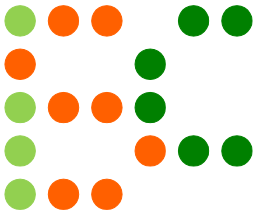
Sudoku Mahabharat



Instructions Booklet

Episode – 8
23rd – 28th July 2021

Odd Even Variations
By
Nityant Agarwal

Sudoku Mahabharat rounds will also serve as qualifiers for Indian Sudoku Championship for year 2021. Please check http://logicmastersindia.com/SM/2021sm.asp **for details.**

Important Links

Submission Page : http://logicmastersindia.com/live/?contest=SM202108

Discussion Thread : http://logicmastersindia.com/t/?tid=2885

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 from the following types

- 4 * Mini Classic Sudoku
- 4 * Classic Sudoku
- 2 * Odd Even Sudoku
- 2 * Odd Even Arrow Sudoku
- 2 * Odd Even Renban Sudoku
- 2 * Parity Switch Sudoku
- 2 * Odd Even View Sudoku

Test Duration

The test duration is 90 minutes. Participants get 90 minutes to submit their answers, after they click on “Start” button.

How to participate?

- Understand the rules of different Sudokus that will appear in this episode. This Instruction Booklet has rules and examples 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 on or after 23rd July (but on or before 28th July), login at the submission page using your LMI userid and password. Please check the submission page for exact timings.
- Click on “Start”. At this time, password for pdf will be shown and timer will start.
- The Sudoku booklet can be downloaded, printed and solved on paper.
- Each Sudoku will be marked with two lettered arrows (rows and / or columns). These form the answer key for the Sudoku.
- There will NOT be any interface / applet to solve the Sudokus on web browser, but external Penpa links will be provided. The participant is still expected to come back and enter the answer key if solving using the links.
- Most of the Sudokus are designed to be solved faster on paper.
- We advise you to have a printer accessible with enough paper.
- 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/solvers, or tools other than items explicitly permitted.
- You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, and tape.

If you are participating at LMI for first time, you must check the F.A.Q. at http://logicmastersindia.com/t/?tid=2773 .

About answer keys and Submission

- Each Sudoku has two lettered arrows outside the grid which serve as answer keys.
- After solving the Sudoku, you need to submit the answer keys.
- You may submit the answer keys anytime during the test duration. You may consider submitting a Sudoku as soon as you solve it.
- 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.

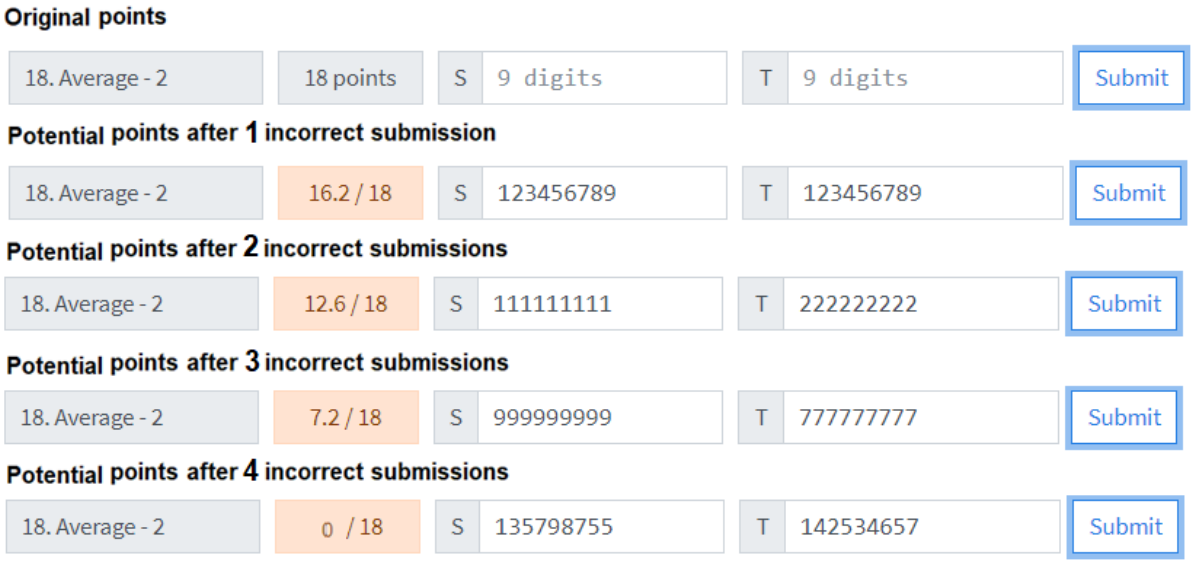
- If multiple rows are marked, enter from top to bottom for marked rows.
- If multiple columns are marked, enter from left to right for marked columns.
- If horizontal and vertical keys are needed, first enter the horizontal and then the vertical key.
- Uppercase or lower case of answer key does not matter.
- Characters other than alphabets, numbers and comma will be removed while checking the answer.

Points Table and Scoring

Points typically indicate difficulty of the Sudokus 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.

