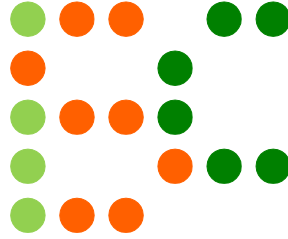


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Episode – 6
17th – 21st May 2019

Converse and Twisted Classic Variations
By
Harmeet Singh and Gaurav Jain

Sudoku Mahabharat rounds will also serve as qualifiers for Indian Sudoku Championship for year 2019. Please check <http://logicmastersindia.com/SM/2019sm.asp> for details.

Important Links

Submission Page : <http://logicmastersindia.com/SM/201905>

Discussion Thread : <http://logicmastersindia.com/t/?tid=2701>

F. A. Q. : <http://logicmastersindia.com/t/?tid=381>

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

About this Episode

This episode has the following Sudokus

- Mini Classic Sudoku (4)
- Classic Sudoku (4)
- XV Sudoku (2)
- 0-N Difference Sudoku (2)
- Anti Knight Sudoku (2)
- Overlapping Sudoku (2)
- Linked Line Sudoku (2)

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 17th May (but on or before 21st May), 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

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.

Mini Classic 1-6	1, 1, 1, 1
Classic 1-9	5, 7, 5, 4
XV 1-6, 1-9	3, 9
0-N Difference 1-6, 1-9	3, 12
Anti Knight 1-6, 1-9	2, 12
Overlapping 1-6, 1-9	3, 9
Linked Line 1-6, 1-9	5, 17

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.

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

About the Sudoku Booklet

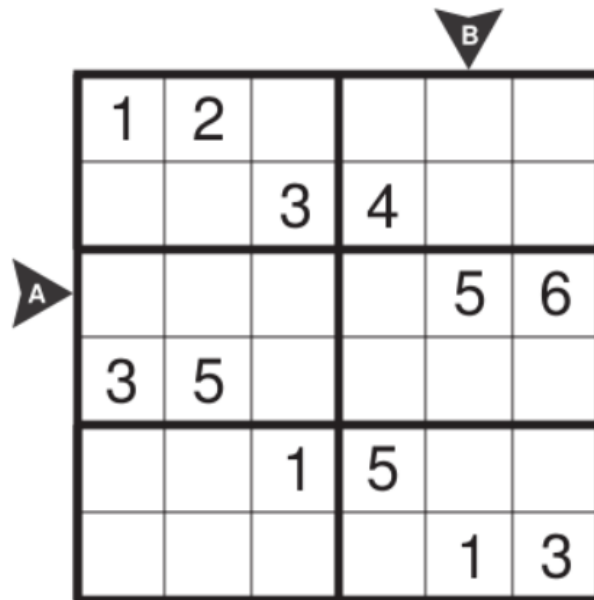
The password protected Sudoku booklet will have 8 pages. If you are planning to solve on paper, we advise you to have a printer accessible with enough paper.

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 few pages of this instruction booklet. You can avoid any last minute surprise during the test.

