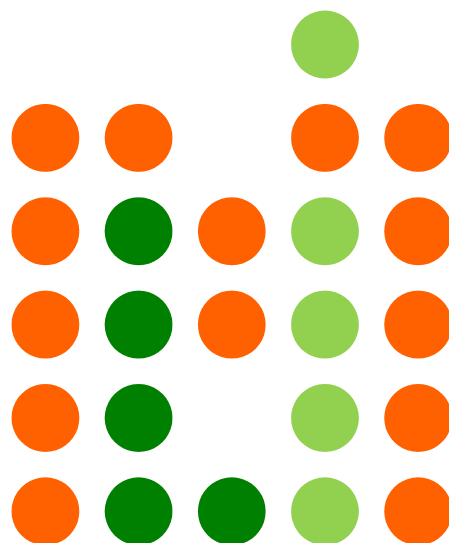




Instructions booklet
for
Sudoku Mahabharat 2019 Finals
&
Indian Sudoku Championship 2019



21st July 2019
The Bigg Boss Hotel, Kolkata

Offline Finals: Starts at 9:00 AM Total Solving Time: 210 minutes + SM Playoff + Classic Sudoku Master Total Points: 2100 + Bonus	Round 1 – The Classics	35 min: 350 Points
	Round 2 – Usual Suspects	55 min: 550 Points
	Round 3 – Battling the Samurai	20 min: 200 Points
	Round 4 – Assorted	55 min: 550 points
	Round 5 – Linked Triplets	45 min: 450 Points

About this document:

These are the instructions for the 2019 Sudoku Mahabharat + Indian Sudoku Championship Offline Finals, organised by Logic Masters India. Any questions related to these instructions should be raised and discussed at

<http://logicmastersindia.com/forum/forums/thread-view.asp?tid=2675>

Approximate Schedule on 21st July 2019

09:00 to 09:30 Registration
09:30 to 10:15 Q&A
10:30 to 11:05 Round 1 – The Classics
11:15 to 12:10 Round 2 – Usual Suspects
12:20 to 12:40 Round 3 - Battling the Samurai
12:40 to 13:10 Evaluation Protests, if any
12:40 to 13:40 Lunch break
13:40 to 14:35 Round 4 - Assorted
14:45 to 15:30 Round 5 –Linked Triplets
15:30 to 16:15 Recreation – Classic Sudoku Master 2019
16:15 to 16:45 Evaluation Protests, if any
16:45 to 17:00 Tie Breaker, if required
17:00 to 17:40 SM Playoff
17:45 to 18:00 Awards and Prizes

Authors & Testers:

LMI thanks the authors and testers below for their contributions to ISC 2019:

- Bram De Laat (The Netherlands) - Author
- Jan Novotny (Czech Republic) - Author
- Nikola Zivanovic (Serbia) – Author + Test-solving
- Tawan Sunathvanichkul (Thailand) - Author
- Ken Endo (Japan) – Test-solving
- Regina Vunk (Estonia) – Test-solving
- Taavi Piller (Estonia) – Test-solving
- Tiit Vunk (Estonia) – Test-solving
- Yanzhe Qiu (China) – Test-solving
- Yuhei Kusui (Japan) – Test-solving
- Akash Douhani (India) - Author + Test-solving
- Ashish Kumar (India) - Author + Test-solving
- Rakesh Rai (India) - Author + Test-solving

General Structure of the finals

There will be 5 rounds in the finals, of varying lengths and of varying points. Scores from each round, along with bonus if any, will be added up to determine the final score of the player. This score will be used for ranking in Indian Sudoku Championship 2019.

There will be a separate playoff after these rounds to determine the Sudoku Mahabharat winner. There will be eligibility criteria for this playoff, (see details at <http://logicmastersindia.com/SM/2019sm.asp>), to preserve the essence of Sudoku Mahabharat.

Scoring and Bonus

WSC style checking will be followed. Points will be awarded only if all cells have exactly 1 digit clearly written. There will be no partial credit for any Sudoku, unless explicitly mentioned otherwise. Sudokus with blank cells or unclearly written digit will be awarded with 0 points.