Mini Classic 1-6	1, 1, 1, 1
Classic 1-9	6, 3, 5, 6
Odd Even 1-6,1-9	2, 5
Odd Even Arrow 1-6,1-9	5, 18
Odd Even Renban 1-6,1-9	4, 9
Parity Switch 1-6,1-9	2, 9
Odd Even View 1-6,1-9	7, 15

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. A demonstration for this is shown below:



Bonus

If you submitted all Sudokus 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)

Penpa Usage

This contest will also be solvable on the Penpa-Edit software. Below the rules of each Sudoku will be a link to click to solve on the editor. The editor DOES NOT have a solution enabled so it will not check a solution. Participants must submit the answer key codes as they would with paper solving. It is therefore advisable to enter solution codes one at a time to avoid system lag with too many tabs open.

To practice on the editor, we have given links for solving the example sudokus too.

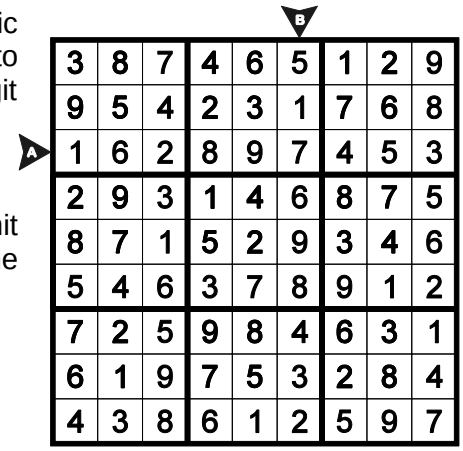
Credits

- 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/

General Rules

To make the rules less repetitive, you will see following line “Apply classic 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 2 lettered arrows. 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.



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.

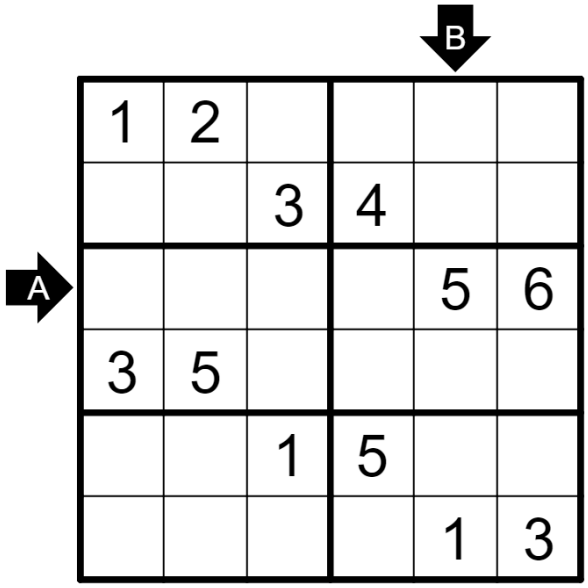
The Sudoku booklet will look similar to the next pages in this instruction booklet. The font sizes, cell sizes, colors, borders, shading, margin will be similar. We recommend you to print a few pages of this instruction booklet and avoid any last-minute surprises during the test.

Solutions and keys to examples are at the end of the booklet.

1-4 Mini Classic Sudoku (1+1+1+1 points)

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.

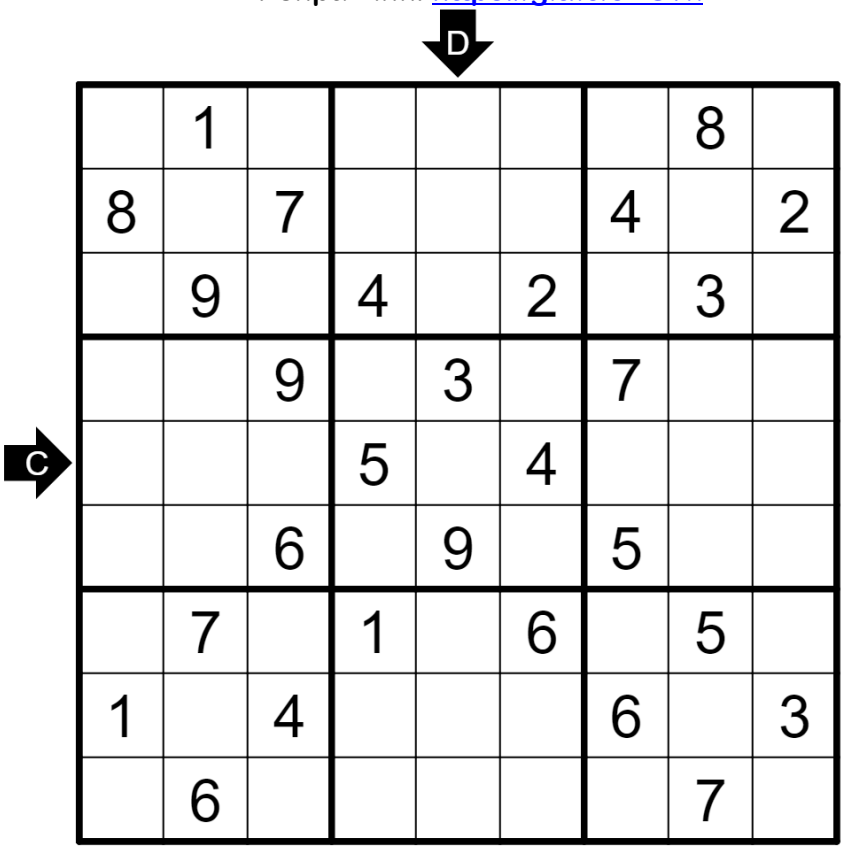
Penpa Link: https://git.io/JZGQ5



5-8 Classic Sudoku (6+3+5+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.

