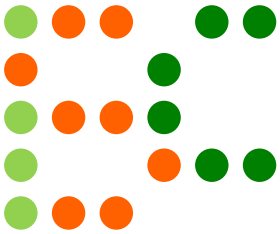
# sudoku mahabharat



## Episode – 1
## 12th – 15th January 2018
## Converse & Twisted Classics Variations
## By Akash Doulani

**Sudoku Mahabharat rounds will also serve as qualifiers for Indian Sudoku Championship for year 2018. Please check** http://logicmastersindia.com/SM/2018sm.asp **for details.**

**Important Links**

**Submission Page :** http://logicmastersindia.com/SM/201801

**Discussion Thread :** http://logicmastersindia.com/t/?tid=1578

**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 the following six variants

- XV Sudoku
- Consecutive Sudoku
- Average Sudoku
- Expanded Sudoku
- Overlapping Sudoku
- Linked 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 January (but on or before 15th January), 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

| | |
|---|---|
| Standard 1-6 | 1, 1 |
| Standard 1-9 | 5, 4, 6, 4 |
| XV 1-6, 1-9 | 4, 9 |
| Consecutive 1-6, 1-9 | 2, 11 |
| Average 1-6, 1-9 | 3, 9 |
| Expanded 1-6, 1-9 | 3, 7 |
| Overlapping 1-6, 1-9 | 3, 12 |
| Linked 1-6, 1-9 | 2, 14 |

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.

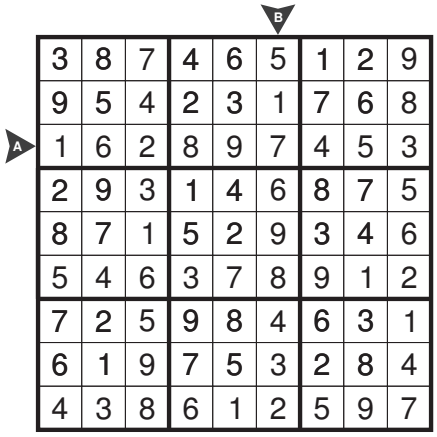
## Bonus

If you submitted all Sudokus correctly, you can have bonus points 1 point per minute saved, computed up to 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. For the answer key, ignore any blank cells in Expanded and Overlapping Sudoku.

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## About the Sudoku Booklet

The password protected Sudoku booklet will have about 11 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 the next 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.

## Standard Sudoku - 1

### x 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.

A

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | | | | |
| | | 3 | 4 | | |
| | | | | 5 | 6 |
| 3 | 5 | | | | |
| | | 1 | 5 | | |
| | | | | 1 | 3 |

## Standard Sudoku - 2

### x 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.

B

| | | | | | |
|---|---|---|---|---|---|
| | 1 | 3 | | | |
| | 6 | 4 | | | |
| | 3 | 2 | | | |
| | | | 3 | 1 | |
| | | | 1 | 5 | |
| | | | 2 | 4 | |

## Standard Sudoku - 3

**x 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.

D

C

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 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 | |

## Standard Sudoku - 4

**x 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.

F

E

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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

### x 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

G

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | 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 | |

## Standard Sudoku - 6

### x 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.

I

J

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

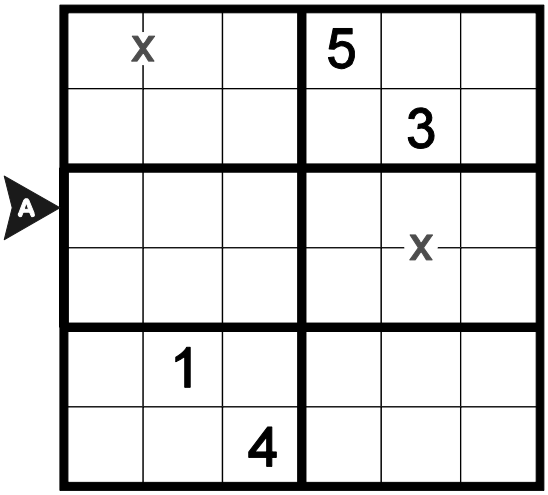
## XV Sudoku - 1

### x points

Apply standard Sudoku rules.

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.