It is possible that some players may finish all Sudokus in a round before the time allocated. A bonus of **10 points** for each full minute remaining will be awarded to any competitor who correctly solves every Sudoku in a round. In the case of a single minor mistake in the whole round, **5 points** for each full minute will be awarded. "A single minor mistake" is defined as at most two incorrectly placed numbers or blank cells in at most one Sudoku in the whole round.

Ties will be broken using following rules:

- i) Maximum points in Round 4 (including bonus points in Round 4)
- ii) Maximum points in Round 2 (including bonus points in Round 2)
- iii) Maximum points in Round 5 (including bonus points in Round 5)
- iv) Maximum points in Round 3 (including bonus points in Round 3)
- v) Maximum points in Round 1 (including bonus points in Round 1)

If there is still a tie to determine the first three positions, tie-breaker Sudokus will be used.

SM Playoff Rules:

The top 5 inexperienced players will participate in the Sudoku Mahabharat playoffs. The playoffs will be divided into two stages.

Stage 1: The first stage will be between 3rd, 4th and 5th placed contestants. There will be two Sudokus in this stage. 3rd placed contestant will start first. 4th placed contestant will start after 30 seconds. 5th placed contestant will start after 60 seconds. The first player to finish both Sudokus correctly will be declared the winner of this stage. The winner will advance to the second stage.

Stage 2: The second stage will be used to determine the top 3 of Sudoku Mahabharat. There will be two Sudokus to solve in this stage. 1st placed contestant will start first. 2nd placed contestant will start after 30 seconds. Winner from Stage 1 will start after 60 seconds. The playoff will go on till two players finish all two Sudokus correctly.

Based on order of finishing, they will be 1st and 2nd and the player who did not finish will be 3rd.

There will be a 1-minute checking period. If the Sudoku is correct, the player will solve the next grid when the minute is done, or will have finished the stage. If the Sudoku is wrong, the player will have to find the error and resolve it before re-submitting.

More about Classic Sudoku Master

- Everyone is allowed to participate in this recreation event.
- Only Classic Sudokus will be used in this event.
- More details will be shared at the venue

Competition Hall Rules

- Competitors should ensure that they are ready at their desk for the start of each round. Each round will start strictly on time. **Those arriving late for the round will lose solving time.**
- Prior to the start of each round competitors will be handed over the Sudoku booklet for that round. They should clearly write their name and contact number on the front of their competition booklet. Competitors must not open their booklet at this stage. Only once the signal to start a round is given, competitors may open their booklet and begin solving the Sudokus.

- During rounds, competitors must remain silent, unless declaring completion of around.
- If you finish solving all Sudokus in a round and want to claim bonus points, close your booklet, clearly state 'finished' and raise your arm. Keep your arm raised until your paper has been collected. Once your paper is collected, it will not be returned to you for any more changes. Competitors that complete a round are expected to remain seated so as not to cause unnecessary disruption to fellow competitors.
- Once the signal to finish a round is given, competitors must immediately stop solving, close their booklet and put their pen/pencil down and be ready to hand over their booklet.
- You must remain seated until all Sudoku booklets have been collected. You will be told when you can get up and leave.
- Mobile phones are not permitted to be used in the competition hall and must be turned off or put in silent mode.
- If you believe that there is a problem with any Sudoku, leave that Sudoku and continue with another. This will be investigated upon completion of the round.
- Sudokus can be completed in any order. The point value of a Sudoku is an indication of its anticipated difficulty, although your solving experience may differ.

Permitted Items

- The permitted items which may be taken into the competition hall and used are: Pens, pencils, erasers, rulers, other stationery like highlighters, white ink, etc., and instruction booklets (optionally annotated with notes regarding instructions and preparation notes) and blank paper.
- **Players are expected to carry a copy of this Instruction booklet. It will not be provided at the finals.**
- Drinks and snacks will be allowed so long as they don't disturb other competitors (e.g. rustling a crisp packet, or a very strong smell).
- Participants may choose to use any pens or pencils in any colour (except red colour) in all rounds.
- Electronic devices (including but not limited to cell phones, laptops, tablets, calculators, and headphones) are not allowed to be used during the competition.
- Any other items brought into the hall must be left in a bag on the floor or nearby, so as not to block the aisles.