Penpa Link: https://git.io/JZG7x



9. Odd Even Sudoku - 1

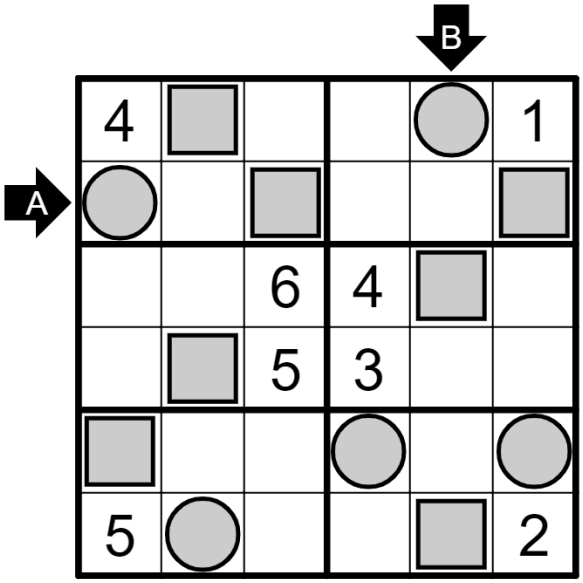
2 points

Apply classic Sudoku rules.

Shaded squares should contain even digits (2,4,6) while shaded circles should contain odd digits (1,3,5).

A cell which is not shaded can contain digit of any parity

Penpa Link: https://bit.ly/36NRkWb



10. Odd Even Sudoku - 2

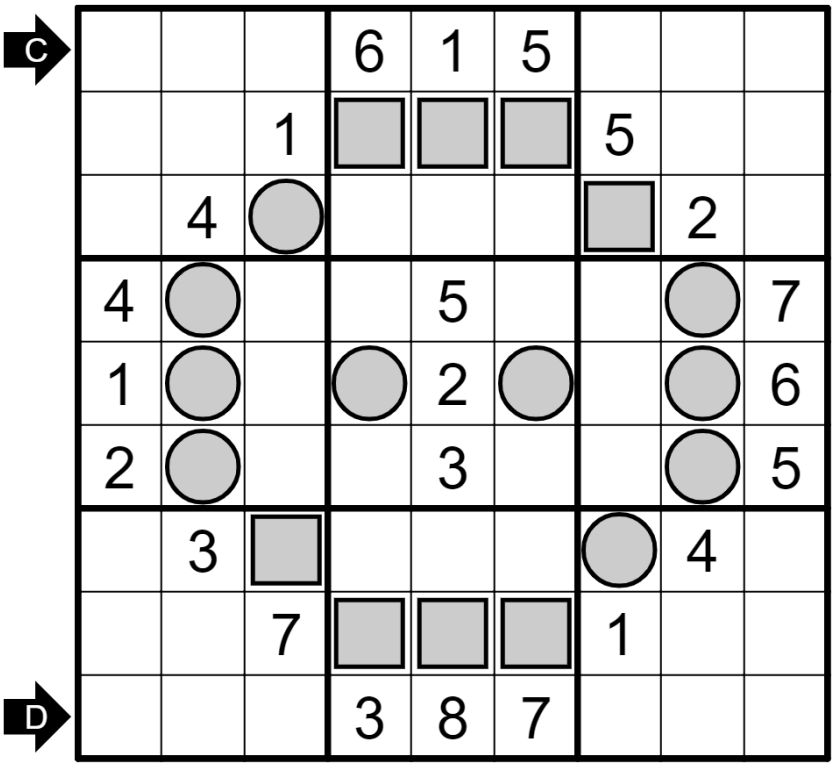
5 points

Apply Classic Sudoku rules.

Shaded squares should contain even digits (2,4,6,8) while shaded circles should contain odd digits (1,3,5,7,9).

A cell which is not shaded can contain digit of any parity

Penpa Link: https://bit.ly/36Rtp8o



11. Odd Even Arrow Sudoku - 1

Penpa Link: https://bit.ly/3y7VrbC

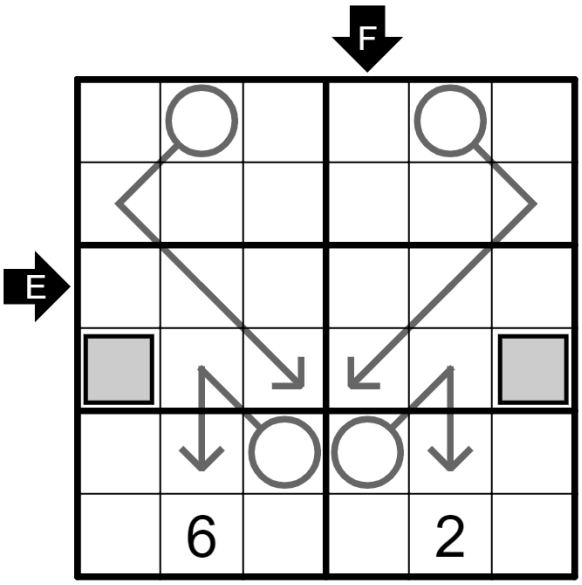
5 points

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 shape.