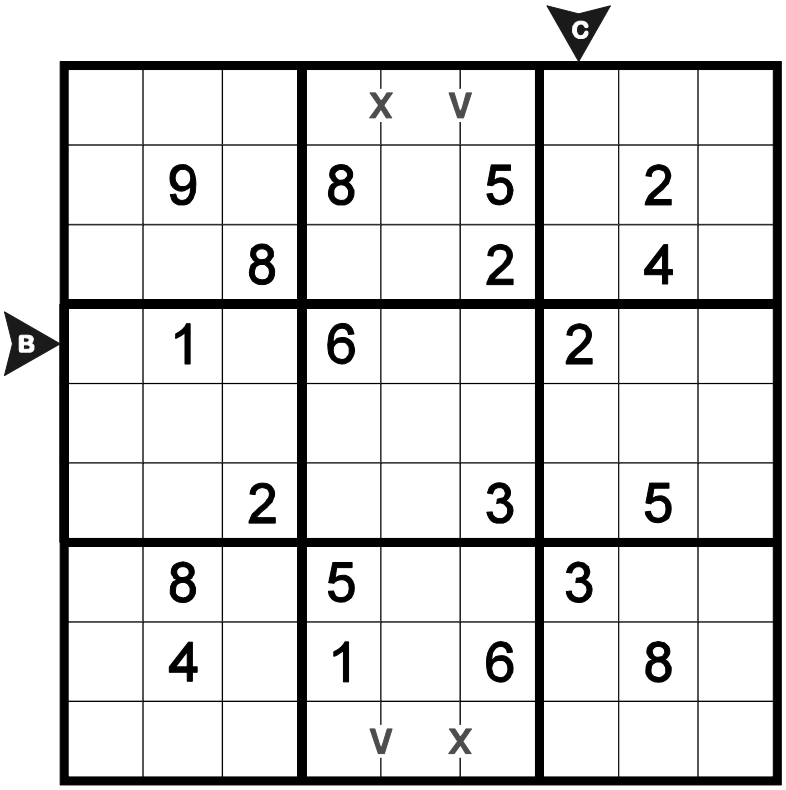

## XV Sudoku - 2

### x points

Apply standard Sudoku rules.

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.



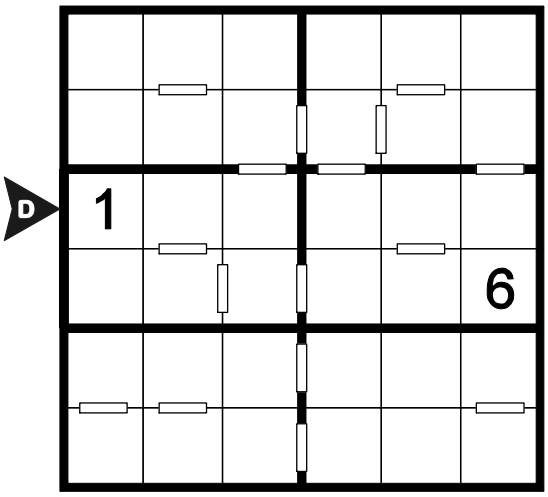
## Consecutive Sudoku - 1

### x points

Apply standard Sudoku rules.

Orthogonally adjacent cells containing consecutive numbers are separated by bars.

All possible bars are marked.



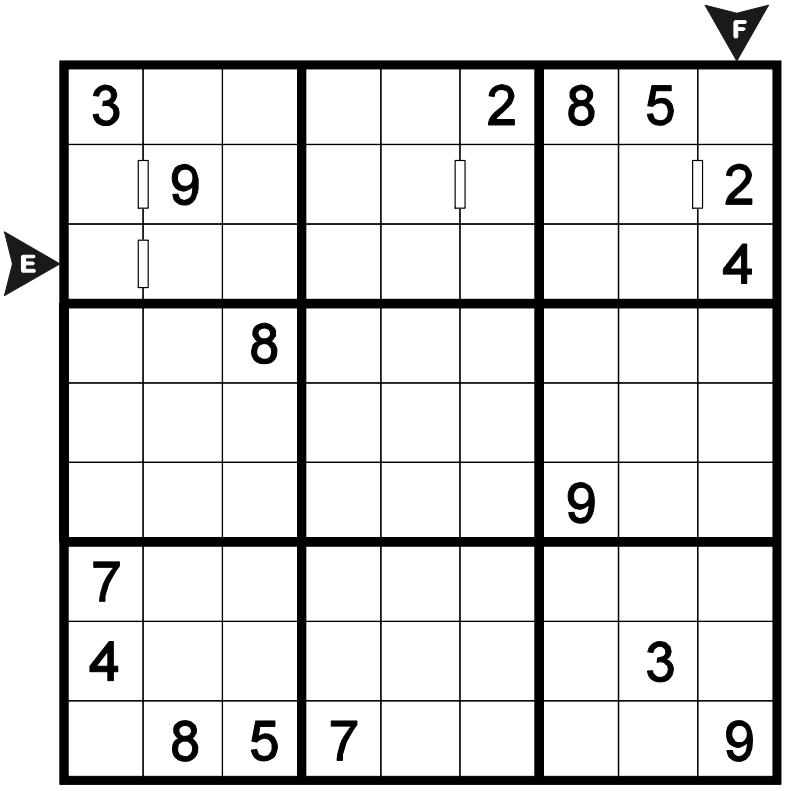

## Consecutive Sudoku - 2

### x points

Apply standard Sudoku rules.

