



इयतठक्य
ललहलठलरलत

Episode – 4
4th – 10th April 2025

Outside & Hybrids
by
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Sudoku Mahabharat rounds will also serve as qualifiers for Indian Sudoku Championship for year 2025. Please check <http://logicmastersindia.com/SM/2025sm.asp> for details.

Important Links

Submission Page : <http://logicmastersindia.com/live?contest=SM202504>

Discussion Thread : <http://logicmastersindia.com/t/?tid=4227>

F. A. Q. : <http://logicmastersindia.com/t/?tid=2773>

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

About this Episode

This episode has 18 Sudokus with the following breakdown:

- 2* Classic Sudoku 6x6 and 4* Classic Sudoku 9x9
- 1 each of Diagonal Skyscrapers Sudoku 6x6 and Diagonal Skyscrapers Sudoku 9x9
- 1 each of Rossini Sudoku 6x6 and Rossini Sudoku 9x9
- 1 each of Unordered Distances Sudoku 6x6 and Unordered Distances Sudoku 9x9
- 1 each of Arrow & Skyscrapers Sudoku 6x6 and Arrow & Skyscrapers Sudoku 9x9
- 1 each of Thermo & Region Sum Lines Sudoku 6x6 and Thermo & Region Sum Lines Sudoku 9x9
- 1 each of Extra Region & Renban Sudoku 6x6 and Extra Region & Renban Sudoku 9x9

How to participate?

- Understand the rules of different variants that will appear in this episode. This Instruction Booklet has rules for each of them.
- Any time on or after 4th Apr (but on or before 10th Apr), login at the submission page using your LMI user-id and password. Please check the submission page for exact timing.
- **If you plan to solve on paper:**
 - a) Download the password protected Puzzle booklet (will be uploaded before the test starts). The Puzzle booklet contains the actual Puzzles to be solved. It is password protected, so you won't be able to open it.
 - b) Click on "Start". At this time, password for pdf will be shown and timer will start. **The contest duration is 90 minutes.**
 - c) The puzzle booklet can be downloaded, printed and solved on paper.
 - d) We advise you to have a printer accessible with enough paper.
 - e) You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, and tape.
- **If you plan to solve on LMI's Penpa-Integrated Interface:**
 - a) Click on this link and understand the instructions - <https://logicmastersindia.com/live/faq-online-solving.asp>
 - b) It is noted on the link too, but we note it here as well to be clear – the participants must still input the answer keys in the boxes below the puzzle and submit them to receive credit as given below.
- Arrow & Skyscrapers 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.
- Participants may use both paper solving and online solving, even interchangeably. Eventually our system will only count anything submitted in the submission boxes in either mode.

If you are participating at LMI for first time, it will be useful to check the F.A.Q. at <http://logicmastersindia.com/t/?tid=2773>.

About answer keys and Submission

- After solving the puzzle, you need to submit the puzzle using the answer keys.
 - You may submit the answer keys anytime during the test duration.
 - Answer keys are always to be entered from left to right or top to bottom
 - Don't enter any separator unless specified in the answer key
 - If one row and one column is marked, enter the row first and then the column
 - If multiple rows are marked, enter from top to bottom for marked rows
 - If multiple columns are marked, enter from left to right for marked columns
-

Points Table and Scoring

Points typically indicate difficulty of the Puzzles and time required to solve them. You will get full points if you enter the correct answer key. While the organizers have made best efforts to match them, **your personal experience and preference may differ.**

Classic Sudoku 6x6	1, 1
Classic Sudoku 9x9	3, 4, 5, 8
Diagonal Skyscrapers Sudoku 6x6 & 9x9	2, 13
Rossini Sudoku 6x6 & 9x9	2, 10
Unordered Distances Sudoku 6x6 & 9x9	5, 6
Arrow & Skyscrapers Sudoku 6x6 & 9x9	6, 13
Thermo & Region Sum Lines Sudoku 6x6 & 9x9	4, 5
Extra Region & Renban Sudoku 6x6 & 9x9	4, 8

This test uses instant grading where a solver can submit any individual Puzzle and receive confirmation that the solution is correct or not. Each incorrect submission reduces the puzzle's potential score. The first, second, third, and fourth incorrect submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively. A demonstration for this is shown below.