All arrow circles in the first TWO rows should have digits with the same parity.

Shaded squares should contain even digits (2,4,6) while shaded circles should contain odd digits (1,3,5). A cell which is not shaded can contain digit of any parity.



12. Odd Even Arrow Sudoku - 2

Penpa Link: https://bit.ly/3kFt3db

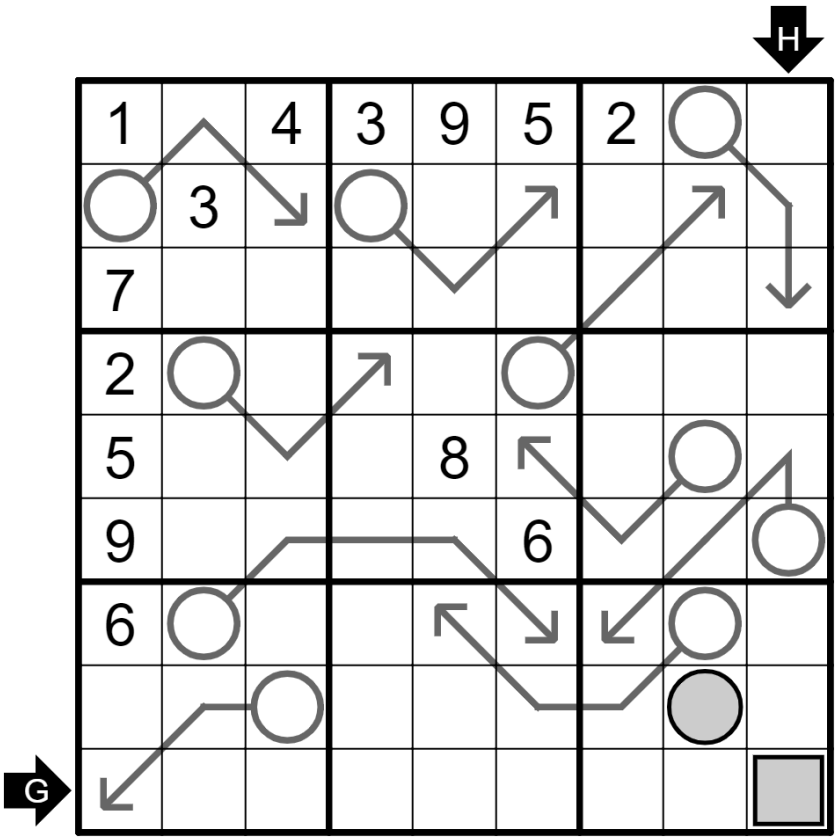
18 points

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 shape.

All arrow circles in the first THREE rows should have digits with the same parity.

Shaded squares should contain even digits (2,4,6,8) while shaded circles should contain odd digits (1,3,5,7,9). A cell which is not shaded can contain digit of any parity.



13. Odd Even Renban Sudoku - 1

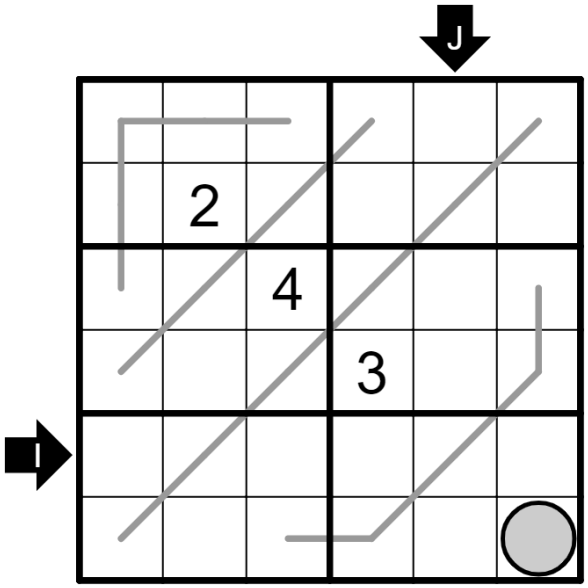
4 points

Apply classic Sudoku rules.

Additionally, marked lines should contain consecutive digits, in any order.

Shaded squares should contain even digits (2,4,6) while shaded circles should contain odd digits (1,3,5). A cell which is not shaded can contain digit of any parity.