Evaluation

- Once a round has been fully evaluated, the booklets will be returned to you.
- If you have a concern about the evaluation, you need to raise it with the organizers during the Evaluation Protests sessions. The organizers will re-evaluate your paper; however, **the decision of the organizers will be final.**
- Your paper may be photographed during the evaluation phase.

Breach of Rules

Any breach of these rules may lead to a competitor being disqualified from the competition.

Practice Materials

The online rounds of Sudoku Mahabharat will serve as great practice materials for the finals. You can access the Sudokus at <http://logicmastersindia.com/lmitests/downloads.asp?testFilter=SM>

Sudoku rules and examples

The remaining pages in this booklet explain the rules of the types that will appear in the finals, along with an example. The formatting of the examples and the competition Sudokus are similar, except that the competition Sudokus will appear at a significantly larger size – one or two per page. The difficulty of an example is not necessarily reflective of the difficulty of the corresponding competition Sudoku.

Round and Types at a Glance:

Round 1: Classics 35 min 350 points	12 x Classic Sudokus: 15+20+20+20+25+25+30+30+35+40+45+45	
Round 2: Usual Suspects 55 min 550 points	Overlapping Palindrome Unordered distances Coded Pairs 2 Odd 2 Even Coded X Sums Scattered Arrow Thermo	55 points 45 points 95 points 45 points 60 points 50 points 90 points 50 points 60 points
Round 3: Battling the Samurai 20 min 200 points	Any 1 Sudoku Any 2 Sudokus Any 3 Sudokus Any 4 Sudokus All 5 Sudokus	50 points 95 points 135 points 170 points 200 points
Round 4: Assorted 55 min 550 points	Anti Diagonal Consecutive Slot Machine Frame Odd Labyrinth Descriptive Pairs Outside Charge	25 points 45 points 50 points 60 points 80 points 85 points 90 points 115 points
Round 5: Linked Triplets 45 min 450 points	Any 1 Sudoku Any 2 Sudokus Any 3 Sudokus Any 4 Sudokus Any 5 Sudokus Any 6 Sudokus Any 7 Sudokus All 8 Sudokus	70 points 140 points 200 points 260 points 310 points 360 points 405 points 450 points
All Rounds – Bonus of 10 points for every 1 min remaining		

Full Participation List with Playoff Eligibility and Base Points:

Name	ID	Base points	SM playoff eligibility
Aarti Bansal*		0	Yes
Aashay Patil	aashay	68	Yes
Amit Sowani	amitsowani	75	No
Amod	domarulz	34	Yes
Anil Khosla	khuski	33	Yes
Avinash	avinash175	44	Yes
Daniel Victor	DanAvi	22	Yes
Deepika Moningi	deepika m	33	Yes
Devarajan D	devarajand	26	Yes
Gaurav Kumar Jain	gaurav.kjain	48	No
Harmeet Singh	harmeet	48	Yes
Jaipal Reddy Mogiligundla	mjaipal	69	No
K. Ravichandran	ravilp	30	Yes
Kartik Reddy	mkartik	53	Yes
Kishore Kumar	kishy72	89	No
Kumaresan R	Kumaresan R	30	Yes
Lenson Andrade	lenson	42	Yes
M. Ezhilarasi	ezhilmathu.advo	37	Yes
Parameshwaran*		0	Yes
Pooja Bansal	Bansalpooja.b	47	Yes
Pranav Kamesh S	pranavmanu	82	No
Prasanna Seshadri	prasanna16391	100	No
Priyam Bhushan	priyambhushan	56	Yes
R K Swarnakar	RameshLMI	19	Yes
Rajesh Kumar	rajeshk	40	No
Rajib R. Borah		0	Yes
Richa	RICHA	11	Yes
Rishi Puri	purifire	93	No
Ritaban Datta	Reetoo	50	Yes
Rohan Rao	vopani	100	No
Sai Karthik Burra	carburra	28	Yes
Shaheer Rahman	shera90	79	Yes
Sitanshu Sah	sitaswag	25	Yes
Souvik Hui	huisouvik	25	Yes
Sravani Sripada	scampy	18	Yes
Swaroop Guggilam	swaroop2011	72	No
Varun R	rvarun	39	Yes
Vishal	Vishal	53	Yes
Vivek Jain	vjain9	13	Yes

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

[illegible]

2. Palindrome Sudoku (45 points)

Apply Classic Sudoku rules. Additionally, the digits in the cells with the line form palindromes, i.e. they read the same from both the directions.