Original points

04 Araf	50 points	4A	Sum should be 10
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Potential points after 1 incorrect submission

04 Araf	45 / 50	4A	1234
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Potential points after 2 incorrect submissions

04 Araf	35 / 50	4A	23311
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Potential points after 3 incorrect submissions

04 Araf	20 / 50	4A	1111111111
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Potential points after 4 incorrect submissions

04 Araf	0 / 50	4A	541
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Bonus and Ranking

If you submitted all Puzzles correctly, you can have bonus points 1 point per minute saved, computed up to seconds.

Ranking will be based on following rules in order:

1. Most total points
2. Earliest final submission time, up to seconds (ignoring incorrect submissions)

Credits

- **Botaku** and **Wessel Strijkstra** for test solving the puzzles and providing invaluable feedback.
- The original creator **opt-pan** for penpa edit - <https://opt-pan.github.io/penpa-edit/>
- **Swaroop Guggilam** for his recent efforts in adding features to Penpa-edit - <https://swaroopg92.github.io/penpa-edit/> and also working to integrate it with our contest engine.

About the Puzzle Booklet

The password protected Puzzle booklet will have 13 pages. This is relevant only for paper solvers.

Solutions to examples are towards the end of the booklet in the Solutions section.

Rules Powered by Sudokuib - <https://github.com/vopani/sudokuib>

All answer keys are the same for all puzzles – enter the contents of the marked rows/columns, including given digits, along the direction of the arrow.

1-2 Classic Sudoku 6x6

Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

Penpa for example:

<https://tinyurl.com/2nvezsrr>

1 + 1 points

↓ B

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

← A

3-6 Classic Sudoku 9x9

Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

Penpa for example:

<https://tinyurl.com/333ntt48>

3 + 4 + 5 + 8 points

↓ B

	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	

← A

7 Diagonal Skyscrapers

Sudoku 6x6

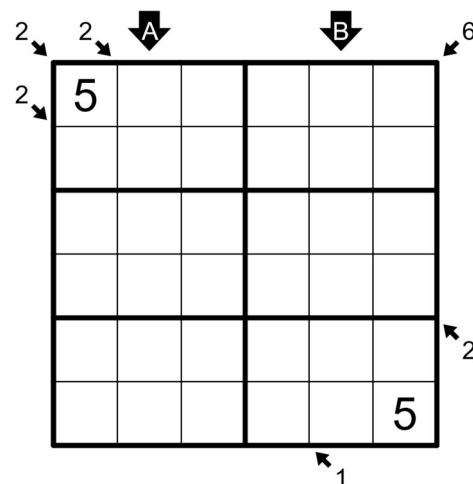
2 points

Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

Each digit inside the grid represents the height of a skyscraper in that cell. Each number outside the grid indicates the number of skyscrapers that can be seen in the direction pointed by its arrow. Skyscrapers hide shorter ones and those of the same height.

Penpa for example:

<https://tinyurl.com/2cjq9nzu>



8 Diagonal Skyscrapers

Sudoku 9x9

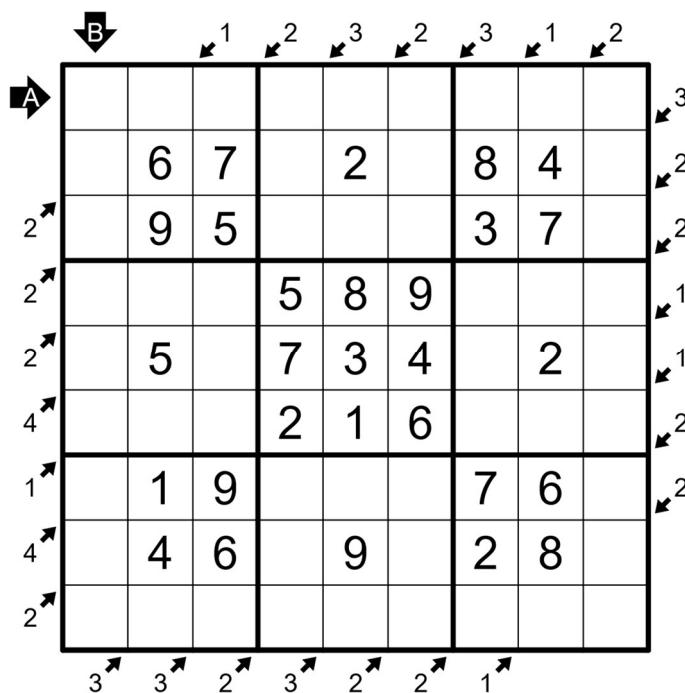
13 points

Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

Each digit inside the grid represents the height of a skyscraper in that cell. Each number outside the grid indicates the number of skyscrapers that can be seen in the direction pointed by its arrow. Skyscrapers hide shorter ones and those of the same height.

Penpa for example:

<https://tinyurl.com/2bzswykh>



9 Rossini Sudoku 6x6

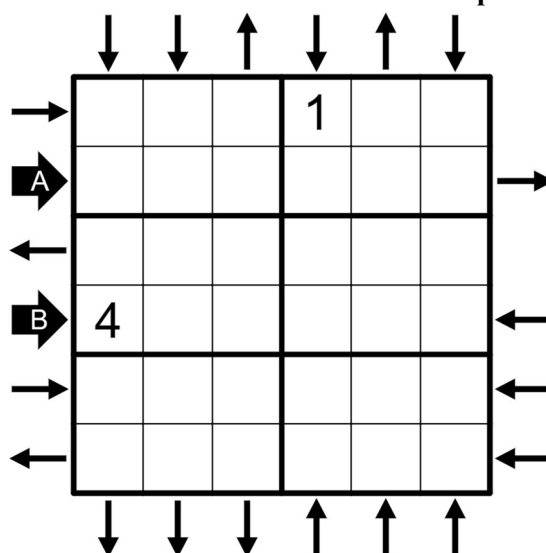
2 points

Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

Each arrow outside the grid indicates that the digits within the first box (till the next bold line) in the corresponding direction are in ascending order in the direction of the arrow. All such arrows are marked.

Penpa for example:

<https://tinyurl.com/2zuajdua>



10 Rossini Sudoku 9x9

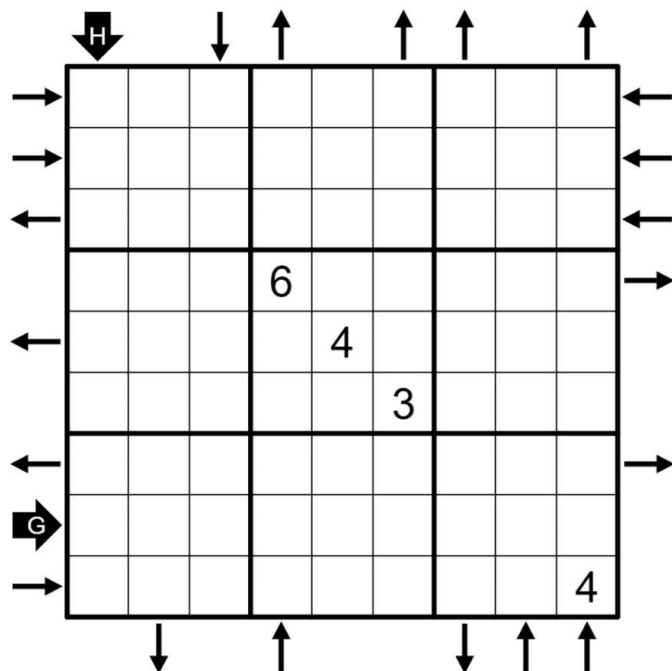
10 points

Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

Each arrow outside the grid indicates that the digits within the first box (till the next bold line) in the corresponding direction are in ascending order in the direction of the arrow. All such arrows are marked.