Penpa Link: https://bit.ly/2V2y1Wu



14. Odd Even Renban Sudoku - 2

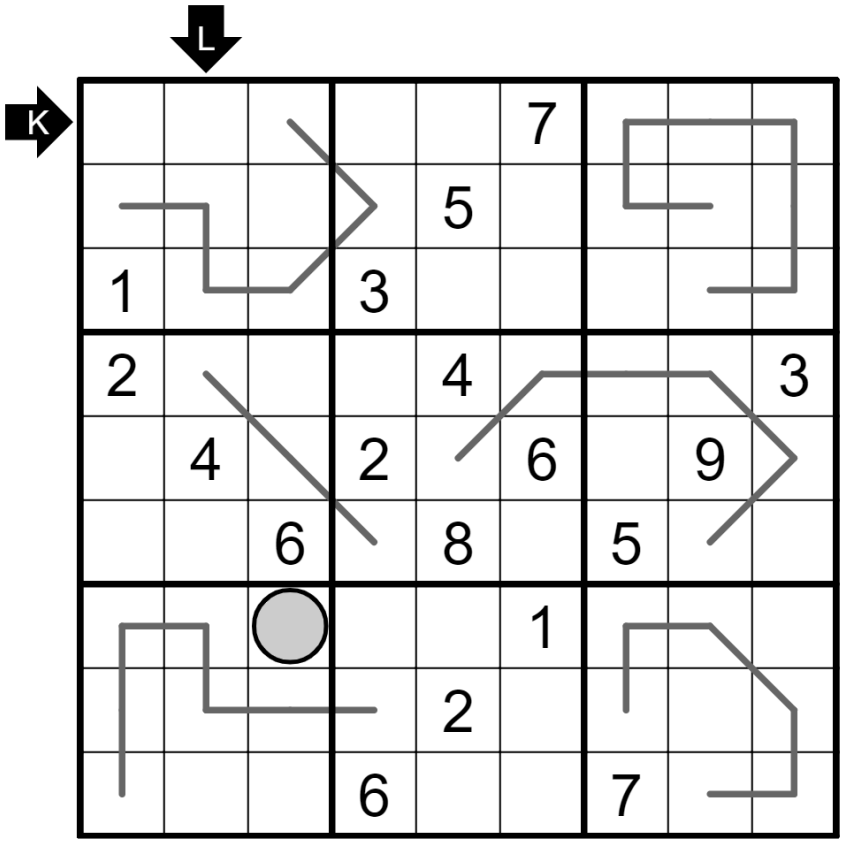
9 points

Apply classic Sudoku rules.

Additionally, marked lines should contain consecutive digits, in any order.

Shaded squares should contain even digits (2,4,6,8) while shaded circles should contain odd digits (1,3,5,7,9). A cell which is not shaded can contain digit of any parity.

Penpa Link: https://bit.ly/2TrylsfPenpa Link: https://bit.ly/2Trylsf



15. Parity Switch Sudoku - 1

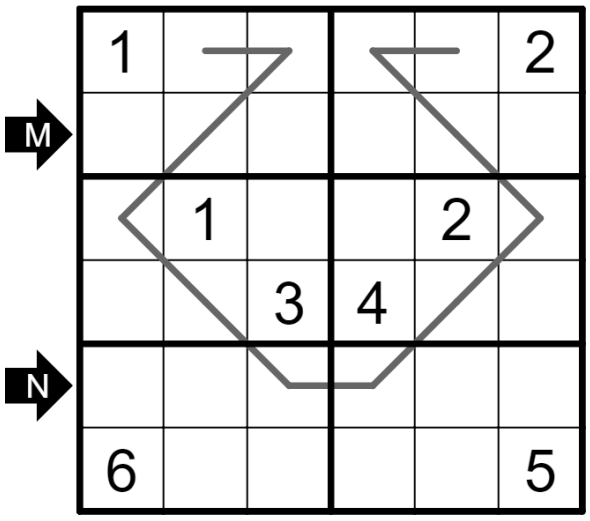
Penpa Link: https://bit.ly/3xYgUDX

2 points

Apply classic Sudoku rules.

Additionally, two adjacent cells joined by a line should have digits with different parities. This includes diagonally adjacent cells connected by a line.

Shaded squares should contain even digits (2,4,6) while shaded circles should contain odd digits (1,3,5). A cell which is not shaded can contain digit of any parity.



