Instructions booklet
for
Sudoku Mahabharat 2020 Finals
&
Indian Sudoku Championship 2020

29th November 2020
(This event will be held online)

Offline Finals: **Starts at 9:00 AM**	**Round 1 – The Archetypes**
	Round 2 – SM Reflections
	Round 3 – The Voguish
	Round 4 – Mean Minis
	Round 5 – Linked Pairs

About this document:

These are the instructions for the 2020 Sudoku Mahabharat + Indian Sudoku Championship 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=2720

Approximate Schedule on 29th November 2020

<<Details will be shared on 22nd November>

Authors & Test-Solvers:
LMI thanks the authors and test solvers for their contributions to ISC 2020:

<Names of Authors and Test Solvers will be shared on 22nd November>

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 the base points to determine the final score of the player. This score will be used for ranking in Indian Sudoku Championship 2020.

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/2020sm.asp), to preserve the essence of Sudoku Mahabharat.

How to participate?

- Download the password protected Sudoku booklet for each round. The Sudoku booklets contain the actual Sudokus to be solved. It is password protected.
- You must participate in the contest during the "official" round timings on 29th November to be included in the official rankings. These details will be included in the final version of IB.
- For each round, Click on "Start" button. At this time, password for pdf will be shown and timer will start.
- You can print the pdf and solve on paper. There shall be no online solving interface.
- Each Sudoku will be marked with 2 lettered arrows. You need to submit the digits in these arrows, in order, including the givens, and click on submit button.

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 submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively.

Bonus

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.

Ties will be broken using following rules:

i) Maximum points in Round 3 (including bonus points in Round 3)
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 1 (including bonus points in Round 1)
v) Maximum points in Round 4 (including bonus points in Round 4)

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.

<More details shall be shared on 22nd November>

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

Prohibited Materials

Any kind of external help from other persons, mobile, solvers, computers, etc is not allowed. If the organisers feel any kind of unfair means has been used, they can review/discard individual submissions.

Sudoku rules

The remaining pages in this booklet explain the rules of the types that will appear in the finals.

Playoff Eligibility and Base Points:

This year the competition is open to all.

Below is the tentative list of players who took part in the online episodes of Sudoku Mahabharat 2020 and their base points, and eligibility for SM Playoff. This list may be updated in the final IB version on 22nd November.

NAME	ID	BASE POINTS	SM PLAYOFF ELIGIBILITY
Prasanna Seshadri	prasanna16391	123	NO
Rohan Rao	Vopani	119	NO
Kishore Kumar	kishy72	107	NO
Pranav Kamesh S	pranavmanu	107	NO
Ashish Kumar	ashaash11ash	93	
Rishi Puri	purifire	83	NO
Amit Sowani	amitsowani	77	NO
Jayant Ameta	witty	77	
Rajesh Kumar	rajeshk	76	NO
Gaurav Kumar Jain	gaurav.kjain	75	NO
Manjiri	Manjiri	75	
Aashay Patil	aashay	72	
Vishal	Vishal	72	
Jaipal Reddy Mogiligundla	mjaipal	71	NO
Kartik Reddy	mkartik	71	
Suvarna	pndt	68	
Priyam Bhushan	priyambhushan	68	
Ritaban Datta	Reetoo	67	
pooja Bansal	Bansalpooja.b	66	
Avinash	avinash175	65	
shambo debnath	shambo	62	
sumedha thakur	sumedha234	62	
Tejal Phatak	Tejal Phatak	60	NO
Harmeet Singh	harmeet	58	
Lenson Andrade	lenson	58	
Hemant Kumar Malani	Hemant Kr Malani	57	
Poonam Gandhi	poonamgandhi	56	
Utkaarsh Somaiya	utkaarsh	56	
Kumaresan R	Kumaresan R	54	
K. Ravichandran	ravilp	54	
Dhruvarajsinh Puwar	dhruvarajsinhpuwar06	52	
Neeraj Mehrotra	neerajmehrotra	52	
Vijaya Rajan	vijaya_rajan	51	
Prabha Doshi	prabhadoshi	50	
Deepika Moningi	deepika m	49	
Damini Goyal	damini25	48	
amod	domarulz	48	
Venkatachalam V	Venkatachalam V	48	
Raman Garimella	rgarimella	47	

