

Asian Sudoku Championship 2021

O15 Instruction Booklet

For competitors born on or before Dec. 31st, 2005

O15 组：2005 年 12 月 31 日及以前出生



한국창의퍼즐협회
Korea Creative Puzzle Association



Website/网站地址: <http://puzzlerace.org>

January 30th, 2021(Sat)/2021 年 1 月 30 日 (周六)

Round 轮次	Available During 开放时间	Duration 时长	Score 分值
Individual Round 1 个人第 1 轮	(GMT+8) 10:30-11:10 北京时间 10:30-11:10	30 min 30 分钟	200 points 200 分
Individual Round 2 个人第 2 轮	(GMT+8) 13:30-14:45 北京时间 13:30-14:45	60 min 60 分钟	400 points 400 分
Individual Round 3 个人第 3 轮	(GMT+8) 15:00-16:15 北京时间 15:00-16:15	60 min 60 分钟	400 points 400 分

*Take individual round 1 as an example: this round will go live at 10:30(GMT+8) and close at 11:10(GMT+8). Once you click "Start" button, you'll have 30 minutes to complete it. You can start at any time between 10:30 and 11:10, but if you start later than 10:40, the round will close at 11:10 automatically, giving you fewer than 30 minutes to finish.

*以第 1 轮为例，10:40 之后选手仍可开始答题，但系统将在 11:10 自动结束计时，导致实际有效做题时间无法达到 30 分钟。由此造成的成绩损失由选手本人承担。

General Answer Format/答案提交格式:

Each Sudoku has two marked rows or columns. You need to submit all digits in the corresponding directions, from left to right or from top to bottom.

每道题目会有两个被标记出的行或列。你需要按从左到右、从上到下的顺序提交这两行/列内的全部数字。

In the example, the two answer keys are:

在这道例题中，两串需要提交的数字为：

A: 964158327

B: 692847135

B
↓

A →

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

Scoring and Bonus/分值和加分:

-Points will be awarded only when both the 2 answer keys of a puzzle are correct.

There will be no partial points.

-当某道题目的两个指定行列数字全部提交正确时，该题得全部分数，否则不得分。

-The bonus points for each round will be awarded to any competitor who correctly submits all the answer keys in the round.

-在每轮个人赛中，只有全部题目答案均提交正确的选手才能获得该轮的加分。

-In each round, the bonus will be 6 points for each full remaining minute and then 0.1 point for each extra second.

-每轮比赛中，全部作答正确的选手每提前 1 分钟提交加 6 分，不满 1 分钟的部分每秒加 0.1 分。

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O15 Round 1- 200 Points, 30 Minutes/第 1 轮-200 分，30 分钟

1-8. Classic Sudoku 标准数独

Place a digit from 1 to 9 into each of the empty cells, so that each digit appears exactly once in each row, column and outlined 3×3 block.

将数字 1-9 填入空格内，使每行、每列和每宫内的数字均不重复。

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

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

O15 Round 2- 400 Points, 60 Minutes/第 1 轮-400 分，60 分钟

1.Diagonal Sudoku 对角线数独

Apply Classic Sudoku rules. On both marked diagonals, each digit must appear exactly once.

将数字 1-9 填入空格内，使每行、每列、每宫和两条对角线内的数字均不重复。

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

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

2. XV Sudoku VX数独

Apply Classic Sudoku rules. Adjacent cells with digits summing to 5 are marked by V, while those summing to 10 are marked by X. All possible V and X are marked.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。符号V两侧格内数字之和为5，符号X两侧格内数字之和为10，没有符号VX的相邻两格内数字之和不能为5和10。

8				7	x			x	1		
	x	3					x		8	x	
	x		x					x			
x	x	x									
	x			7	x	v					
2				x	x					6	x
						8		v			
x											
			x						x	6	
	9			x							
5					9		v			x	3

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

3. Odd Even Sudoku 奇偶数独

Apply Classic Sudoku rules. Cells with shaded circles contain odd digits. Cells with shaded squares contain even digits.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。灰色圆圈格内只能填入奇数，灰色方块格内只能填入偶数。

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

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

4. Consecutive Sudoku 连续数独

Apply Classic Sudoku rules. In all cases where two neighbouring digits are consecutive, this is indicated with a grey bar.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。灰色粗线两侧格内数字之差为1，没有灰色粗线的相邻两格内数字之差不能为1。

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

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

5. Anti Knight Sudoku 无马数独

Apply Classic Sudoku rules. Cells that can be reached by a knight step (chess) cannot contain the same digit.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。彼此形成国际象棋中马步位置的两格内不能填入相同的数字。

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

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

6.Windoku 窗口数独

Apply Classic Sudoku rules. Within each coloured region, each digit must appear exactly once.