1-4 Mini Classic Sudoku

1+1+1+1 points

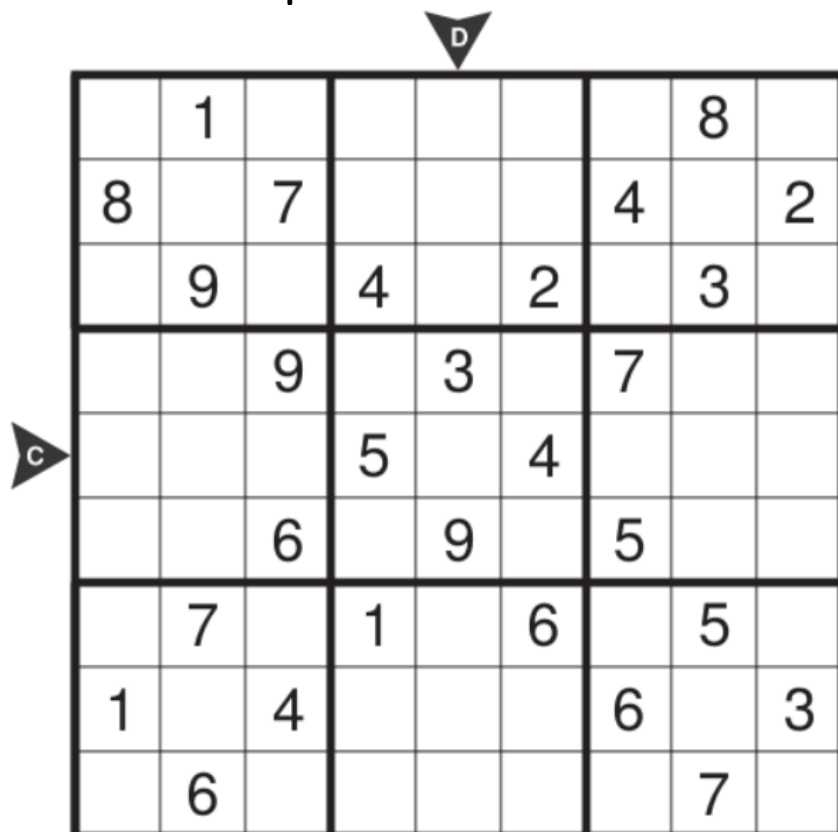
Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.



5-8 Classic Sudoku

5+7+5+4 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.



XV Sudoku - 1

3 points

Apply Mini Classic 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.

X		5			
			3		
			X		
	1				
		4			

XV Sudoku - 2

9 points

Apply Classic 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.

			X	V				
	9		8	5		2		
		8		2		4		
	1		6		2			
		2		3		5		
	8		5		3			
	4		1	6		8		
			V	X				

0-5 Difference Sudoku

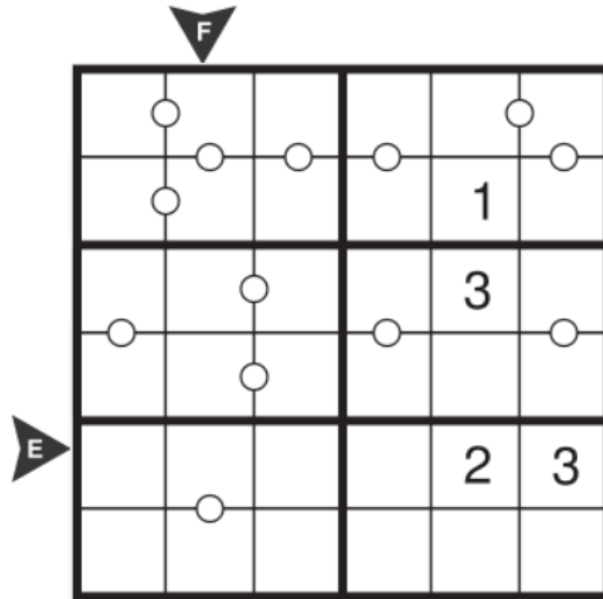
3 points

Apply Mini Classic Sudoku rules.

In every box, there is a white circle between two cells if the difference between the cells is N . All possible circles are given in every box.

N is different for each box, and ranges from 0 to 5. Determining N for each box is part of solving.

There are no circles on borders between boxes.