Penpa for example:

<https://tinyurl.com/2gvvh8yq>



11 Unordered Distances

Sudoku 6x6

5 points

Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

The clues outside the grid give the distance between two digits in that row or column. The digits are not necessarily given in order from the clue's direction.

Penpa for example:

<https://tinyurl.com/2d58wyqa>

1-4:3 2-4:4 **B** 3-4:2 1-3:2 1-6:5

						1-2:5
						4-6:4
						4-5:1
A						2-3:3
						3-6:5

12 Unordered Distances

Sudoku 9x9

6 points

Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

The clues outside the grid give the distance between two digits in that row or column. The digits are not necessarily given in order from the clue's direction.

Penpa for example:

<https://tinyurl.com/2chawaa4>

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

1								6	1-6:8
	6							3	6-9:4
		4		7		1			2-4:2
A			5		1				6-7:5
		3		4		8			4-5:4
B			7		2				4-5:7
		1		9		7			6-7:6
	4							6	4-6:6
7								1	5-7:5

13 Arrow & Skyscrapers Sudoku 6x6

6 points

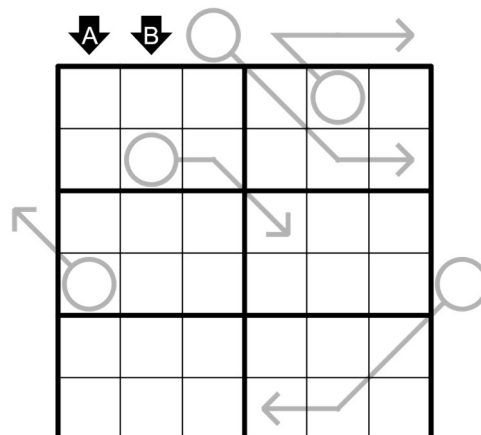
Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

The digit in each circled cell is the sum of digits along the path of its arrow. Digits can repeat within an arrow shape.

Each digit inside the grid represents the height of a skyscraper in that cell. Each number outside the grid indicates the number of skyscrapers that can be seen in the corresponding row or column. Taller skyscrapers hide shorter ones.

Penpa for example:

<https://tinyurl.com/298na7t9>



14 Arrow & Skyscrapers Sudoku 9x9

13 points

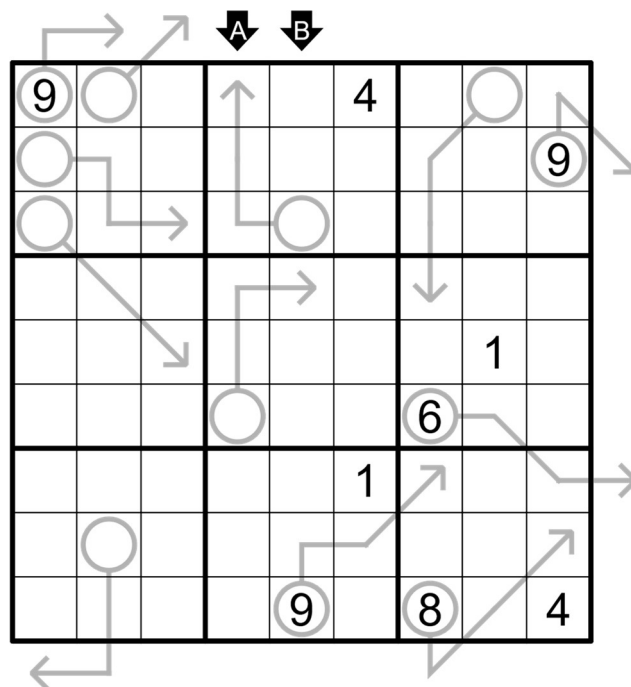
Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

The digit in each circled cell is the sum of digits along the path of its arrow. Digits can repeat within an arrow shape.

Each digit inside the grid represents the height of a skyscraper in that cell. Each number outside the grid indicates the number of skyscrapers that can be seen in the corresponding row or column. Taller skyscrapers hide shorter ones.

