

Indian Sudoku Championship 2013

11-August-2013

<http://logicmastersindia.com/2013/ISC/>

Important Links

Submission: <http://logicmastersindia.com/2013/ISC/>

Discussion: <http://logicmastersindia.com/t/?tid=712>

F.A.Q: <http://logicmastersindia.com/t/?tid=381>

Registration, if required: <http://logicmastersindia.com/register.asp>

About Indian Sudoku Championship (ISC) 2013

The Indian Sudoku Championship 2013 will be held online on 11th August, 2013. Participation is free of cost and everyone is invited to participate in the event irrespective of age. There are no prerequisites/requirements for participation. All you will need to do is register at Logic Masters India (LMI).

How to participate?

- Participants must be a registered member at <http://logicmastersindia.com> (LMI)
- Understand the rules of different Sudokus that will appear in the championship
- Download the password protected Sudoku booklet (will be uploaded before ISC starts)
- This booklet contains the actual Sudokus that will appear in ISC. It is password protected, so you won't be able to open it.
- On 11th August at 14:00 IST, Login at the submission page using your LMI userid and password
- Click on "Start ISC". At this time, password for pdf will be shown and timer will start.
- You can either solve online using flash interface or print the pdf and solve on paper.
- Each Sudoku will be marked with a row and a column
- If solving on paper
 - Fill the answer form with digits from marked row and column
 - Click submit button (there is only 1 submit button for all Sudokus)
- If solving online
 - After solving the Sudoku, click on "Submit" button below the grid
 - Each Sudoku grid has different submit buttons
- You can submit as many times as you want, your last submitted answer (using paper mode or online mode) will be used for results.

The Sudoku booklet will have approximately 11 pages. If you are planning to solve on paper, we advise you to have a printer accessible with enough paper.

If you are participating at LMI for first time, you must check the F.A.Q. at <http://logicmastersindia.com/t/?tid=381>.

Timings

The length of the championship is 150 minutes. So, after getting the password, you have 150 minutes to print the Sudokus, solve them, find the answer keys and submit your answers. Submissions will not be accepted after 150 minutes.

ISC 2013 will start on 11th August at 14:00 hours IST. Answer submissions will not be accepted after 16:45 hours (or 150 minutes after you start, whichever is earlier). You must start accordingly to allow yourself full solving time.

International Participation

ISC will be open for a longer period for international players to participate at their own convenience. Indians participating out of the official period will not be considered for official Indian rankings.

Outside Help

Outside solving help of any kind is not permitted. This includes but is not limited to: assistance of any kind from any other person; prepared notes, books, calculators, computers, or tools other than items explicitly permitted.

You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, tape, and LMI's flash solving interface.



Judging

All entries and scores are subject to review for rules compliance. Winners may be asked to sign an affidavit confirming that they did, in fact, abide by the rules of the competition. The organizers reserve the right to disqualify any contestant if, in their sole judgment, they believe the rules have been violated.

In case of a dispute, protest, or other judgment, the decision of the judges is final.

Only for Indian Participants

1. Submissions until 16:45 on 11th will be considered for official scoring.
2. The organizers do not anticipate any technical problems during the championship. However, if you face any problems while submitting the answers, you may email your answers to logicmasteradmin@gmail.com before 16:45 pm. Submissions via email is discouraged and will be accepted only in exceptional cases.

Points Table

Points typically indicate difficulty of the sudokus and time required to solve them. While the organizers have made best efforts to match them, your personal experience and preference may differ.

Section 1		Section 2	
Classic 1	20	Diagonal	35
Classic 2	30	Killer	55
Classic 3	25	Renban	65
Sudo-Kurve	20	Thermo	35
6X6 Sudoku	100	Arrow	35
Overlapping	90	Smashed Sums	105
Shifted	60	Vudoku	45
Deficit	60	G.T. Consecutive	60
Pinocchio	55	Even Killer	50
		Outside	115

Bonus

Players submitting all sudokus with maximum 4 wrong cells across all Sudokus will get **seven** points per minute saved as bonus. Bonus will be computed upto seconds.

There will not be any "Claim Bonus" button. Players are expected to check their submissions carefully if they finish early.

Tie Breaker

Players having same scores will be ranked based on the following tie-breakers.

1. Most points in Section 2
2. Least submission time of last correctly submitted sudoku

General Rules

To make the rules less repetitive, you will see following line “Apply standard Sudoku rules” in most Sudoku rules. This means “Place a digit from 1 to N, where N is the size of the grid, in each empty cell so that each digit appears exactly once in each row, column and outlined region.”

These outlined regions could be 3X3 boxes, or other shapes.

Each Sudoku will be marked with, at max, 2 lettered arrows. If you are solving on paper, you need to submit the digits in these arrows, in order, including the givens. For example, the answer key for the Sudoku at the right is 162897453, 517698432.