16. Parity Switch Sudoku - 2

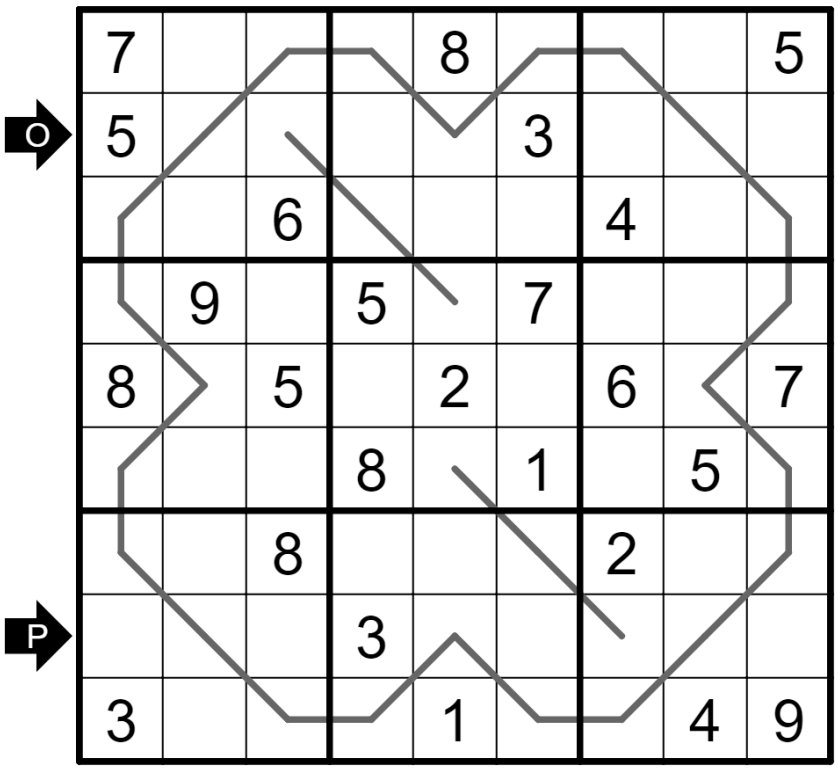
Penpa Link: https://bit.ly/3zjR1ib

9 points

Apply classic Sudoku rules.

Additionally, two adjacent cells joined by a line should have digits with different parities. This includes diagonally adjacent cells connected by a line.

Shaded squares should contain even digits (2,4,6,8) while shaded circles should contain odd digits (1,3,5,7,9). A cell which is not shaded can contain digit of any parity.



17. Odd Even View Sudoku - 1

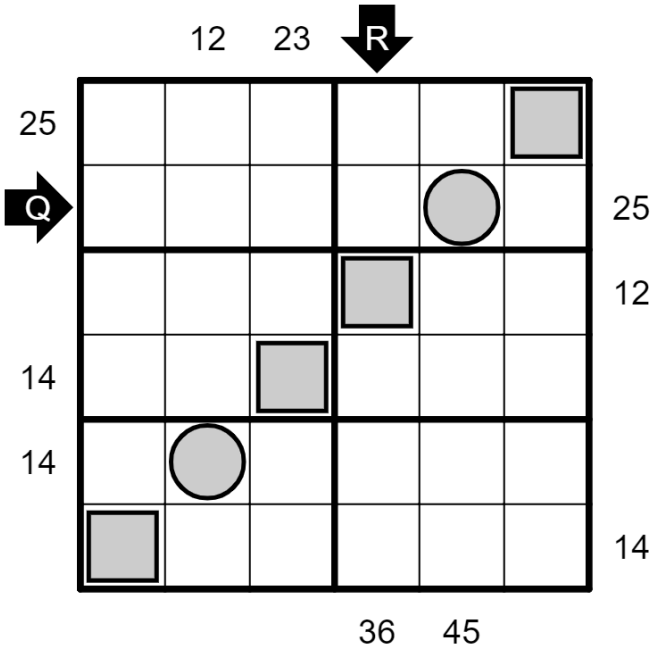
Penpa Link: https://bit.ly/3BsGVxu

7 points

Apply classic Sudoku rules.

Shaded squares should contain even digits (2,4,6) while shaded circles should contain odd digits (1,3,5). A cell which is not shaded can contain digit of any parity.

Additionally, an even digit outside the grid must be the first even digit seen from that direction and an odd digit outside the grid must be the first odd digit seen from that direction.