Penpa for example:

<https://tinyurl.com/2ad3j4pl>



15 Thermo & Region Sum Lines Sudoku 6x6

4 points

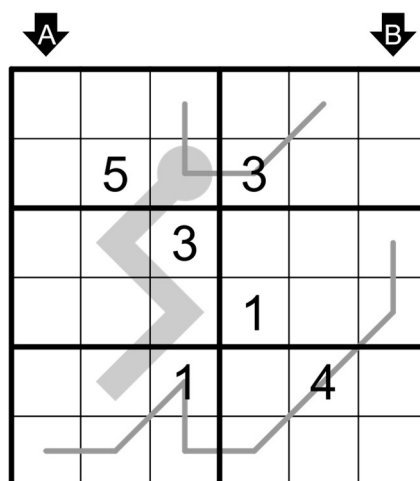
Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

Digits along each thermometer are strictly increasing from its bulb to each of its ends.

Digits on each line add up to the same number in each box it visits.

Penpa for example:

<https://tinyurl.com/2842hah5>



16 Thermo & Region Sum Lines Sudoku 9x9

5 points

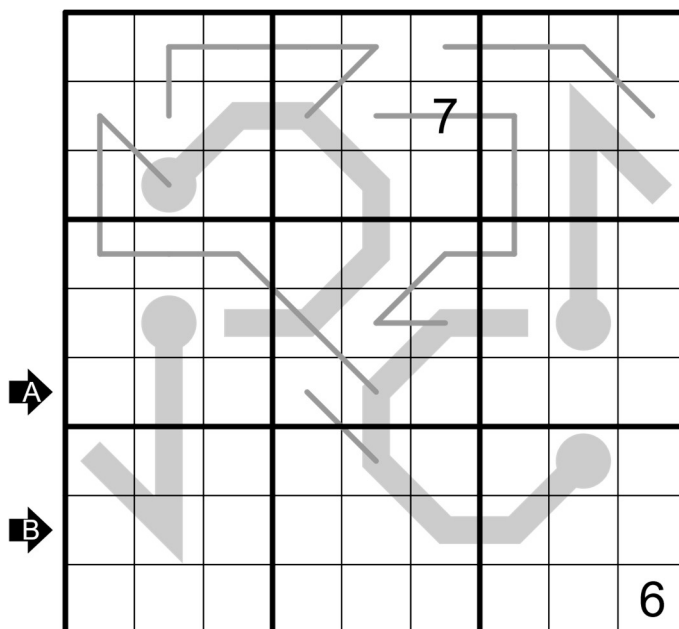
Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

Digits along each thermometer are strictly increasing from its bulb to each of its ends.

Digits on each line add up to the same number in each box it visits.

Penpa for example:

<https://tinyurl.com/243vrcms>



17 Extra Region & Renban Sudoku 6x6

4 points

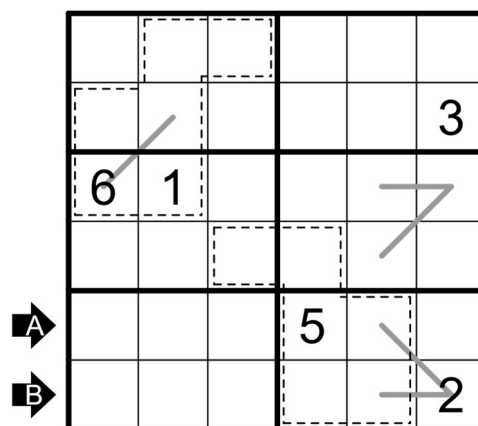
Place a digit from 1 to 6 into each empty cell in the grid so that each digit appears exactly once in each row, column and 2x3 outlined box.

Each dotted cage contains each digit from 1 to 6.

Each marked line contains a set of consecutive digits, not necessarily in order. Digits do not repeat within a line.