NAME	ID	BASE POINTS	SM PLAYOFF ELIGIBILITY
Mamta Singh	Aadvik	45	
Akash Doulani	akash.doulani	45	
Sai Karthik Burra	carburra	45	
Anil Khosla	khuski	43	
M. Ezhilarasi	ezhilmathu.advo	42	
Falak	fal_94	42	
Chandrashekhar Todur	Chandrashekhar	41	
Anuradha Ganesh	Anu G	40	
Swati singh	avni	40	
Sravani Sripada	scampy	40	
Soumya	soun5	40	
Rajani Rokade	rajanirokade	39	
Bhuvaneshwari	Bhuvi	38	
Samata	sam_hegde	38	
Anukul	ggmu80	36	
Shri Vasantha Senaa S	sena	36	
Vinay Shenoy	vrs719	36	
Anithra P Janakiraman	anithra	35	
Gunasundhari D	gunasundharid	35	
SANJAY	sanjaymahesh	35	
Sitanshu Sah	sitaswag	35	
Vinitaa	vinitaawalia	35	
Devarajan D	devarajand	34	
Deepak Kumar	dipkmr	34	
Deepak	dmahesh	34	
Sunder Raman	sunderramanv	34	
Bharath K	ka_bharath	33	
K. Saraswathy	supervenky7	33	
Daniel Victor	DanAvi	32	
Lakshmi Samudrala	lakshmisv	32	
shashank shah	sha2nks1603	32	
Stephanie D'Souza	Stephanie	32	
Devika	devvy	31	
Kumari Bhawna	kumaribhawna	31	
Aakarshan Gupta	mugiwaaraLuffy	31	
sujaya	tsujaya	31	
Prateek Gupta	prateek706	30	
Vijaya	vijayat	30	
Vinita Maheshwari	Vinita123	30	
Ravi Prakash Narayanan	gn.raviprakash	29	
Arunesh Varade	KyaFarkPadtaHai	29	
Mamta	Mamta	29	
nishka	nish	29	
Swagatam Islam Sarkar	Swagatam	29	
Akshaya Bhatia	fusion3193@gmail.com	28	
P. Mohan Prashanth	mohanprashanth	28	
Dr. Neha Subhash Gaonkar	nehasg11	28	

NAME	ID	BASE POINTS	SM PLAYOFF ELIGIBILITY
Rajavel	rpmlrv	28	
Narsimha Rao	mnrhyd	27	
Chakrapani S.	schakrapani71	27	
T. N. Venkatesh	tnv	27	
R K Swarnakar	RameshLMI	26	
RICHA	RICHA	26	
Abhishek Chaudhary	abhi265645	25	
Himani	Himani	25	
radh	radh	25	
Rashmi	rashmin	25	
Sonu Sharma	SN Sam	25	
swati mutha	swati1210	25	
Souvik Hui	huisouvik	24	
Ishita K	ish4	24	
Sherwin	Sherwin	24	
Jyoti	jsarwade	23	
Shaheer Rahman	shera90	23	
Anuj Shetty	anuj42	22	
Dinesh K Jain	dkj	22	
Valliappan	mvalliappan39	22	
Prerana Nirav Shah	perupps	22	
Rushabh Vora	Rushabh	22	
Sanjay Bijlani	sanjaybijlani	22	
Vaishali Goyal	v.goyal	22	
Prathamesh Baheti	prathameshb	21	
SHYAMAL DEY	skdey	21	
Akhila N R	akhila.hhp@gmail.com	20	
Gayatri Phadnis	GAYATRIP20	19	
Pranav Ravani	masterPranav	19	
Vishnu Nandakumaran	vishnu97	19	
Arshpreet Singh	arshpreet	18	
nilesh gala	nilesh22	18	
Harsh Poddar	hpoddar08	17	
KrishLovely	KrishLovely	17	
sumati	sumati	17	
Deepti Garg	deepti.garg	16	
Sudhanshu Mittal	sud	16	
Anubhav	ABcDexter	15	
Dev R	DevR	15	
Jayshree Furia	jayshreef	15	
Priyanka Jhawar	Pjhawar	15	
Bathri Narayanan	GBathri	14	
Meghna Shetty	megu	14	
sujit	purka	14	
Vaishali Goyal	vaishali09	14	
Vivek Jain	vjain9	13	
Gopal Nimmakayala	vnimmak	13	