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

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

3. Unordered Distances Sudoku (95 points)

Apply classic Sudoku rules. Outside some rows and columns, the distance between two digits in that row or column is given. The order of the two digits is NOT given and is to be determined as part of solving. Distances can be from 1 to 8.

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
	6							
		4				1		
			5					
				4				
					2			
		1				7		
							6	
7								1

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

4. Coded Pairs Sudoku (45 points)

Apply Classic Sudoku rules. Some letters are given between two adjacent cells. Same letter represents same pair of digits across the grid. Different letters must represent different pairs. Ordering of digits inside the pair does not matter.

		(A)	5		9			
(B)			7		1		9	
	9		2		6		4	
9		2				1		5
	5			(A)			9	
6		1			(D)	8		3
	1		6		8		7	
		6		3		4		(C)
(D)			4		1			(B)
	(E)		4		1			

8	6	A	4	5	7	9	2	3	1
B	5	2	7	3	1	4	9	8	6
1	9	3	2	8	6	5	4	7	
9	7	2	8	4	C	3	1	6	5
3	5	8	1	6	D	2	7	9	4
6	4	1	9	5	7	8	2	3	
4	1	5	6	9	8	3	7	E	2
F	2	8	6	7	3	5	4	1	G
H	7	I	J	9	4	2	1	K	L

5. 2 Odd 2 Even Sudoku (60 points)

Apply Classic Sudoku rules. There can never be more than 2 consecutive digits of the same parity in a row or column.

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

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

6. Coded Sudoku (50 points)

Apply Classic Sudoku rules. Some digits have been substituted by letters. All instances of the same letter must be substituted by the same digit and different letters must be substituted by different digits.

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

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

7. X Sums Sudoku (90 points)

Apply Classic Sudoku rules. Additionally the clues outside the grid indicate the sum of the first X numbers placed in the corresponding direction, where X is equal to the first number placed in that direction.

	45		19		6		17		10	
45										15
12										33
32										1
				8		1				
13					5					39
				4		2				
40										23
1										17
7										43
	24		10	31	34		1			

	45		19		6		17		10	
45	9	7	5	1	2	6	4	8	3	15
12	3	1	8	7	4	5	2	9	6	33
32	6	4	2	9	8	3	5	7	1	1
				5	9	3	8	7	1	
13	4	2	1	6	5	9	8	3	7	39
				7	8	6	4	3	2	
40	8	3	9	2	1	4	7	6	5	23
1	1	6	7	5	9	8	3	2	4	17
7	2	5	4	3	6	7	9	1	8	43
	24		10	31	34		1			

8. Scattered Sudoku (50 points)

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column, outlined region and the nine grey cells. Grey cells are not part of any regions.

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

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

9. Arrow-Thermo Hybrid Sudoku (60 points)

Apply classic Sudoku rules. Arrow rules: Some arrow shapes are in the grid; 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. Thermo rules: Some thermometer shapes are in the grid; digits must be strictly increasing from the round bulb to the flat end.

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

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

This round has one Classic Samurai Sudoku. Partial points are available for completed grids, if the incomplete answer is part of the complete solution.

No of Grids completed	Any 1	Any 2	Any 3	Any 4	All 5
Points	50	95	135	170	200

Classic Samurai Sudoku

Five Classic Sudokus are overlapping with each other. 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, in each of the grid. The shaded 9X9 grid at the center is overlapping on all other grids. In the actual contest, this grid will not be shaded.

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

20 min

200 points

Round 3

Battling the Samurai

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

This Round will have 8 assorted Sudoku Variants, including one new variant. These variants did not appear in the online rounds of Sudoku Mahabharat 2019.

Variant	Points
Anti Diagonal	25 points
Consecutive	45 points
Slot Machine	50 points
Frame	60 points
Odd Labyrinth	80 points
Descriptive Pairs	85 points
Outside	90 points
Charge	115 points

1. Antidiagonal Sudoku (25 points)

Apply Classic Sudoku rules. Additionally every main/marked diagonal contains only 3 different numbers.