Orthogonally adjacent cells containing consecutive numbers are separated by bars.

All possible bars are marked.



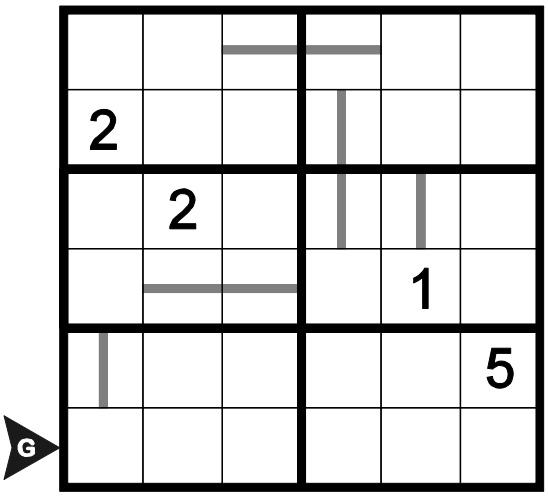
## Average Sudoku - 1

### x points

**Apply standard Sudoku rules.**

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

**All possible lines are marked.**



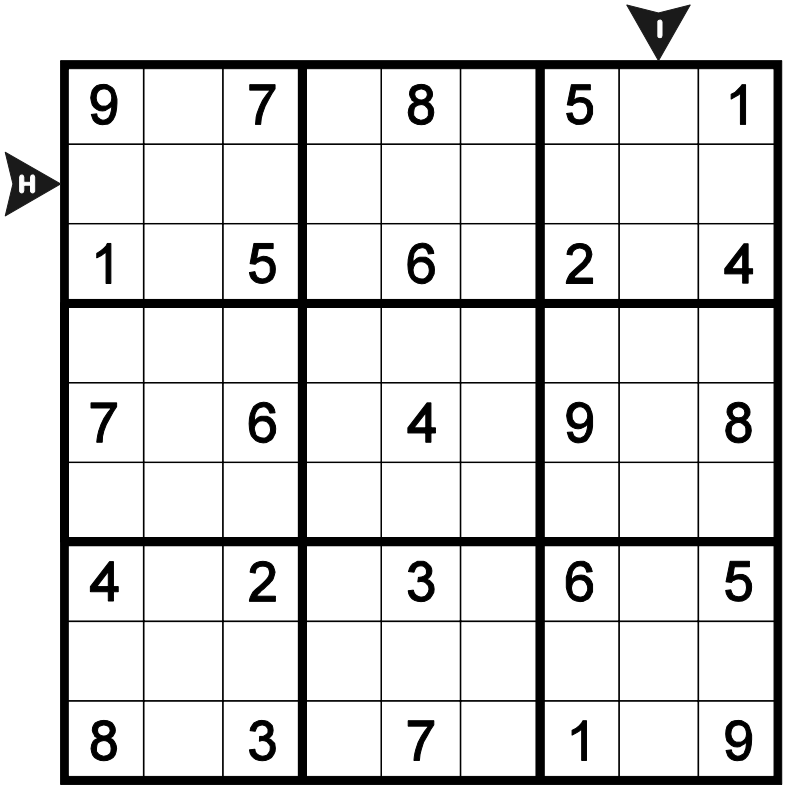

## Average Sudoku - 2

### x points

**Apply standard Sudoku rules.**

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

**All possible lines are marked.**



## Expanded Sudoku - 1

### x 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.

J

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 | | | | 2 | | 3 | |
| 3 | | 1 | | | | 4 | | |
| | | | | 4 | | | 3 | |
| | | | 3 | | | | 5 | |
| | | 3 | | | | | 6 | |
| | 1 | | | | | 5 | | |
| | | | | 6 | | | 5 | |
| | | | 5 | | | | 1 | |
| | | 4 | | | | | 1 | |
| | 3 | | | | | 6 | | |
| | | | | 1 | | | 4 | 5 |
| | | | 4 | | 2 | | 1 | |

K

## Expanded Sudoku

### x points

Apply standard Sudoku rules.

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.