将数字1-9填入空格内，使每行、每列、每宫和四个灰色区域内的数字均不重复。

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

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

7.Ratio Sudoku 比例数独

Apply Classic Sudoku rules. Each number between adjacent cells is the ratio of the digits in those two cells.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内提示数表示两格内数字的比值。

								$2/3$
		$4/9$			$1/4$			
$1/3$						$8/9$		
			$5/7$				$5/8$	
$2/3$				$3/7$				
		$5/8$					$2/9$	
				$2/9$				$1/2$
	$3/4$				$1/2$			
			$1/8$					$5/8$
				$1/3$				
						$3/4$		
	$2/3$							

8	7	4	6	1	5	$2^{2/3}$	3	9
6	5	9	3	$8^{1/4}$	2	7	4	1
$2^{1/3}$	1	3	7	4	9	$8^{8/9}$	5	6
9	$2^{2/3}$	6	2	$5^{5/7}$	$7^{3/7}$	3	1	8
3	8	$5^{5/8}$	5	4	6	1	$9^{2/9}$	2
1	4	7	$2^{2/9}$	9	8	5	6	$1^{1/2}$
7	3	8	$1^{1/8}$	1	2	4	6	9
5	2	1	$9^{1/3}$	3	6	4	7	$5^{5/8}$
4	9	$2^{2/3}$	6	8	5	$3^{3/4}$	1	2

8. Arrow Sudoku 箭头数独

Apply Classic Sudoku rules. Digits placed in a cell with a circle must be the sum of the digits placed in cells the adjoining arrow passes through. Digits may repeat on arrows.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。圆圈格内数字为该箭头穿过所有数字之和。

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

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

9. Palindrome Sudoku 回文数独

Apply Classic Sudoku rules. Apply Classic Sudoku rules. The digits on the grey lines form a palindromic sequence from one end to the other.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。每条灰色内首尾对应的两格内数字相同。

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

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

10.Killer Sudoku 杀手数独

Apply Classic Sudoku rules. The digits placed in each marked cage must sum to the total given in its top-left. Digits must not repeat in cages.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。虚线框内提示数表示框内所有数字之和，同虚线框内不能填入相同的数字。

12		22			10	14	20	
10				13			6	
	14			16				12
14		4			17	15	11	
16				3			6	21
	12					5		
	9	13	12	22		12		12
22						18		
				12				

12	2	29	6	7	19	14	28	3
19	1	5	18	3	4	6	6	2
3	18	6	19	2	1	7	4	15
14	5	4	7	14	19	18	3	6
19	7	3	3	2	8	6	4	25
6	14	8	1	5	5	3	2	9
1	9	13	13	29	2	15	7	18
28	3	2	5	6	7	19	1	4
5	9	7	4	14	8	3	6	2

O15 Round 3- 400 Points/第 1 轮-400 分，60 分钟

1.Greater Than Sudoku 不等号数独

Apply Classic Sudoku rules. Apply Classic Sudoku rules. Digits have to be place in accordance with the "greater than" signs.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内不等号表示两侧格内数字的大小关系。

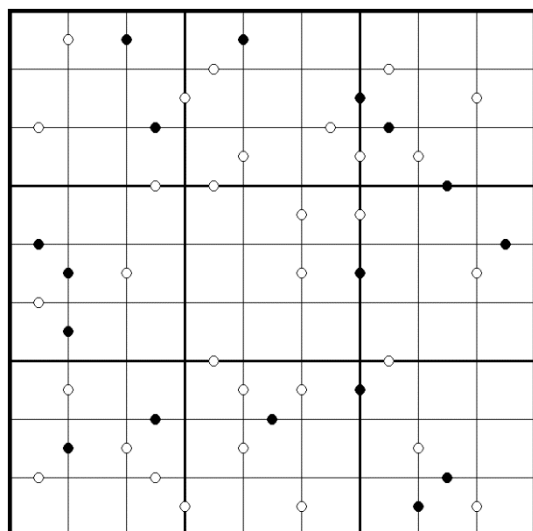
		<		>		3		2
4		<					7	<
		1		9				
8		4					2	5
			8		7			
7	9					4		8
			<	8		2		
	<	8					>	1
3		9			>		>	

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

2.Kropki Sudoku 黑白点数独

Apply Classic Sudoku rules. A white circle between two cells indicates that the neighbouring digits are consecutive. A black circle between two cells indicates that one of the digits is twice as big as the other digit. The absence of a circle indicates that there is no neighbouring digit that is either consecutive or double.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。黑点两侧格内数字为二倍关系，白点两侧格内数字之差为1，没有黑白点的相邻两格内数字不能出现上述两种关系。



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

3. X-Sum Sudoku X和数独

Apply Classic Sudoku rules. Clues outside the grid indicate the sum of the first X digits placed in the corresponding direction, where X is equal to the first digit placed in that direction.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面外提示数表示其对应行列内前X格内数字之和，X的数值为第一格内的数字。

