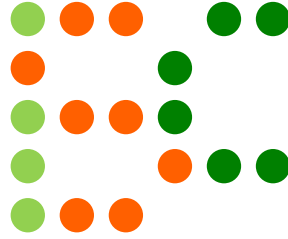


इयवठेय mahabharat



Episode – 2
12th– 14th September

Neighbours
by
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Sudoku Mahabharat rounds will also serve as qualifiers for Indian Sudoku Championship for year 2016. Please check <http://logicmastersindia.com/SM/2015-16.asp> for details.

Important Links

Submission Page : <http://logicmastersindia.com/SM/201509/>

Discussion Thread : <http://logicmastersindia.com/t/?tid=1089>

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

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

About this Episode

Apart from classic Sudokus of different sizes, this episode has five variants emphasizing relationship between neighbouring cells, namely Thermo Sudoku, Quadruple Sudoku, Repeated Neighbours Sudoku, Renban Groups Sudoku and Touchy Sudoku.

How to participate?

- Understand the rules of different Sudokus that will appear in this episode. This Instruction Booklet has rules for each Sudoku.
- Download the password protected Sudoku booklet (will be uploaded before the test starts). The Sudoku booklet contains the actual Sudokus to be solved. It is password protected, so you won't be able to open it.
- Any time after 12th September (but before 14th September), login at the submission page using your LMI userid and password.
- Please check the submission page for exact timing.
- Click on "Start". 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 two arrows
- If solving on paper
 - Fill the answer form with digits along the marked arrow(s)
 - Click submit button
- If solving online
 - After solving the Sudoku, click on "Submit" button below the grid
 - Each Sudoku grid has different submit buttons

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

Points Table and Scoring

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.

This test uses instant grading where a solver can submit any individual Sudoku and receive confirmation that the solution is correct or not. Each incorrect submission reduces the sudoku's potential score. The first, second, third, and fourth incorrect submission reduces the potential score to 90%, 70%, 40%, and 0% respectively.

Standard 6X6	1, 1, 1, 1
Standard 8X8	4
Standard 9X9	5, 6, 5
Thermo 6X6, 9X9	2, 9
Quadruple 6X6, 9X9	6, 11
Touchy 6X6, 9X9	2, 15
Repeated N 6X6, 9X9	7, 15
Renban 6X6, 9X9	2, 7

Bonus

If you submitted all Sudokus correctly, you can have bonus points 1 point per minute saved, computed upto seconds.

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.

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

About the Sudoku Booklet

The password protected Sudoku booklet will have 8 pages. If you are planning to solve on paper, we advise you to have a printer accessible with enough paper.

The Sudoku booklet will look exactly like next 8 pages in this instruction booklet. The font sizes, cell sizes, colors, borders, shading, margin will be identical. We recommend you to print few pages of this instruction booklet. You can avoid any last minute surprise during the test.

	1237							4589
		6789	1569		1478	1347		
A								
			2	1	6			
			4	5	7			
			6	7	2			
			8	9	1			

*This grid is for testing how the printout looks.
If you are solving this not-so-easy grid, remember
1) Touchy rule
2) not all cells with Repeated Neighbours are shaded.*

Standard Sudoku

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

1 point

A

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

1 point

B

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

1 point

C

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

1 point

D

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

Standard Sudoku

4 points

Place a digit from 1 to 8 in each empty cell so that each digit appears exactly once in each row, column and 2X4 box.