M

L

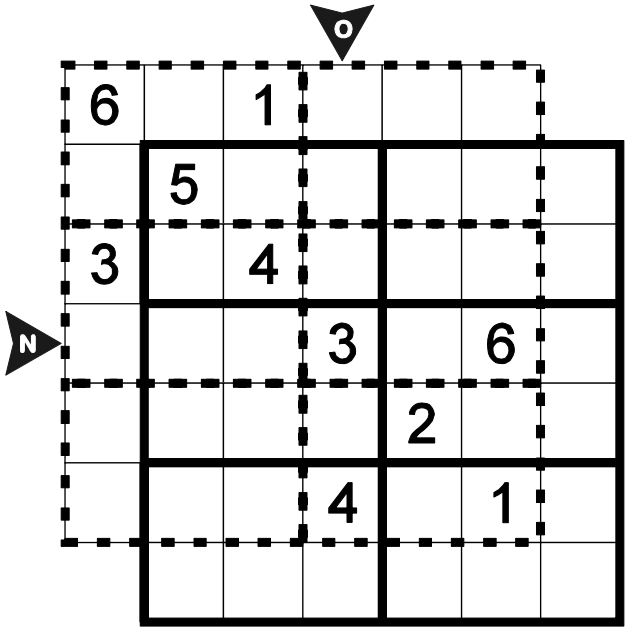
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | | | | | 1 | | 3 | |
| | | 4 | 3 | | | 9 | | 6 |
| | 6 | | | 9 | 7 | | 4 | |
| | 3 | | | 1 | | | 6 | |
| | | 7 | 4 | | | | 9 | 3 |
| 1 | | | | | 5 | | 4 | |
| | 4 | | | | | 8 | | |
| 3 | | 2 | | | | | 1 | |
| | 7 | | | | | 2 | | 5 |
| | |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

## Overlapping Sudoku - 1

### x points

Apply standard Sudoku rules to each of the grids.

Some grids are overlapping.

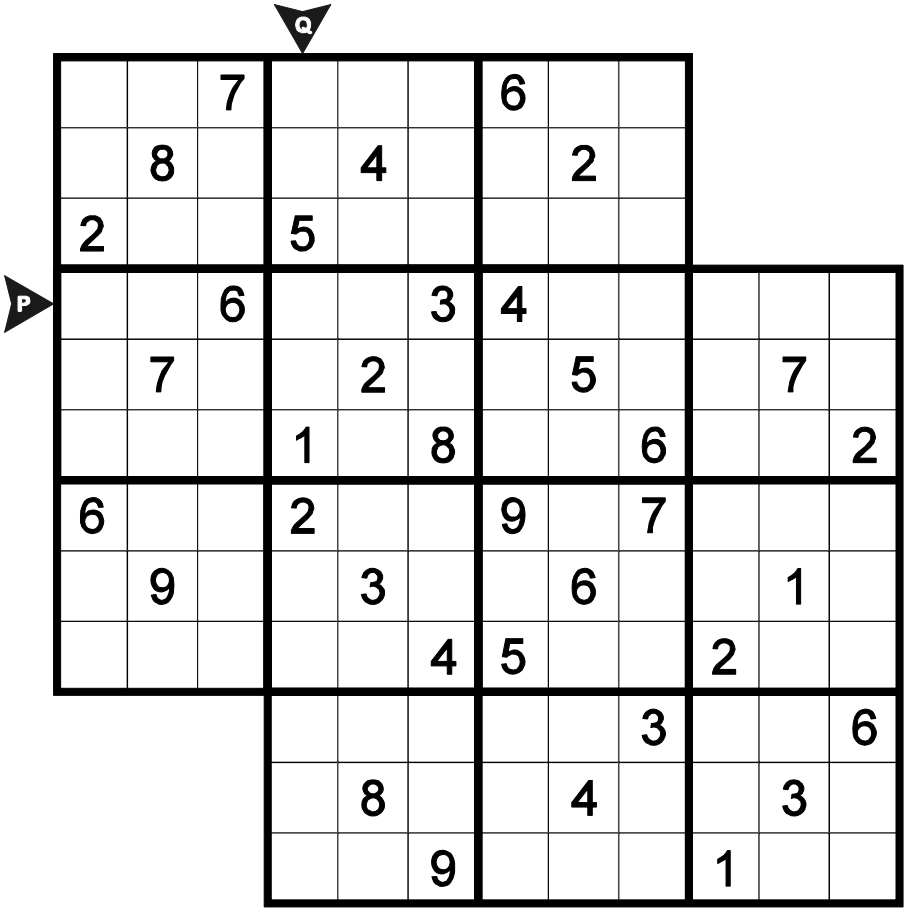



## Overlapping Sudoku - 2

### X points

Apply standard Sudoku rules to each of the grids.

Some grids are overlapping.