	20	42	19	13	45	32	35	6	1	
29										1
9										45
13										30
1										40
45										28
30										16
43										9
33										17
19										41
	25	10	26	34	10	45	1	31	44	

	20	42	19	13	45	32	35	6	1	
29	5	8	4	3	9	7	6	2	1	1
9	2	7	6	8	1	5	3	4	9	45
13	3	9	1	2	4	6	7	8	5	30
1	1	4	8	6	3	2	9	5	7	40
45	9	5	3	4	7	8	2	1	6	28
30	6	2	7	9	5	1	8	3	4	16
43	8	1	9	5	6	3	4	7	2	9
33	7	6	2	1	8	4	5	9	3	17
19	4	3	5	7	2	9	1	6	8	41
	25	10	26	34	10	45	1	31	44	

4. Quadruple Sudoku 四格提示数独

Apply Classic Sudoku rules. Each set of four digits in the intersection of two lines indicates the digits that have to be placed in the four adjacent cells.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内提示数表示周围四格内所含的数字，数字的顺序没有要求。

			2469	1457	1256			
1589								
			2357	1468	7899			
1246								
					3456			
3457	1388			2799				
					1456			
	1259	4569	3378					

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

5. Renban Sudoku 连续数数独

Apply Classic Sudoku rules. Every marked cage contains a set of consecutive digits in arbitrary order.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内每条灰线穿过的格内为一组连续的数字，数字的顺序没有要求。

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

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

6. Between 1 and 9 Sudoku 19之间数独

Apply Classic Sudoku rules. Clues outside the grid indicate the sum of the digits that have to be placed between the digits 1 and 9 in the respective row or column.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面外提示数表示对应行列内数字1和9之间的其它数字之和。

1									32
	2								10
		3							6
									15
									10
									13
					7				6
						8			17
							9		6
23	0	8	10	7	30	18	5	19	

1	6	7	5	8	2	4	9	3	32
4	2	9	3	7	1	8	5	6	10
5	8	3	6	9	4	2	1	7	6
8	7	5	9	4	6	3	2	1	15
6	4	1	2	3	5	9	7	8	10
9	3	2	8	1	7	6	4	5	13
2	9	6	1	5	8	7	3	4	6
3	1	4	7	6	9	5	8	2	17
7	5	8	4	2	3	1	6	9	6
23	0	8	10	7	30	18	5	19	

7. Search 9 Sudoku 寻9数独

Apply Classic Sudoku rules. Each arrow is pointing in the direction of the digit 9 in the respective row or column, where the digit in the cell with the arrow indicates the distance (with respect to the number of cells) from the arrow to the 9.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内箭头所指的方向上必然有数字9，箭头格内数字的数值为该箭头到所指向9的距离。

7			↓		←			2
		←		7		↓		
	→			↑			↓	
→								←
	7	→		3		→	4	
↑								←
	→			→			←	
		←		6		←		
6			↑		↑			1

7	6	4	↓3	9	←1	8	5	2
9	8	←2	6	7	5	↓1	3	4
1	→5	3	8	↑2	4	9	↓6	7
←3	2	8	9	4	6	7	1	→5
5	7	→6	1	3	8	←2	4	9
↑4	1	9	2	5	7	3	8	←6
8	←4	5	7	↑1	9	6	←2	3
2	9	←1	4	6	3	←5	7	8
6	3	7	↑5	8	↑2	4	9	1

8.Skyscrapers Sudoku 摩天楼数独

Apply Classic Sudoku rules. Each digit represents a skyscraper of the given height.

Clues outside the grid indicate the number of visible skyscrapers from that direction.

Higher skyscrapers block the view of lower skyscrapers.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内数字表示不同高度的楼房，盘面外提示数表示从该方向可以观察到楼房的个数，楼层高的楼房会挡住其后方楼层矮的楼房被观测的视线。

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

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

9.Counting Neighbours Sudoku 扫雷数独

Apply Classic Sudoku rules. A digit in a cell with a circle indicates the number of

different digits in all horizontal, vertical or diagonal neighbouring cells. A digit in a cell

with a cross indicates the number of different digits in all diagonal neighbouring cells.

All possible circles and crosses are given.

将数字1-9填入空格内，使每行、每列和每宫内的数字均不重复。盘面内圆圈格内数字表示其周围八格内有几个不同的数字，叉子格表示其对角所指向的四格内有几个不同的数字。所有符合这两种关系的格子均标注出了符号。

○	×					○		8
	○			5				
○		1	9	×			○	
○		3				○		
	5			6			3	
	○					8		○
×			○		1	×		
	×	○		7		×	○	×
7				×				

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

10. Consecutive Clone Sudoku 克隆连续数独

Apply Classic Sudoku rules. Digits in each corresponding cell in both shaded figures are consecutive.

将数字 1-9 填入空格内，使每行、每列和每宫内的数字均不重复。盘面内两组灰色区域中相同位置的格内数字之差为 1。

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

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