F

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

E

Standard Sudoku

5 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

H

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

G

Standard Sudoku

6 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

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

Standard Sudoku

5 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

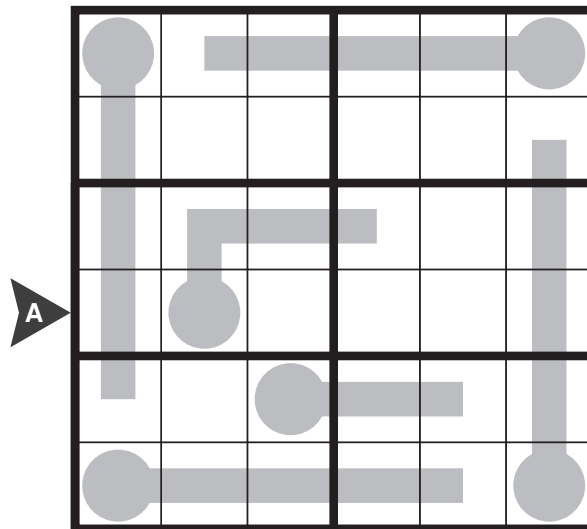
	3	7		1	6		9	5
	1			8			6	
	9	2		3	1		7	6
	8			7			1	
	7	3		5	4		8	9
	5			9			3	

Thermo Sudoku

2 points

Apply standard Sudoku rules.

Additionally, the digits in each “thermometer” shaped region must be strictly increasing from the circular “bulb” to the other end(s).

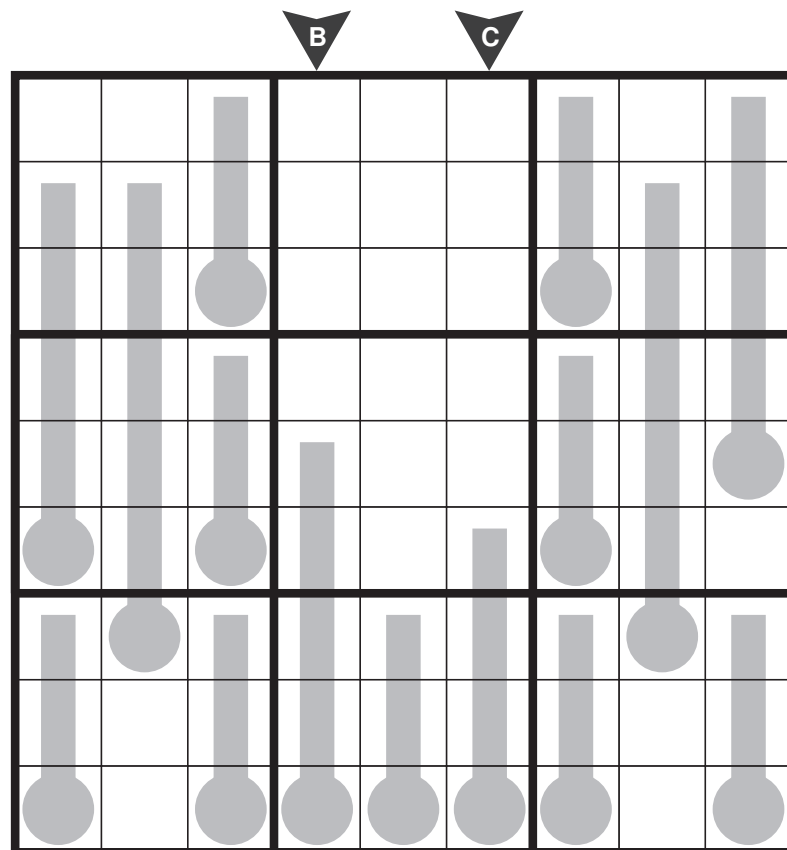


Thermo Sudoku

9 points

Apply standard Sudoku rules.

Additionally, the digits in each “thermometer” shaped region must be strictly increasing from the circular “bulb” to the other end(s).

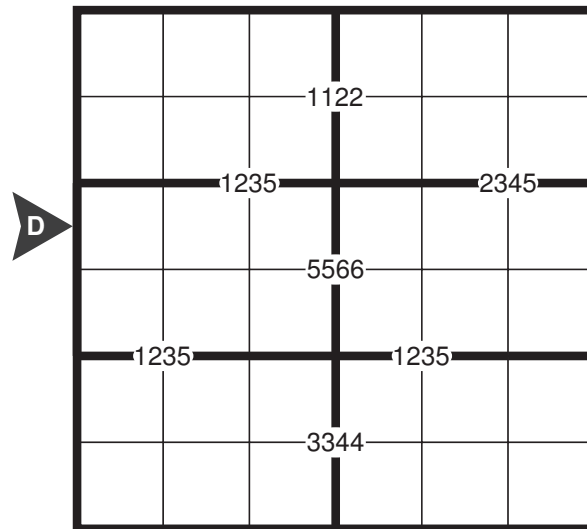


Quadruple Sudoku

6 points

Apply standard Sudoku rules.