Acknowledgements

Logic Masters India thanks the following Sudoku solvers and makers for helping us organize Indian Sudoku Championship 2013.

Bastien Vial-Jaime
Bram de Laat
Jakub Hrazdira
Matus Demiger
Nikola Zivanovic
Serkan Yurekli
Thomas Snyder

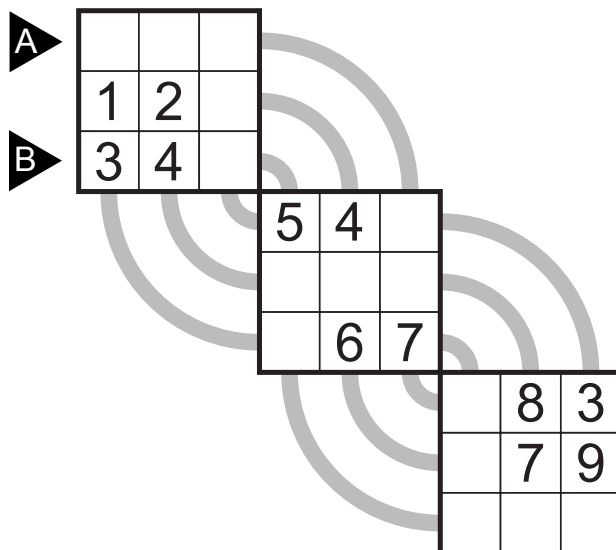
1,2,3) Classic Sudoku

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

This example was written by Deb Mohanty for Sudoku Grand Prix – Indian Round.

4) Sudo-Kurve

- ↪ Standard Sudoku rules apply.
- ↪ Some “rows” and “columns” bend as indicated by following curved lines.



Note: While entering the answer key, enter all the 9 digits along the “row”. For the example, the answer keys are 956217483, 347598261.

This example was posted by Thomas Snyder at <http://www.gmpuzzles.com/blog/2013/02/dr-sudoku-prescribes-38-sudo-kurve/>

5) 6X6 Sudoku

- ↗ Standard Sudoku rules apply.
- ↗ There will be 6 Sudokus, each of them being independently solvable.

1	5			3	
				6	
			1		
		3			
	6				
	4			1	2

		2	4		
	2			1	5
6	4			3	
		3	1		

				5	1
			6		
3					
					4
		1			
2	3				

These examples were written by nonzero for Sudoku Grand Prix – Italian Round.

6) Overlapping Sudokus

- ↗ Standard Sudoku rules apply to 2 overlapping grids.

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

7) Shifted Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ Some 3X3 boxes are shifted, resulting in some other 3X3 boxes wrapping around the grid.

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

This example (appeared as Toroidal Sudoku) was written by nonzero for Sudoku Grand Prix – Italian Round.

8) Deficit Sudoku

- ↻ Place a digit 1 to 7 in each empty cell such that digits don't repeat in any row, column or outlined regions.
- ↻ Some of the outlined regions have lesser number of cells.

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

9) Pinocchio Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ Three digits are marked differently than the rest.
- ↻ Two of them are correct, while the third (Pinocchio) is incorrect.

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

This example was posted by Frederic Stalder at <http://sudokuvariante.blogspot.in/2013/05/pinocchio-sudoku-n1.html>

10) Diagonal Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ Additionally, digits do not repeat across main (marked) diagonals.

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

This example was written by Deb Mohanty for Sudoku Grand Prix – Indian Round.

11) Killer Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ The sum of digits in cells inside every cage must equal the total given for the cage at the upper left cell.
- ↻ Digits do not repeat inside a cage.

12		9		22	7		20	
	18						18	
16			45					7
	12					45		
							9	
24								11
	23					10		
9		13	15		18			24

This example was written by Deb Mohanty for Sudoku Grand Prix – Indian Round.

12) Renban Groups

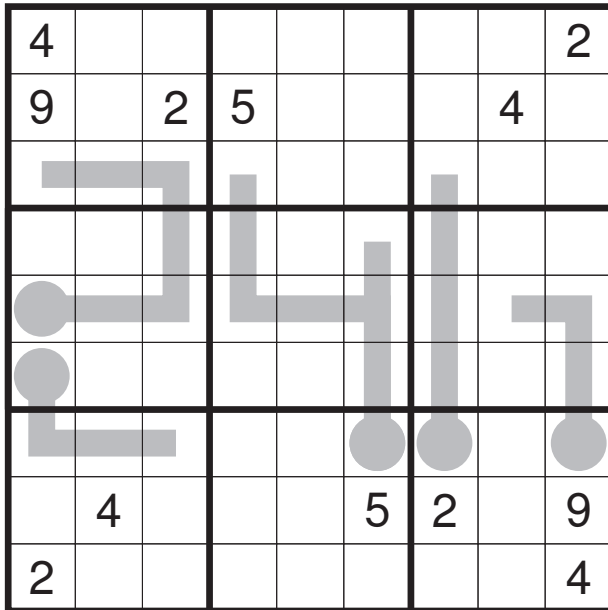
- ↻ Standard Sudoku rules apply.
- ↻ Each set of (orthogonally or diagonally) connected grey area must contain a series of distinct consecutive digits.