0-8 Difference Sudoku

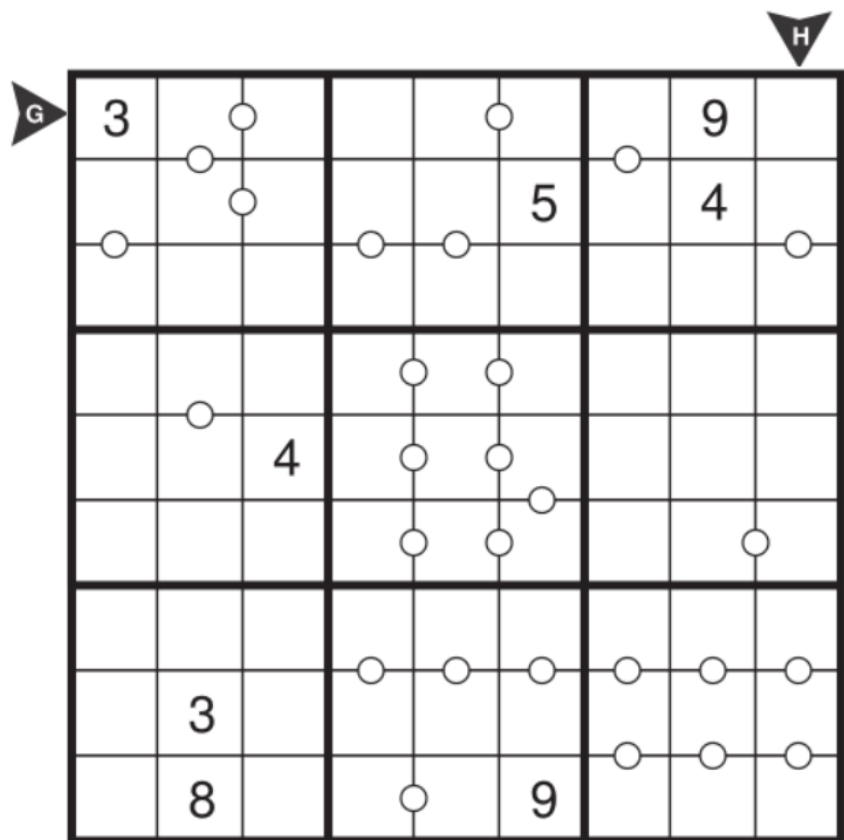
12 points

Apply Classic Sudoku rules.

In every box, there is a white circle between two cells if the difference between the cells is N . All possible circles are given in every box.

N is different for each box, and ranges from 0 to 8. Determining N for each box is part of solving.

There are no circles on borders between boxes.



Anti Knight Sudoku - 1

2 points

Apply mini 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.

	X		X	
X				X
		•		
X				X
	X		X	

									J
1	2					3	4		
5	6					4	1		I

Anti Knight Sudoku - 2

12 points

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.

	X		X	
X				X
		•		
X				X
	X		X	

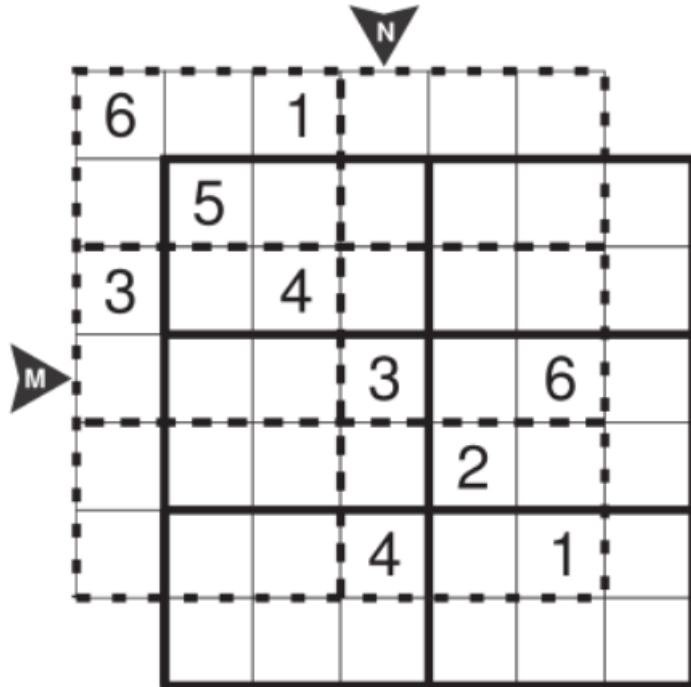
										L
9				4		6		7		
	8			3			4			
6										
				8		5				
1	5						7	8		
				9		4				
									4	
	9			6			1			
2		8		9					5	

Overlapping Sudoku - 1

3 points

Apply mini classic Sudoku rules to each grid.

