

Not-quite-sudoku

A new non-Sudoku Sudoku variant
for the G4G16 Gift Exchange
by Wei-Hwa Huang (onigame@gmail.com)

These puzzles were written for and premiered at the “24 Hour Puzzle Championship”, held in Eger, Hungary in 2025.

Any mathematician who has looked at Sudoku knows that Sudoku is just a Latin Square puzzle with an extra constraint: the box-shaped regions. By adding that one extra constraint, a rather tedious puzzle only of interested to math nerds has become a world-wide phenomenon known by most adults. Why does a puzzle with 2 dimensions of constraints (rows and columns) seem boring, but a puzzle with 3 constraints (rows, columns, and regions) become satisfying? Unfortunately, this is a question in the domain of human psychology, and will not be solved by mathematics alone.

Somewhat less well-known are Sudoku VARIANTS, which are usually Sudoku puzzles with even more constraints. But since these are add-ons to Sudoku puzzles, these are puzzles with FOUR (or even more) constraints.

As a seasoned Sudoku solver, I’ve always felt that Sudoku variants feel “overconstrained”, as if they had a few too many rules to be elegant. So, in 2025 I had this idea: What would happen if I REMOVED one of the basic three constraints of Sudoku? Sure, if you remove the region constraint, you just have a Latin Square puzzle again, and those can be boring. But there’s two other constraints to play with.

And if you start with a Sudoku variant, then you’re turning a 4-constraint puzzle into a 3-constraint puzzle, which, theoretically, means that you’ll end up with a puzzle of similar elegance to Sudoku.

So, these puzzles were the results. Because they don’t follow the core rules of Sudoku, not even the variants, I don’t feel comfortable calling them Sudoku. And the “Classic” version, being 2-constraint puzzles, lack a bit of elegance. But the later puzzles in this booklet, I think, are quite interesting.

I hope you enjoy them.

Wei-Hwa Huang, January 2026

EXAMPLE PUZZLES & ANSWERS

Classic Not-quite-sudoku

Put a digit from 1 to 6 (1 to 9 in the large grid) so that at least two of the following statements are true:

- * Each row contains every digit once.
- * Each column contains every digit once.
- * Each thick outlined region contains every digit once.

1		2	
		3	
	2		
		4	1

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

1	3		2
		3	
	2		
3		4	1

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

Diagonal Not-quite-sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:
All digits on each of the two main diagonals are different.

1			
			2
	3		
	4		

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

Odd/Even Not-quite-sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:
All cells with a circle should contain an odd digit.
All cells with a square should contain an even digit.

○	2		
		3	
○	○		4
			◻

①	2	4	3
2	4	3	1
③	①	2	4
4	3	1	◻②

Anti-Knight Not-quite-Sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:
Cells that are separated by a knight's move apart cannot contain the same digit.

3			
			2
			1

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

Non-Consecutive Not-quite-Sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:

Cells that share an edge cannot contain digits that differ by 1 (but may differ by 0).

				4	
	2				
				1	
	5				
				6	
	4				

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

XV Not-quite-Sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:

Orthogonally adjacent cell pairs that have a sum of 5 are marked with a V, pairs that have a sum of 10 are marked with an X, and other sums are not marked.

					x 6
	v				
	2				
x				v	
x			v	v	
				2	
			v		
					x
			v		
x					2

5	3	1	2	4	x 6
	v				
4	2	6	1	3	5
x			v		
6	1	2	4	5	3
x			v		
4	5	3	1	2	6
			v		
3	1	2	5	4	x 6
				v	
4	x 6	5	3	1	2

Classic Not-quite-sudoku

Put a digit from 1 to 6 (1 to 9 in the large grid) so that at least two of the following statements are true:

- * Each row contains every digit once.
- * Each column contains every digit once.
- * Each thick outlined region contains every digit once.

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

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

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

Diagonal Not-quite-sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:

All digits on each of the two main diagonals are different.

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

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

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

Odd/Even Not-quite-sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:

All cells with a circle should contain an odd digit.

All cells with a square should contain an even digit.

	6			2	5
					4
		1			
			2		
3					
4	1			3	

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

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

Anti-Knight Not-quite-Sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:

Cells that are separated by a knight's move apart cannot contain the same digit.

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

			4	1	
				2	
2	4				
				3	4
	6				
	1	3			

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

Non-Consecutive Not-quite-Sudoku

Follow the rules for Classic Not-quite-sudoku. In addition:

Cells that share an edge cannot contain digits that differ by 1 (but may differ by 0).

				4	
	5				
			4		

			1		
				2	
					1
6					

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

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Follow the rules for Classic Not-quite-sudoku. In addition:

Orthogonally adjacent cell pairs that have a sum of 5 are marked with a V, pairs that have a sum of 10 are marked with an X, and other sums are not marked.

		v		v	
			x		
v		x		v	v
				2	
			3		
v				x	
		v	2	x	
		v			

					3
	1			2	
			1		
		3			
	2			5	
6					

		v		v	x			x
	x			x	v		v	x
v				x		x		
			x			x	x	x
	x			x			x	v
v		9	x	6		7	x	v
v	x						v	
x			x			x		
						x		
		x		x	v			v
	x		v	x			x	
x				x	v		v	