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

This example was written by Zafer Hüseyin Ergan for LMI monthly test "Renban Grouped Sudokus".

13) Thermo Sudoku

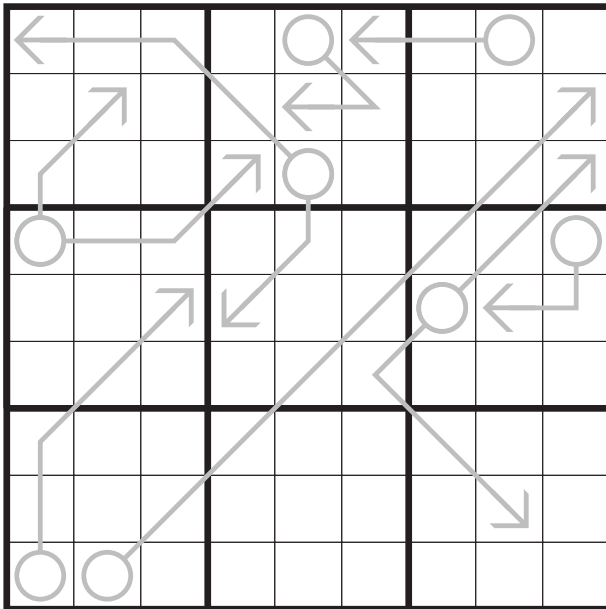
- ↻ Standard Sudoku rules apply.
- ↻ The digits in each “thermometer” shaped region must be strictly increasing from the circular “bulb” to the other end(s).



This example was written by Deb Mohanty for 24 hours championship, 2012.

14) Arrow Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ The sum of the digits along the path of each arrow must equal the digit in the circled cell.
- ↻ Digits can repeat within an arrow shape.



This example was written by Rohan Rao for LMI monthly test “Crazy Arrows”.

15) Smashed Sums Sudoku

- ☞ Place a digit from 1-7 such that each digit appears exactly once in each row, column and 3×3 box.
- ☞ There will be 2 blackened cells in each row, column and 3×3 box.
- ☞ Numbers outside the grid indicate the sum of digits between the blackened cells in the corresponding direction.

	14	26	5	25	4	10	7	20	2
1									
6									
28									
4									
17									
15									
10									
18									
4									

Note: Enter X for black cells

This example was posted by Serkan Yurekli at <http://yurekli.s.wordpress.com/2012/06/23/smashed-sums-sudoku/>

16) Vudoku

- ☞ Standard Sudoku rules apply.
- ☞ The digit at the vertex of each marked "V" must either be sum or difference of other two digits on the "V".

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

This example was written by Serkan Yurekli.

17) Greater Than Consecutive

- ↻ Standard Sudoku rules apply.
- ↻ In all cases where the difference between two neighboring digits is 1, there is a greater or less sign between those digits.
- ↻ Digits must be placed in accordance with the signs.

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

This example was written by Richard Stolk for LMI monthly test "Variations to Variants".

18) Even Killer Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ The sum of digits in cells inside every cage must be even.
- ↻ Digits do not repeat inside a cage.

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

19) Outside Sudoku

- ↻ Standard Sudoku rules apply.
- ↻ The digits outside the grid must appear in one of the first three cells seen from that edge of the grid

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

This example appeared in Indian Sudoku Championship Online Qualifier - 2011.

Solutions

The remaining pages contain the solutions to the examples. However, you are encouraged to first try solving the examples with the given rules, without looking up the solution.

Classic Sudoku

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

Sudo-Kurve

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

6X6 Sudoku

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

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

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

Overlapping Sudoku

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

Shifted

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

Deficit

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

Pinochio

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

Diagonal

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

Killer

¹² 6	5	⁹ 4	3	²² 9	⁷ 1	2	²⁰ 7	8
1	¹⁸ 3	8	2	6	7	4	¹⁸ 9	5
¹⁶ 9	2	7	⁴⁵ 5	4	8	3	6	⁷ 1
5	¹² 1	3	9	7	6	⁴⁵ 8	2	4
4	7	6	1	8	2	9	⁹ 5	3
²⁴ 8	9	2	4	3	5	7	1	¹¹ 6
7	²³ 8	9	6	1	4	¹⁰ 5	3	2
⁹ 3	6	¹⁵ 5	¹⁵ 8	2	¹⁸ 9	1	4	²⁴ 7
2	4	1	7	5	3	6	8	9

Renban Groups

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

Thermo

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

Smashed Sums Sudoku

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

Vudoku

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

Greater Than Consecutive

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

Even Killer

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

Outside

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

Arrow

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