NAME	ID	BASE POINTS	SM PLAYOFF ELIGIBILITY
Akhila.R	Akhila9288	12	
bothrasumit	bothrasumit	12	NO
Madhup Tewari	madhupt	12	
raj kumar	raz	12	
Zalak Ghetia	zalak	12	
Swati	swatiasrani29	11	
Goverdhan Mittal	gmittal	10	
Gurneet Kaur Bhuller	GurneetKB	10	
Lakshmi	Lakshmi Dhaveji	10	
Madhav Sankaranarayanan	Madmahogany	10	
Monal	Monal	10	
Ramireddy	Ramu	10	
Amit Kumar Mallik	Amit_IITB	9	
bhupendra	bhupsingh	9	
null	nikhil_sudoku	9	
RAJAT SURAI	RAJAT_the_HERO	9	
Tarun Madan	tarunm	9	
Amith Nagaraj	amith1991	8	
Ayush Deval	Astrologer	8	
Daniel Babu	danielbabu	8	
Dhanush K P	dhanushkp	8	
Roopesh U	Roopesh95	8	
Shreyans Borad	Shreyans95	8	
Siddharth Matta	sidhu_iitr	8	
Chirag	terekokya	8	
Ankit Bhatnagar	ankitcom	7	
Ashutosh Tiwari	Ashut0sh	7	
Ashwin	ashwinparadkar	7	
Vividh Bansal	bansaviv	7	
Dillip kumar sahoo	dillip21	7	
Sameeksha Dwivedi	DWIVEDI_Sameeksha_	7	
Nidhi Goel	goelnidhi	7	
Tigran Wadia	HumveeRuin	7	
jagadish Naidu	jaggy311	7	
karuna ranjan	karunaraj	7	
kuldeep yadav	Kuldeepy	7	
VENUGOPAL MADDULA	m_venugopal1	7	
Ravi Kumar	ravichaluvadi	7	
Sarin Kumar	sarink	7	
saurabh	saurabhsaigal	7	
Aakash	aakashk9	6	
ANITA GUPTA	ANITA007	6	
Aditi Garg	Deepad	6	
Keshava Murthy H S	keshava.hs	6	
Mayank	mayank	6	
Mihir Yadav	mihiryadav	6	
Naveen	naveenjog	6	

NAME	ID	BASE POINTS	SM PLAYOFF ELIGIBILITY
Nitish Pasam	NitishPasam	6	
Rajnesh Kumari Yadav	RAJNESH YADAV	6	
Shriya Gera	Shriya	6	
siva	siva	6	
Sudhanshu Shekhar Pandey	sudhanshu	6	
L. Swetha	swethal	6	
Prakhar Gupta	adamkhor	5	
Ananya	ananya_90	5	
Anita	Anita1234	5	
Apurva	apurva101	5	
jitendra dayma	jitendradayma	5	
Lavanya krishnan	Lavanyakrishnan	5	
malika sikka	malikasikka	5	
Mrinalini Patil	mrinalini1512	5	
V Nehal Raju	nehalv1996	5	
Nishit Kosambia	Nishit	5	
Riyana	Riyana	5	
Roopesh U	ROOPESH	5	
Saumye Anshul Gupta	saumye001	5	
S.v.Saikumar	svsaikumar	5	
Arun Iyer	tenaliraman	5	
trisha	trisha	5	
C VIJAYA CHANDRA REDDY	vcreddy.cv	5	
Vishnu Gopakumar	Vishnu4620	5	
Adithya K	Adithyak1997	4	
Aashish Ghogre	ashishghogre	4	
Harsh Jain	jainharsh02	4	
Kirti Daryani	Kirti7689@gmail.com	4	
P R Anand Krishnan	krshnn	4	
Mridula	Mridula008	4	
Puwar Krutika	PuwarKrutika	4	
vijayaprasad	Ra_One	4	
ranju	ranjugeorge	4	
N. Rengaswamy	Renga	4	
Kelvin	Samurai#11	4	
Sanika	Sanika sb	4	
Sailaja Chivukula	schivukula17	4	
Shruti	Shitu	4	
Shreyasi Athalye	shreyasiathalye	4	
Shubham Pradeep Raj	Shubham_pradeep	4	
Sonali	Srk	4	
Sonali kamdar	srkamdar	4	
Vaibhavi R	vaibhavir	4	
Veena Viswanathan	veena	4	
Ananya V.	ananya95	3	
Anurag	anurag	3	
Archana Shah	archieshah	3	

