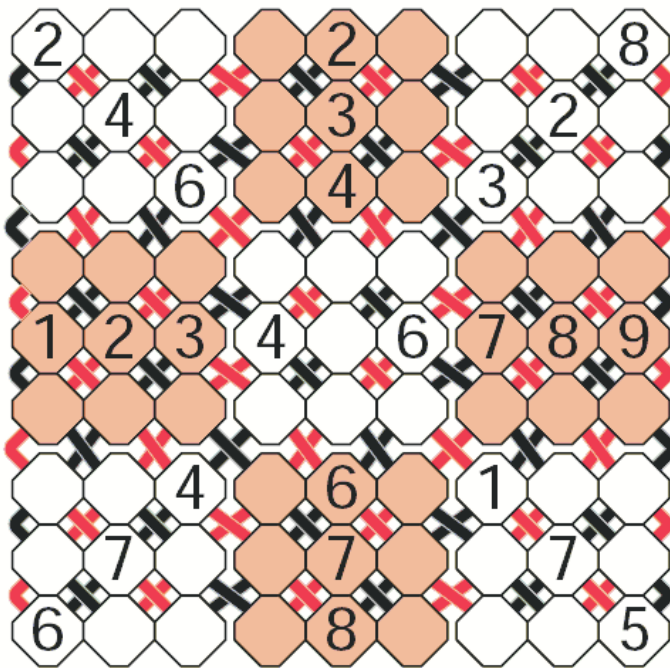
2	3	4	1	2	6
5	6	5	2	3	4
4	1	3	4	2	5
6	5	1	3	4	1
5	2	1	4	6	6
3	3	6	5	1	2

5	3	1	4	2	6
↓	↓	↓	↓	↓	↓
1	4	2	6	5	3

- 2→5
- 5→1
- 4→6
- 1→2
- 6→3
- 3→4

Weave Sudoku (6x6 grid)

Standard Sudoku rules apply, with the following changes: the rows and column have been replaced with the "weaving" diagonals that go down the grid, bouncing at the edges of the grid, as indicated by the black and red lines. The digits 1 to 9 appear once in each of the following 27 regions: the 9 red diagonal, the 9 black diagonals, and the 9 3x3 boxes (shaded in white and red).



Double Irregular Sudoku (6x6 grid)

Follow Sudoku Rules. In addition, there are also nine irregular regions denoted by red lines; each digit must appear exactly once in each of these regions.

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

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

Classic Sudoku

Classic Sudoku puzzle that require very difficult techniques, including Y-Wing, Simple Coloring, Swordfish, and even more advanced ones. Most solvers will probably end up using bifurcation on this puzzle.

Dragon Sudoku

Follow Sudoku Rules, with the following changes: each 9 “sees” exactly 8 other distinct numbers. They see in all four directions until they hit a wall.

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

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

Trinary Sudoku

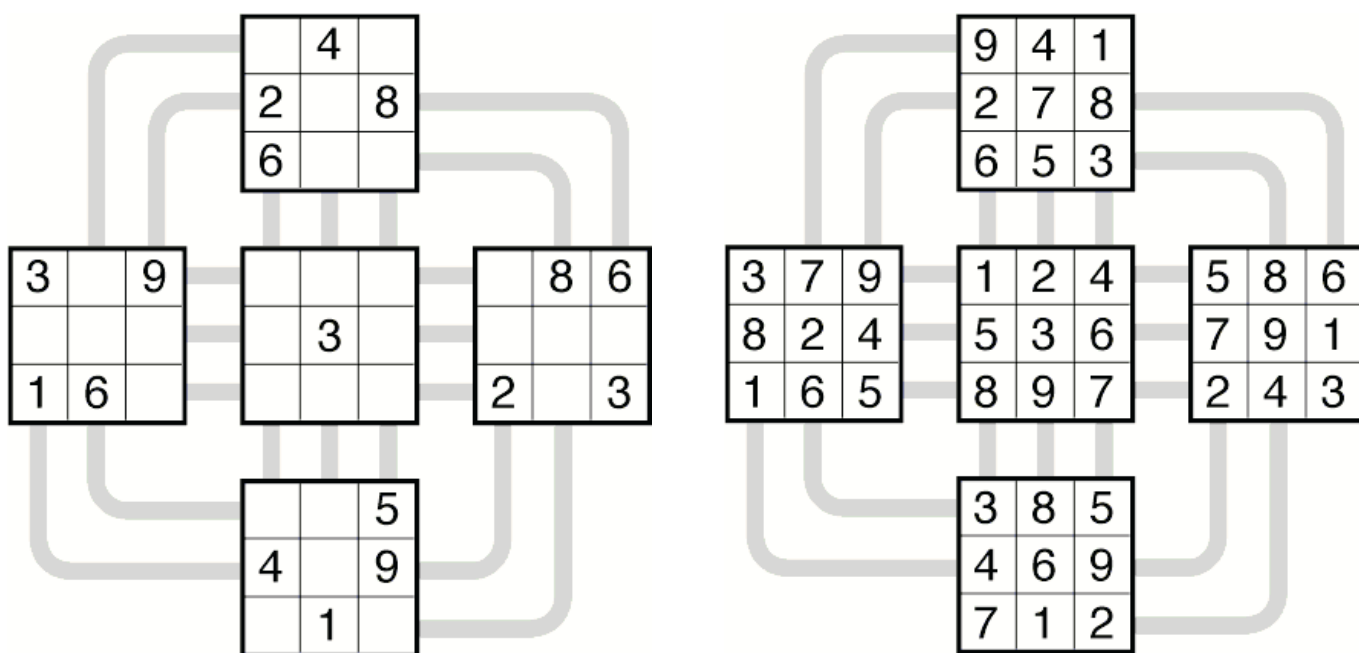
Follow Sudoku rules, except that the digits 0-8 in trinary (00, 01, 02, 10, 11, 12, 20, 21, 22) will be used instead of the numbers 1-9. Givens may be the first, second or both digits of the final number.

11				0		0	0	
		0		10		0		1
	0	01					1	1
			22		12			
2	02			20			01	0
			02		00			
0	0					02	1	
0		1		12		1		
	1	1		0				20

11	21	02	12	00	01	20	10	22
12	22	20	11	10	21	00	02	01
10	00	01	20	22	02	12	21	11
01	10	00	22	11	12	21	20	02
22	02	12	21	20	10	11	01	00
20	11	21	02	01	00	22	12	10
00	01	22	10	21	20	02	11	12
02	20	11	01	12	22	10	00	21
21	12	10	00	02	11	01	22	20

Sudo-Kurve

Follow Sudoku Rules. The digits 1-9 appear once in each of the six 3x3 boxes and 12 bent "rows" (indicated by light curved lines). All "rows" contain exactly 9 cells.



Just One Cell Sudoku

Follow Sudoku Rules. This puzzle has multiple solutions for the entire grid, but there is at least one empty cell that will contain the same digit for all solutions. You are to locate and clearly identify just one digit that can be placed into the grid with absolute certainty.

- Classic Sudoku x2

- Arrow Sudoku

Follow Sudoku Rules. In addition, the digits in each circled cell must equal the sum of all the digits along the arrow's path; digits can repeat within an arrow.

- Odd/Even Sudoku

Follow Sudoku Rules. In addition, coloured cells may only contain even digits.

example with classic sudoku

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

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