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

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

2. Consecutive Sudoku (45 points)

Apply Classic Sudoku rules. There are some circles in the grid; any two adjacent digits separated by a circle must be consecutive (i.e., differ by 1). All adjacent digits not separated by a circle cannot be consecutive.

		7						
			7					
6								
	8							
							9	
								2
				7				
5						1		

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

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

Sudokus completed	Points
Any 1	70 points
Any 2	140 points
Any 3	200 points
Any 4	260 points
Any 5	310 points
Any 6	360 points
Any 7	405 points
All 8	450 points

Rules of Variants in this round:

Sequences Sudoku:

Apply Classic Sudoku rules. Additionally, numbers along the lines must be different and are should be in arithmetic sequence. The difference between two consecutive numbers along a line is always the same.

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

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

X Sums Sudoku

Apply Classic Sudoku rules. Additionally the clues outside the grid indicate the sum of the first X numbers placed in the corresponding direction, where X is equal to the first number placed in that direction.

	45		19		6		17		10	
45										15
12										33
32										1
				8		1				
13					5					39
				4		2				
40										23
1										17
7										43
	24		10	31	34		1			

	45		19		6		17		10	
45	9	7	5	1	2	6	4	8	3	15
12	3	1	8	7	4	5	2	9	6	33
32	6	4	2	9	8	3	5	7	1	1
				5	9	3	8	7	1	
13	4	2	1	6	5	9	8	3	7	39
				7	8	6	4	3	2	
40	8	3	9	2	1	4	7	6	5	23
1	1	6	7	5	9	8	3	2	4	17
7	2	5	4	3	6	7	9	1	8	43
	24		10	31	34		1			

- Quad Sums Sudoku

Apply Classic Sudoku rules. A circle at a corner implies that one digit is the sum of the remaining three digits at that corner. Not all possible dots are given; four digits sharing a corner without a circle may contain one digit which is the sum of the remaining three digits.

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

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

- Diagonal Path Sudoku

Apply classic sudoku rules. Each digit in the top row of the grid has at least one diagonal path travelling through the same digits to end in the same digit in the bottom row. Note: No arrows will be given, the below arrows are just for demonstration.

Example

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

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

45 min

450 points

Round 5

Linked Triplets

Example: 8 6x6 sudoku grids are present (4 classics and 4 variants)

1. Classic Sudoku

					5
				2	
			4		6
4		6			
	4				
5					

2. Sequences Sudoku

5					4
	6				
			4		
		6			
				4	
3					2

3. Classic Sudoku

2		5			6
	6				
					1
	3				
6		2			4

4. X-Sums Sudoku

5. Classic Sudoku

4			6		
		1		4	
	1				3
		3		5	
			3		
3					

6. Quad Sums Sudoku

		4			6
3					5
4					3
			6		

7. Classic Sudoku

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

8. Diagonal Path
Sudoku

3					5
1					6
4	3	6	1	5	2

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45 min

450 points

Round 5

Linked Triplets

Solutions:

1. Classic Sudoku

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

3. Classic Sudoku

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

5. Classic Sudoku

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

7. Classic Sudoku

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

2. Sequences Sudoku

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

4. X-Sums Sudoku

20 12			5	4	3	6	2	1	13
			6	2	1	5	3	4	
6			3	1	2	4	5	6	
			4	5	6	2	1	3	6
5			2	3	4	1	6	5	
			1	6	5	3	4	2	
			16 7						

6. Quad Sums Sudoku

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

8. Diagonal Path
Sudoku

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

The below Sudoku types shall be used in **Stage 1**.

1. Classic Sudoku

Refer Round 1 for example.

2. Extra Region Sudoku

Apply Classic Sudoku rules. Additionally, each extra region must contain digits from 1-9. The extra regions are of 9 cells each and are shaded in the grid.

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

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

The below Sudoku types shall be used in **Stage 2**.

3. Diagonal Sudoku

Apply Classic Sudoku rules. Additionally, each main diagonal (marked by dotted lines) must contain digits from 1-9.

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

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

4. Consecutive Sudoku

Refer Round 4 for example.