NAME	ID	BASE POINTS	SM PLAYOFF ELIGIBILITY
Ayush Garg	ayushGarg	3	
Raveena B	brainstormer	3	
Dayaanandu	doppleganager	3	
Hamma Singh	hamham	3	
Manish Pandey	InvincibleNobita	3	
Pankaj Jain	jainpanki	3	
Jay Dadhania	JRD	3	
Prabhava N	npabbi	3	
Prachi Mathur	Prachi.012	3	
Prakhar	prakhar_016	3	
Rohit Prabhakar	RoGeRrr	3	
Roopkatha	roop123	3	
saksham	saksham	3	
Shashidhar Bilagi	shashidharbilagi	3	
Udhayabanu	Udhaya	3	
Vivek Bhansali	vbhansali9	3	
AJITH KUMAR V	ajith211@gmail.com	2	
Abhishek Gupta	Dhruva_123	2	
swetha	klnarsi	2	
Neeraj	neal0892	2	
Priya Banthia	Priya Banthia	2	
Sai Pranav	sai pranav	2	
Sudip Kumar Pal	Sudip88	2	
Vishakha Manjarekar	vishakhahm	2	
Vaibhav Gawas	vkg17	2	
Akshitha	Akshitha	1	
Asmita Bardhan Ray	Asmita	1	
Debapriyo	DebLuck	1	
Gunjan Garg	GunjanBosss	1	
gurjot	gurjot	1	
Saif Khan	jonessaif	1	
Madhu Mehta	Madhu03	1	
manohar	manohar	1	
Ritika Gupta	RitikaGupta	1	
Varsha	VDM	1	
VISHALI	VISHALI	1	

List of ISC Winners (2015-2019)

Year	1st	2nd	3rd
2019	Rohan Rao	Kishore Kumar	Prasanna Seshadri
2018	Rohan Rao	Prasanna Seshadri	Pranav Kamesh
2017	Rohan Rao	Kishore Kumar	Rishi Puri
2016	Rohan Rao	Rakesh Rai	Kishore Kumar
2015	Rishi Puri	Prasanna Seshadri	Rohan Rao

List of SM Winners (2015-2019)

Year	1st	2nd	3rd
2019	Pooja Bansal	Aashay Patil	Avinash
2018	Shaheer Rahman	Aashay Patil	Kartik Reddy
2017	Pranav Kamesh	Jayant Ameta	Hemant Malani
2016	Akash Doulani	Gaurav Jain	Harmeet Singh
2015	Amit Sowani	Rakesh Rai	Gaurav Jain

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XX Minutes | **XXX Points** | **Round 1 — The Archetypes**

This Round will have 12 Sudokus of varying difficulties. They will be sorted in order of the points allocated based on tester timings. Personal experience of difficulty might vary.

1-6. Classic Sudoku

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.

7. Alphabet Sudoku

Place the given letters into the grid, so that each row, column and 3x3 box contain each letter exactly once.

8. Diagonal Sudoku

Apply Classic Sudoku rules.

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

9. 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.

10. Killer Sudoku

Apply classic Sudoku rules.

Additionally, 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.

11. Odd Even Sudoku

Apply Classic Sudoku rules.

Additionally, each cell marked with a square must contain an even digit (2/4/6/8), and each cell marked with a circle must contain an odd digit (1/3/5/7/9).

12. Trio Sudoku

Apply Classic Sudoku rules.

Cells with circles must contain the digits 1, 2 and 3. Cells with squares must contain the 4, 5 and 6. Blank cells must contain the digits 7, 8 and 9.

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XX Minutes	XXX points	Round 2 SM Reflections

This Round will have a Classic Sudoku and some Sudoku Variants of varying difficulties (from the below list), representing online rounds of Sudoku Mahabharat 2020.

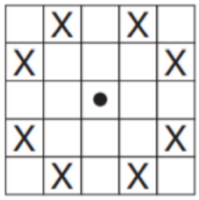
1. **Classic Sudoku**

   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.

2. **Anti Knight Sudoku**

   Apply classic Sudoku rules.

   No cell that is a knight-step away can contain the same digit. In chess, a knight moves two squares forward followed by one sideways.



3. **Fortress Sudoku**

   Apply classic Sudoku rules.

   There is a fortress on the playground formed by shaded cells. The shaded cells have to be greater than the horizontally or vertically adjacent white cells.

4. **Irregular Sudoku**

   Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined region. Each outlined region is marked by thick borders.

5. **Little Killer Sudoku**

   Apply classic Sudoku rules.

   Additionally, the numbers with arrows outside the grid indicate the sum of the digits appearing in the cells in the corresponding direction. Digits can repeat in the direction of the arrow.