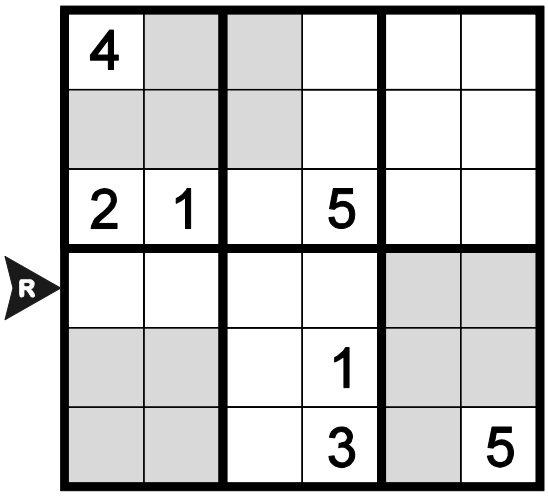


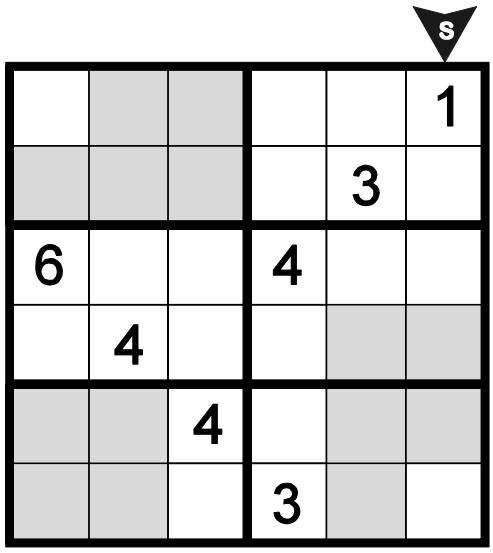
# Linked Sudoku - 1

## x points

Apply standard Sudoku rules to each of the grids.

Two grids are linked to each other. The shaded cells must contain same digit in both the grids.



## Linked Sudoku - 2

### x points

Apply standard Sudoku rules to each of the grids.

Two grids are linked to each other. The shaded cells must contain same digit in both the grids.

T

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

U

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

Standard

A

| | | | | | |
|---|---|---|---|---|---|
| 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

B

| | | | | | |
|---|---|---|---|---|---|
| 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

D

C

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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

F

E

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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

H

G

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 |

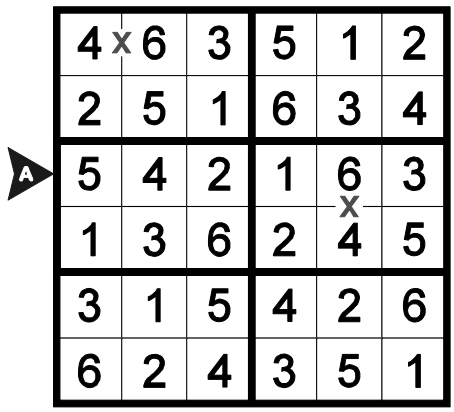
Standard

I

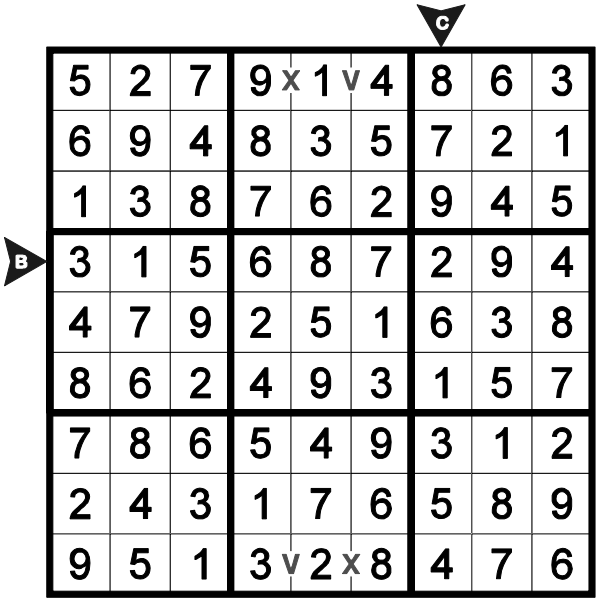
J

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

## XV

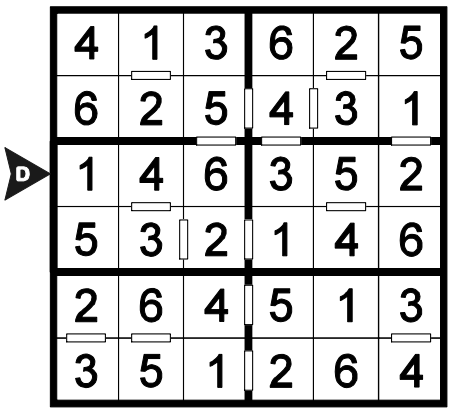


| | | | | | |
|---|---|---|---|---|---|
| 4 | 6 | 3 | 5 | 1 | 2 |
| 2 | 5 | 1 | 6 | 3 | 4 |
| 5 | 4 | 2 | 1 | 6 | 3 |
| 1 | 3 | 6 | 2 | 4 | 5 |
| 3 | 1 | 5 | 4 | 2 | 6 |
| 6 | 2 | 4 | 3 | 5 | 1 |