Additionally, the digits given at the corner must appear in the 4 adjoining cells. If any digit is given twice, it must appear twice.

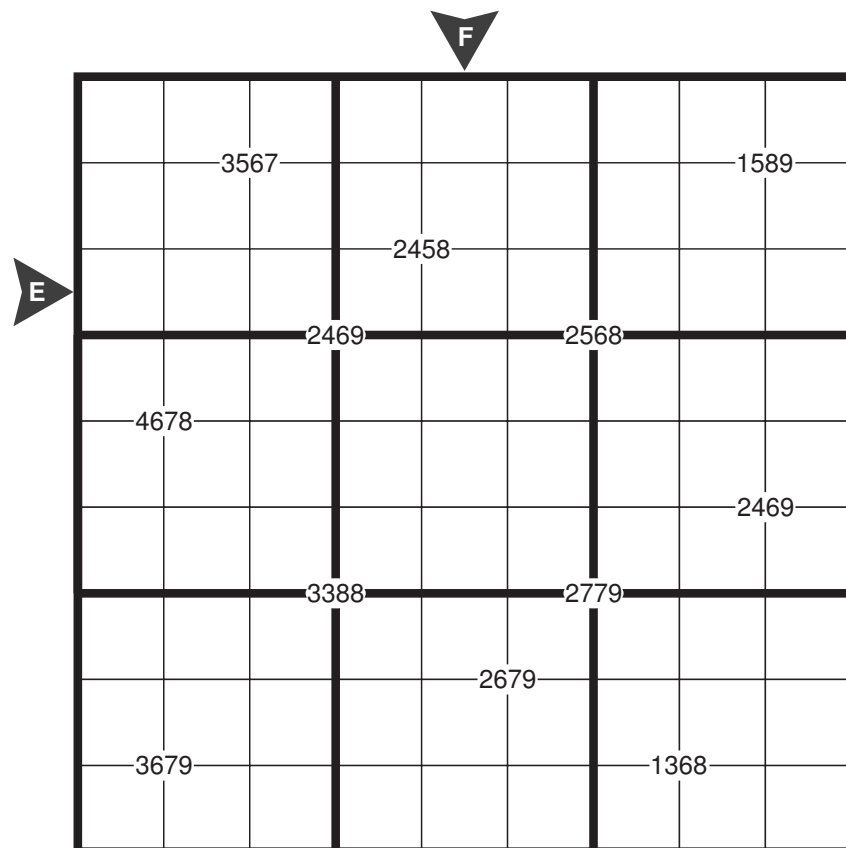


Quadruple Sudoku

11 points

Apply standard Sudoku rules.

Additionally, the digits given at the corner must appear in the 4 adjoining cells. If any digit is given twice, it must appear twice.



Touchy Sudoku

2 points

Apply standard Sudoku rules.

Each digit has at least one consecutive adjacent (sharing edges) neighbour.

2				3	
	3				5
		3			
			2		
3				5	
	5				2

Touchy Sudoku

15 points

Apply standard Sudoku rules.

Each digit has at least one consecutive adjacent (sharing edges) neighbour.

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

Repeated Neighbours

7 points

Apply standard Sudoku rules.

Each shaded cell must have repeating orthogonal neighbours (neighbours sharing an edge). White cells must have distinct orthogonal neighbours.

6					3
4					1
2					4
5					6

Repeated Neighbours

15 points

Apply standard Sudoku rules.

Each shaded cell must have repeating orthogonal neighbours (neighbours sharing an edge). White cells must have distinct orthogonal neighbours.