6. **Odd Even Bridge Sudoku**

   Apply classic Sudoku rules.

   Additionally, some circled cells are connected by a bridge. An odd digit in a circle equals the number of odd digits on the bridge. An even digit in a circle equals the number of even digits on the bridge. The digits on the circles are not counted. It is possible for digits in both circles on a bridge to have the same parity.

7. Overlapping Sudoku

Apply classic Sudoku rules to each grid.

Two grids are overlapping.

8. Renban-Palindrome Sudoku

Apply classic Sudoku rules.

Renban rules: Each marked extra region contains a set of consecutive digits in any order.

Palindrome rules: The digits in the cells with the grey lines form palindromes, i.e. they read the same from both the directions.

9. Substitution Sudoku

Apply Classic Sudoku rules.

A cell with an alphabet contains a digit whose mapped word contains the corresponding alphabet.

10. Thermo Sudoku

Apply classic Sudoku rules.

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

11. Unordered Distances Sudoku

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.

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XX Minutes | **XXX Points** | **Round 3** | **The Voguish**

This Round will have a Classic Sudoku and some assorted and contemporary Sudoku Variants, (from the below list). These variants did not appear in the online rounds of Sudoku Mahabharat 2020.

1. **Classic Sudoku**

   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.

2. **Hidden Arrows Sudoku**

   Apply Classic Sudoku rules.

   Some killer cages are given. 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.

   In addition, all cages contain a standard arrow clue, which is hidden. The 'circle' part of the arrow will be at one end of the cage with the arrow extending along the cage to the other end. The arrow must fill the entire cage. The circle may be any number of digits, and multi-digit totals are read in the direction of the arrow.

3. **Clockfaces Sudoku**

   Apply Classic Sudoku rules.

   Four digits around a white circle are placed in an increasing order starting from one of the four cells and going clockwise. Four digits around a black circle are placed in an increasing order starting from one of the four cells and going anticlockwise. All possible circles are marked.

4. **Morse Numbers Sudoku**

   Apply classic Sudoku rules.

   In each arrow, the pattern of odd and even digits on the given arrows, reading towards the circle, will represent the Morse code of the digit in the circle. (O represents odd digit, E represents even digit)

   1 = OEEEE
   2 = OOEEE
   3 = OOOEE
   4 = OOOOE
   5 = OOOOO
   6 = EOOOO
   7 = EEOOO
   8 = EEEOO
   9 = EEEEO

5. **Odd Labyrinth Sudoku**

   Apply classic Sudoku rules.

   Additionally, there are two shaded cells in the grid. There has to be at least one path that runs from one shaded cell to the other, over cells that contain odd digits. This path can only travel horizontally and vertically.

6. Quadruple Sudoku

Apply Classic Sudoku rules.

Additionally, each set of small numbers at the intersection of two lines indicate numbers that are in the four adjacent cells.

7. Sandwich Sudoku (Between 1 and 9)

Apply Classic Sudoku rules.

Additionally, the clues outside the grid represent the sums of the numbers sandwiched between the 1 and the 9 in that row or column.

8. Slot Machine Sudoku

Apply Classic Sudoku rules.

Additionally, columns 2, 5 and 8 are similar to a slot machine: they contain numbers with the same sequence.

9. Sum by X Sudoku

Apply classic Sudoku rules.

Additionally, each number outside the grid is the sum of the first few digits from the edge. The nearest shaded cell in the corresponding direction indicates the number of digits included in the sum.

10. Windoku

Apply Classic Sudoku rules.

Additionally, digits do not repeat within the four shaded 3x3 regions.

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XX Minutes | **XXX Points** | **Round 4 Mean Minis**

This Round will have some mini Sudoku Variants (from the below list).

General rules for this round:

- Each Sudoku uses exactly six numbers from 1 to 9.
- The six numbers for each Sudoku need to be determined as part of solving.
- Some numbers may already be given in the grid.
- A table of numbers from 1 to 9 shall be given for each grid, for ease of solving.

1. **Arrow Sudoku**

   Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

   Additionally, 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 line.

2. **Average Sudoku**

   Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

   If the number in a cell equals the average of its two vertical neighbors then the cell is marked with a vertical line. If the number in a cell equals the average of its two horizontal neighbors then the cell is marked with a horizontal line.

   All possible lines are marked.

3. **Consecutive Sudoku**

   Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

   Additionally, orthogonally adjacent cells containing consecutive numbers are separated by white circles.

   All possible white circles are marked.