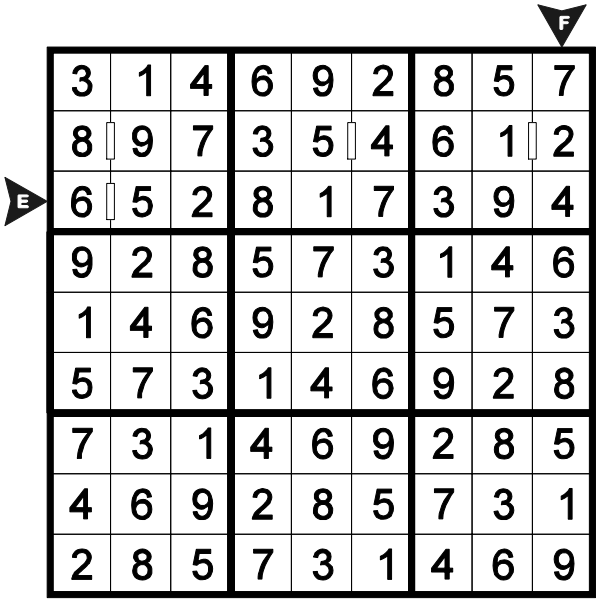


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5 | 2 | 7 | 9 | 1 | 4 | 8 | 6 | 3 |
| 6 | 9 | 4 | 8 | 3 | 5 | 7 | 2 | 1 |
| 1 | 3 | 8 | 7 | 6 | 2 | 9 | 4 | 5 |
| 3 | 1 | 5 | 6 | 8 | 7 | 2 | 9 | 4 |
| 4 | 7 | 9 | 2 | 5 | 1 | 6 | 3 | 8 |
| 8 | 6 | 2 | 4 | 9 | 3 | 1 | 5 | 7 |
| 7 | 8 | 6 | 5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

## Consecutive

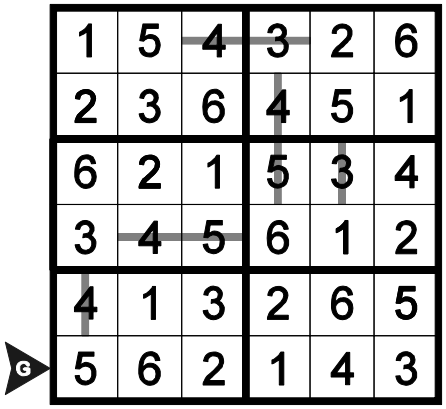


| | | | | | |
|---|---|---|---|---|---|
| 4 | 1 | 3 | 6 | 2 | 5 |
| 6 | 2 | 5 | 4 | 3 | 1 |
| 1 | 4 | 6 | 3 | 5 | 2 |
| 5 | 3 | 2 | 1 | 4 | 6 |
| 2 | 6 | 4 | 5 | 1 | 3 |
| 3 | 5 | 1 | 2 | 6 | 4 |

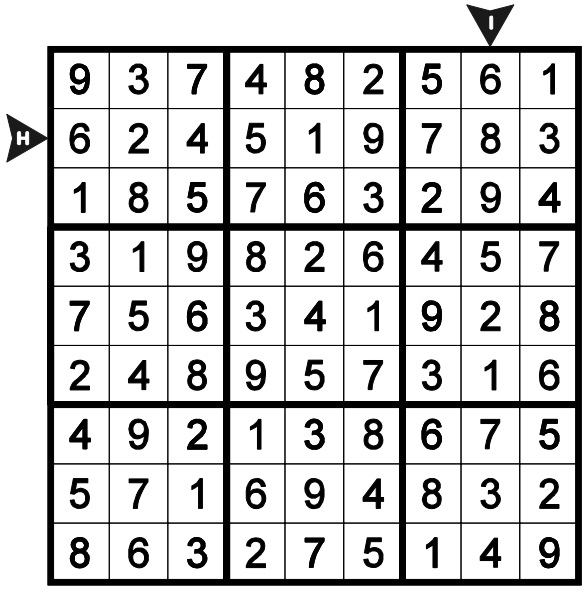


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 4 | 6 | 9 | 2 | 8 | 5 | 7 |
| 8 | 9 | 7 | 3 | 5 | 4 | 6 | 1 | 2 |
| 6 | 5 | 2 | 8 | 1 | 7 | 3 | 9 | 4 |
| 9 | 2 | 8 | 5 | 7 | 3 | 1 | 4 | 6 |
| 1 | 4 | 6 | 9 | 2 | 8 | 5 | 7 | 3 |
| 5 | 7 | 3 | 1 | 4 | 6 | 9 | 2 | 8 |
| 7 | 3 | 1 | 4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