18. Odd Even View Sudoku - 2

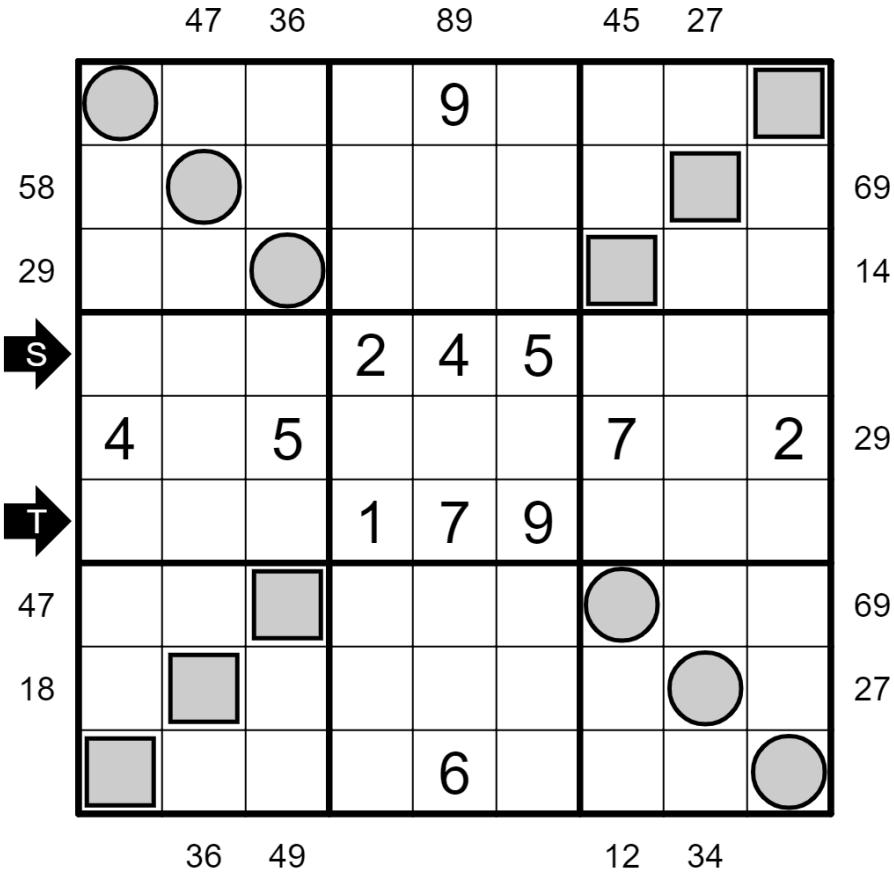
Penpa Link: https://bit.ly/36RMAz6

15 points

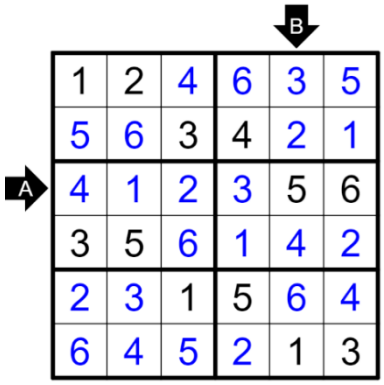
Apply classic Sudoku rules.

Shaded squares should contain even digits (2,4,6,8) while shaded circles should contain odd digits (1,3,5,7,9). A cell which is not shaded can contain digit of any parity.

Additionally, an even digit outside the grid must be the first even digit seen from that direction and an odd digit outside the grid must be the first odd digit seen from that direction.