4. **Inequality Sudoku**

   Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

   Additionally, there are some 'greater than' (>) and 'less than' (<) signs in the grid. The cell with the open end of the sign should be greater than the cell with the pointed end of the sign.

5. Killer Pair Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, a number given on the border between two adjacent cells is the sum of the digits in the two cells.

6. Kropki Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

If the difference between digits in orthogonally adjacent cells is 1, then they are separated by a white dot. If the digit in a cell is half of the digit in an orthogonally adjacent cell, then they are separated by a black dot. The dot between '1' and '2' can have any of these dots.

All possible dots are marked.

7. Odd Even Count Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, an even digit inside a circle represents the number of cells with even digits in the surrounding 8 cells. An odd digit inside a circle represents the number of cells with odd digits in surrounding 8 cells.

All possible circles may not be marked.

8. Perfect Squares Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Adjacent cells, reading left-to-right or top-to-bottom, that are a two-digit perfect square are marked by a small white square in the grid.

All such two-digit perfect squares are marked. The list of two-digit perfect squares: 16, 25, 36, 49, 64, 81

9. Product Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, a number given on the border between two adjacent cells is the product of the digits in the two cells.

10. Ratio Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, numbers placed in adjacent cells must satisfy the given ratios.

11. Rhombus Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

The sum of digits on the vertices of each rhombus is a multiple of the digit at the centre of the rhombus.

12. Sequence Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, the digits along each line form an arithmetic progression.

13. Skyscraper Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, consider each number to be the height of a building. The numbers outside the grid indicate how many buildings can be seen when looking in that direction (taller buildings conceal smaller buildings behind them). The outside skyscraper clues may contain digits which are not used inside the grid.

14. Sum Detector Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, an arrow in a cell indicates that the sum of the first ‘n’ consecutive digits along the direction pointed by the arrow equals the digit in the cell for some value of ‘n’.

Not all arrows are marked.

15. XV Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

Additionally, if the sum of digits in orthogonally adjacent cells is 10, then they are separated by X. If the sum of digits in orthogonally adjacent cells is 5, then they are separated by V.

All possible X and V are marked.

sudoku mahabharat

XX Minutes | **XXX Points** | **Round 5 Linked Pairs**

This Round will have some 2 Classic Sudokus and 6 Sudoku Variants.

General rules for this round:

- In each Sudoku grid, four cells are marked by circles.
- These circles serve as a link between Sudokus 1-4 and Sudokus 5-8.
- Each of the first four Sudokus has a pair in the next four Sudokus.
- It is a part of solving to identify the pairs.
- All four digits in the circles from one Sudoku (Sudokus 1-4) should be transferred to the Sudoku which is its pair (Sudokus 5-8).
- The order in which the digits are transferred can be arbitrary.
- Some sudokus may have multiple solutions but the complete round can be solved in only one way.
- Partial points will be given only for every correct grid which is part of the complete solution.

1. **Classic Sudoku**

   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.

2. **Search Nine Sudoku**

   Apply classic Sudoku rules.

   Additionally, each arrow points to the 9 in the respective row or column. The number in the cell with the arrow is the distance from the cell to the 9 in that row or column.

3. **Hundred Sudoku**

   Apply classic Sudoku rules.

   Additionally, in each row, the sum of number combinations in the grey cells is exactly 100.

4. **Core Sudoku**

   Apply Classic Sudoku rules.

   Additionally, there are some loops in the grid. Digits inside each loop cannot be placed on the corresponding loop.

5. Classic Sudoku

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.

6. Clone Sudoku

Apply Classic Sudoku rules.

Additionally, digits in each corresponding cell in both shaded figures are identical.

7. Frame Sum Sudoku

Apply Classic Sudoku rules.

Additionally, digits outside the grid indicate the sum of the first 3 digits in the corresponding direction.

8. Key Digit Sudoku

Apply Classic Sudoku rules.

All occurrences of exactly one digit must appear in shaded cells. This digit needs to be identified as part of solving.

The following Sudoku types shall be used in the playoff.

1. **Classic Sudoku**

   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.

2. **Diagonal Sudoku**

   Apply Classic Sudoku rules.

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

3. **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.

4. **Odd Even Sudoku**

   Apply Classic Sudoku rules.

   Additionally, each cell marked with a square must contain an even digit (2/4/6/8), and each cell marked with a circle must contain an odd digit (1/3/5/7/9).

5. **Arrow Sudoku**

   Apply Classic Sudoku rules.

   Additionally, 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 line.