## Average

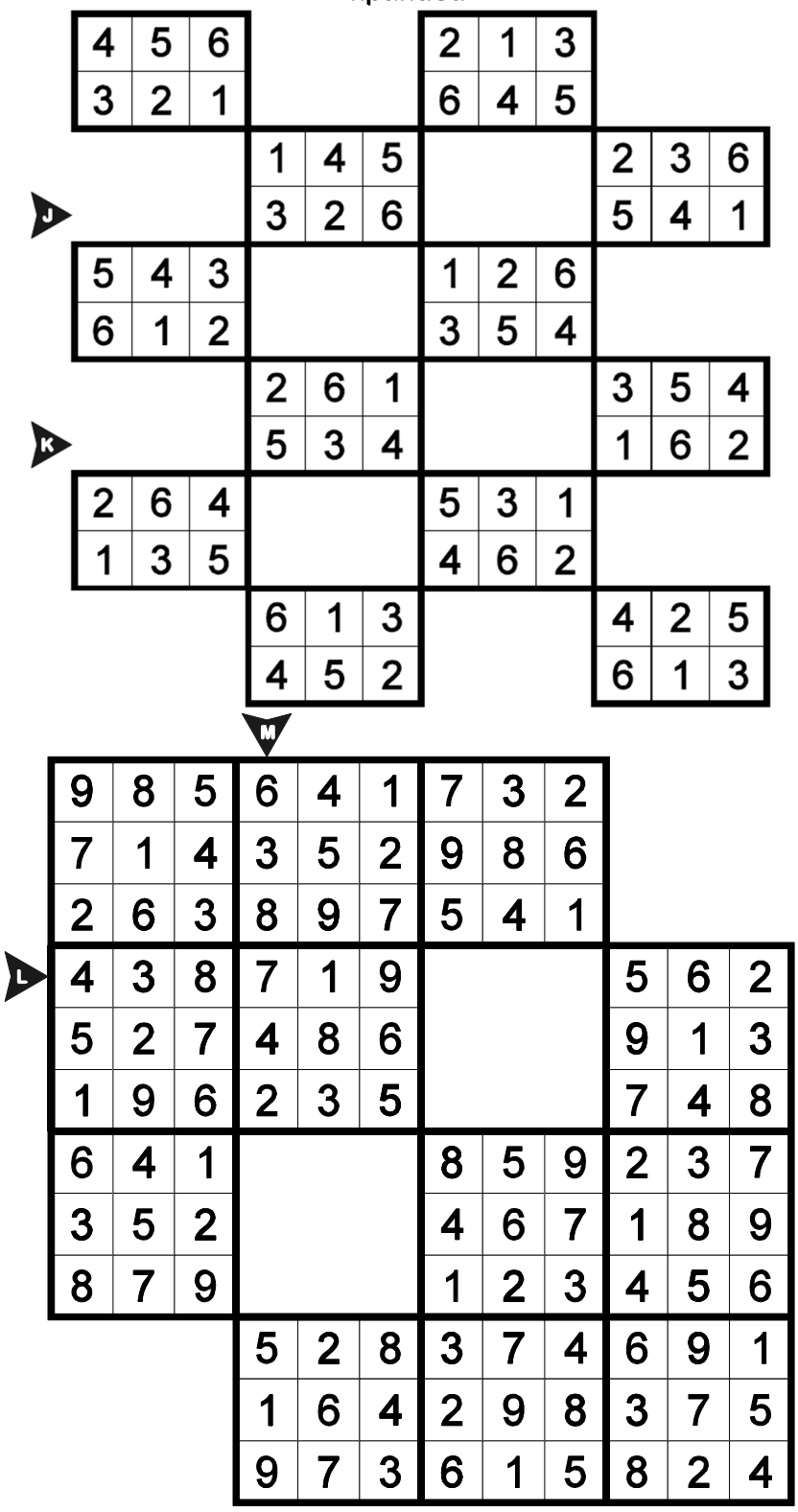


| | | | | | |
|---|---|---|---|---|---|
| 1 | 5 | 4 | 3 | 2 | 6 |
| 2 | 3 | 6 | 4 | 5 | 1 |
| 6 | 2 | 1 | 5 | 3 | 4 |
| 3 | 4 | 5 | 6 | 1 | 2 |
| 4 | 1 | 3 | 2 | 6 | 5 |
| 5 | 6 | 2 | 1 | 4 | 3 |