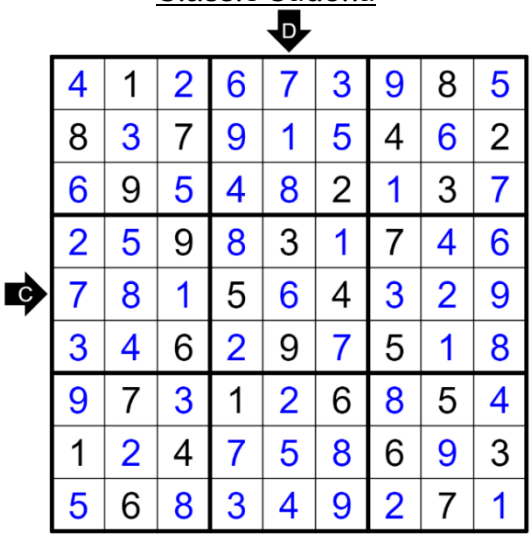


Mini Classic Sudoku



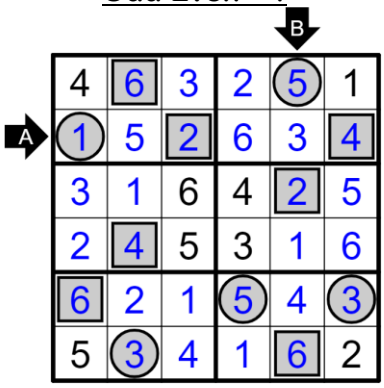
Answer Key:
412356, 325461

Classic Sudoku



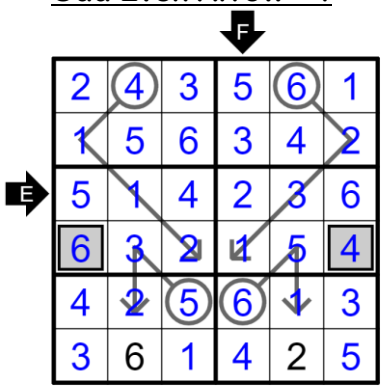
Answer Key:
781564329, 718369254

Odd Even – 1



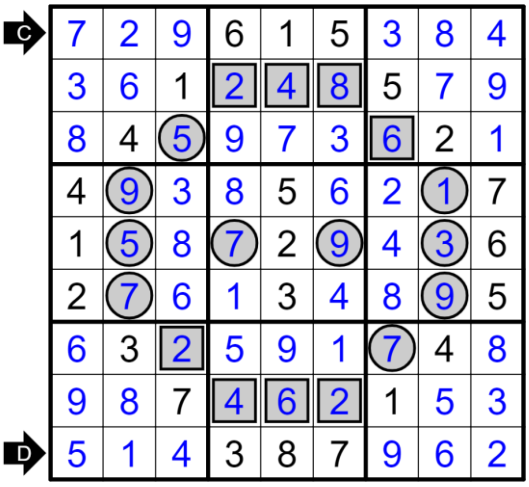
Answer Key:
152634, 532146

Odd Even Arrow – 1



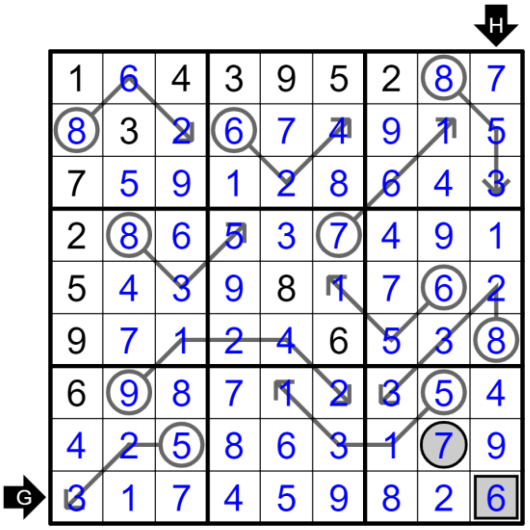
Answer Key:
514236, 532164

Odd Even – 2



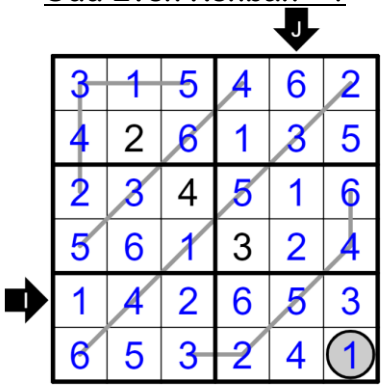
Answer Key:
729615384, 514387962

Odd Even Arrow – 2



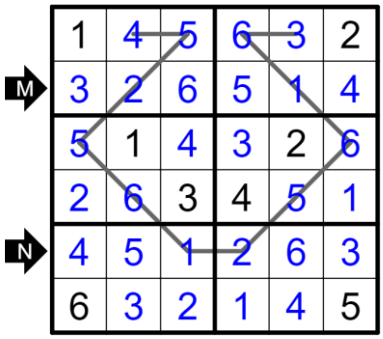
Answer Key:
317459826, 753128496

Odd Even Renban – 1



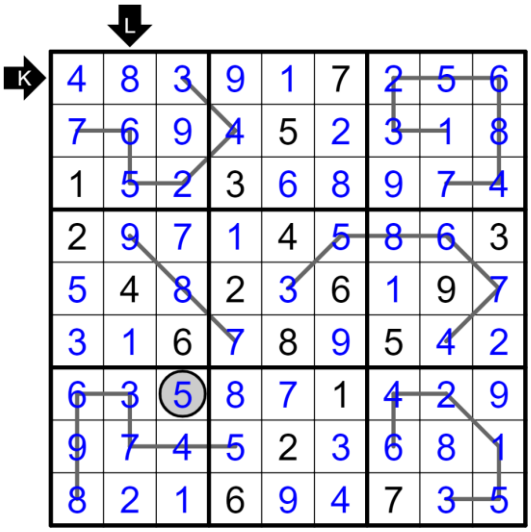
Answer Key:
142653, 631254

Parity Switch – 1



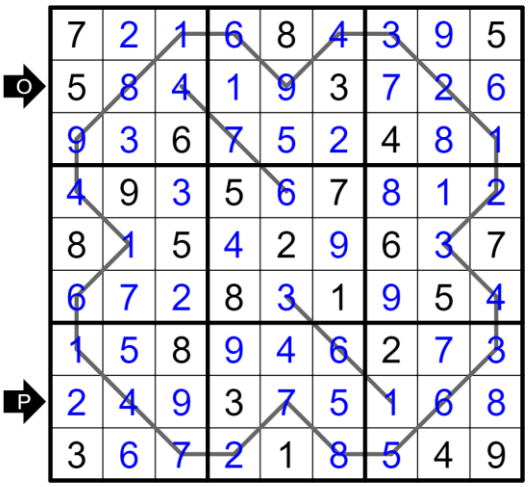
Answer Key:
326514, 451263

Odd Even Renban – 2



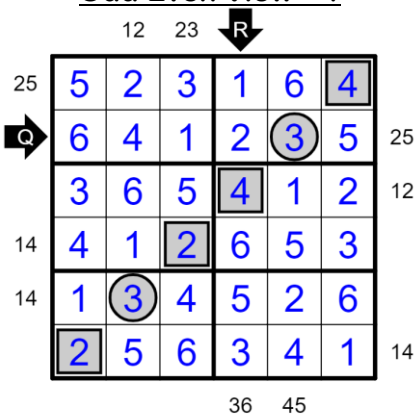
Answer Key:
483917256, 865941372

Parity Switch – 2



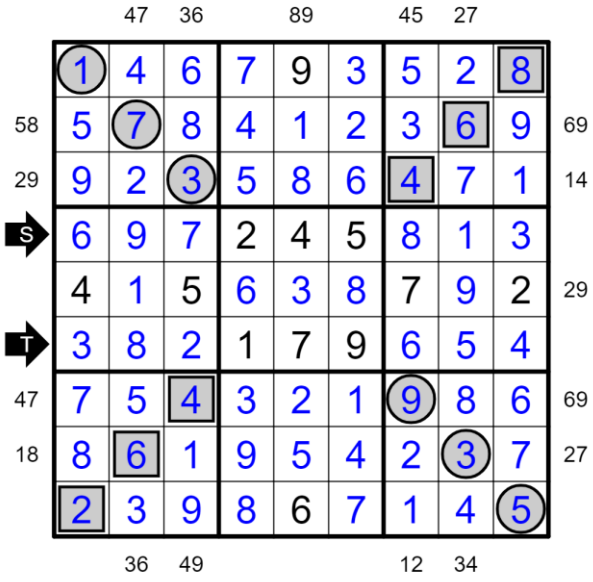
Answer Key:
584193726, 249375168

Odd Even View – 1



Answer Key:
641235, 124653

Odd Even View – 2



Answer Key:
697245813, 382179654