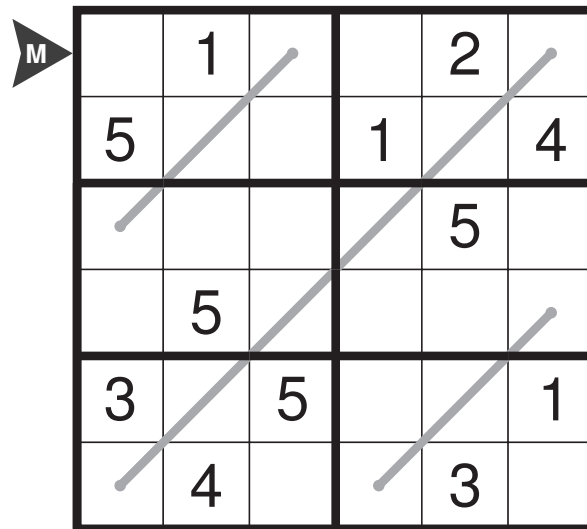
			8		3			
		4		1		2		
	3		6		8		9	
		8				6		
	6		5		4		2	
		1		6		8		
			7		5			

Renban Sudoku

2 points

Apply standard
Sudoku rules.

The set of digits on
each line must be
distinct consecutive
digits.

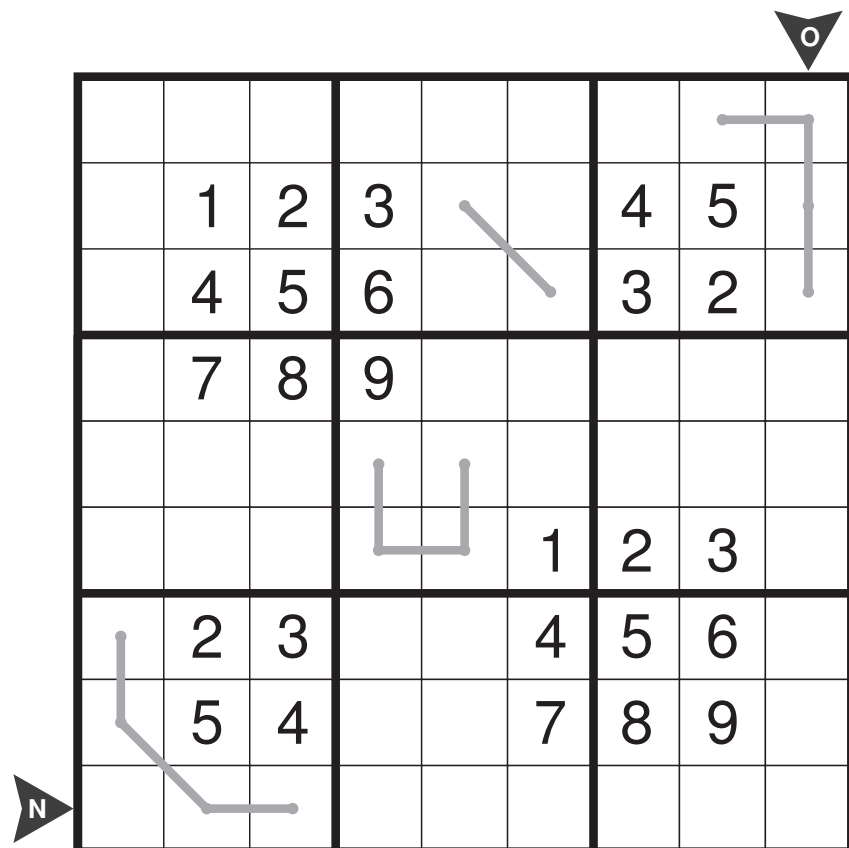


Renban Sudoku

7 points

Apply standard
Sudoku rules.

The set of digits on
each line must be
distinct consecutive
digits.



Standard

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

Standard

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

Standard

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

Standard

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

Standard

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

Standard

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

Standard

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

Standard

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

Thermo

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

Quadruple

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

Thermo

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

Extra Region

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

Touchy

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

Repeated Neighbours

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

Touchy

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

Repeated Neighbours

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

Renban

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

Renban

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