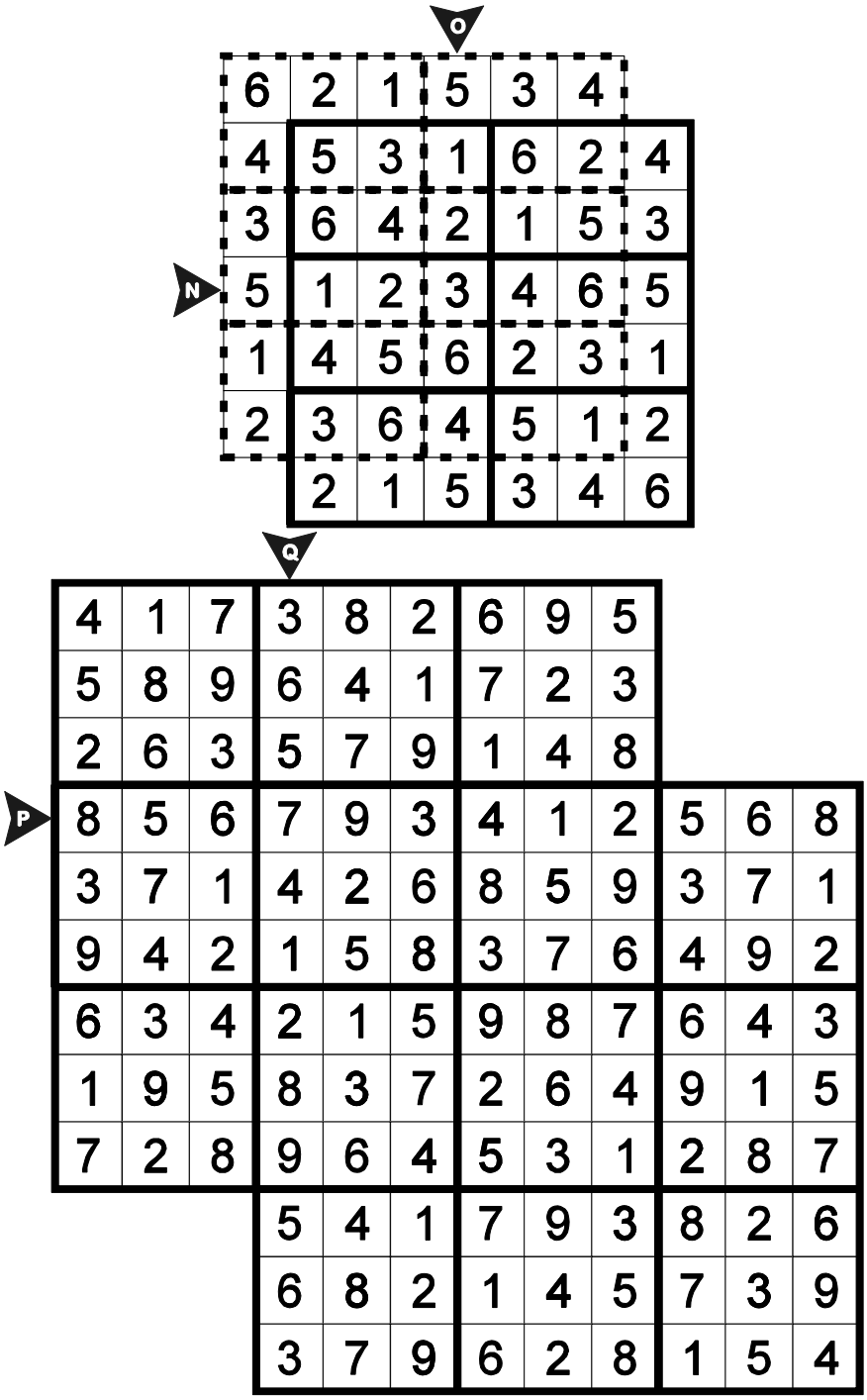


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | 3 | 7 | 4 | 8 | 2 | 5 | 6 | 1 |
| 6 | 2 | 4 | 5 | 1 | 9 | 7 | 8 | 3 |
| 1 | 8 | 5 | 7 | 6 | 3 | 2 | 9 | 4 |
| 3 | 1 | 9 | 8 | 2 | 6 | 4 | 5 | 7 |
| 7 | 5 | 6 | 3 | 4 | 1 | 9 | 2 | 8 |
| 2 | 4 | 8 | 9 | 5 | 7 | 3 | 1 | 6 |
| 4 | 9 | 2 | 1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

Expanded



## Overlapping

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

## Linked

| | | | | | |
|---|---|---|---|---|---|
| 4 | 3 | 2 | 6 | 5 | 1 |
| 5 | 6 | 1 | 4 | 3 | 2 |
| 2 | 1 | 3 | 5 | 6 | 4 |
| 6 | 4 | 5 | 2 | 1 | 3 |
| 3 | 5 | 4 | 1 | 2 | 6 |
| 1 | 2 | 6 | 3 | 4 | 5 |

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

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

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