Penpa for example:

<https://tinyurl.com/2yhq792>



18 Extra Region & Renban Sudoku 9x9

8 points

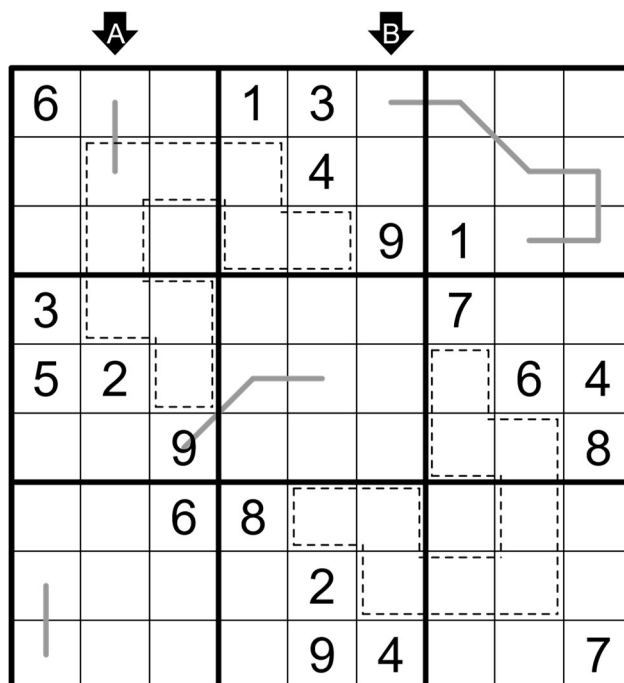
Place a digit from 1 to 9 into each empty cell in the grid so that each digit appears exactly once in each row, column and 3x3 outlined box.

Each dotted cage contains each digit from 1 to 9.

Each marked line contains a set of consecutive digits, not necessarily in order. Digits do not repeat within a line.

Penpa for example:

<https://tinyurl.com/2atom4br>



Solutions

Classic Sudoku 6x6

B

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

A

Key: 412356,325461

Classic Sudoku 9x9

B

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

A

Key: 781564329,718369254

Diagonal Skyscrapers Sudoku 6x6

2	2	A	B	6			
2	5	2	3	4	6	1	
	1	4	6	5	2	3	
	2	6	5	3	1	4	
	3	1	4	6	5	2	
	4	5	2	1	3	6	2
	6	3	1	2	4	5	

1

Key: 246153,621534

Diagonal Skyscrapers Sudoku 9x9

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

Key: 281473956,234619578

Rossini Sudoku 6x6

	↓	↓	↑	↓	↑	↓	
→	2	4	5	1	6	3	→
←	3	6	1	2	4	5	←
←	5	3	2	4	1	6	←
←	4	1	6	5	3	2	←
→	1	2	3	6	5	4	→
←	6	5	4	3	2	1	←
	↓	↓	↓	↑	↑	↑	

Key: 361245,416532

Rossini Sudoku 9x9

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

Key: 759431628,219586473

Unordered Distances Sudoku 6x6

1-4:3 2-4:4 ↓ 3-4:2 1-3:2 1-6:5

→	2	4	3	5	6	1	1-2:5
	1	6	5	3	2	4	4-6:4
	5	3	4	6	1	2	
	6	1	2	4	5	3	4-5:1
←	4	2	6	1	3	5	2-3:3
	3	5	1	2	4	6	3-6:5

Key: 426135,354261

Unordered Distances Sudoku 9x9

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

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

Key: 926581374,418732659

Arrow & Skyscrapers Sudoku 6x6

↓ ↓ 6 3 1 2

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

Key: 541632,362514

Arrow & Skyscrapers Sudoku 9x9

1 8 2 ↓ ↓

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

Key: 125349786,368271549

Thermo & Region Sum Lines Sudoku 6x6

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

Key: 341652,216435

Thermo & Region Sum Lines Sudoku 9x9

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

Key: 762459138,481693257

Extra Region & Renban Sudoku 6x6

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

Key: 261534,345612

Extra Region & Renban Sudoku 9x9

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

Key: 895426371589231764