Two grids are overlapping.

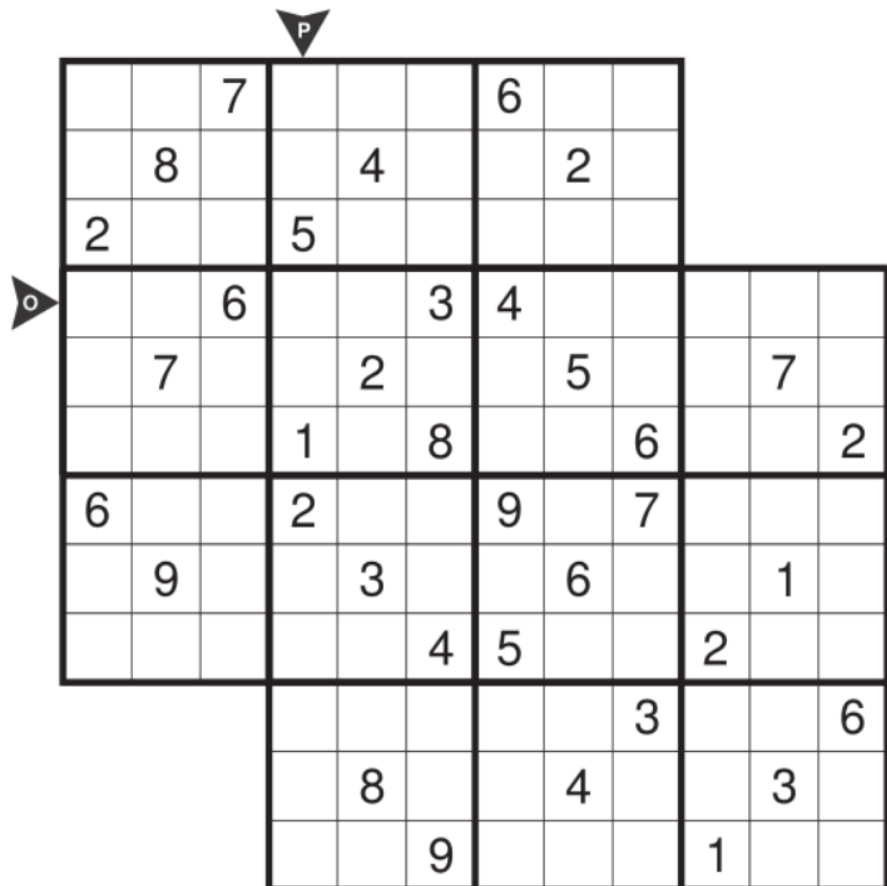


Overlapping Sudoku - 2

9 points

Apply classic Sudoku rules to each grid.

Two grids are overlapping.

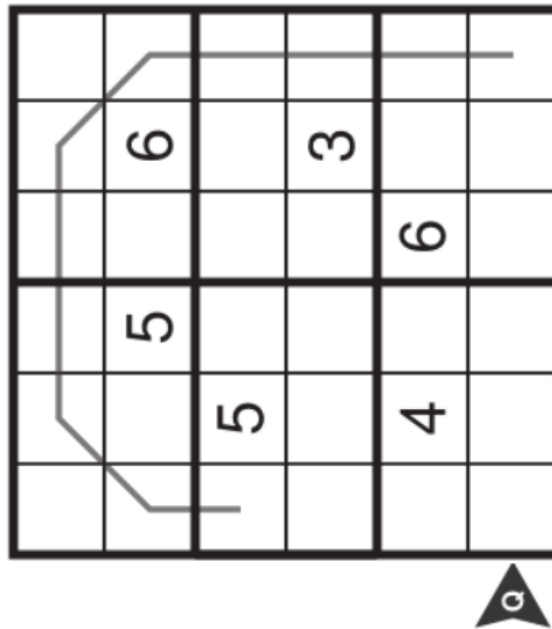
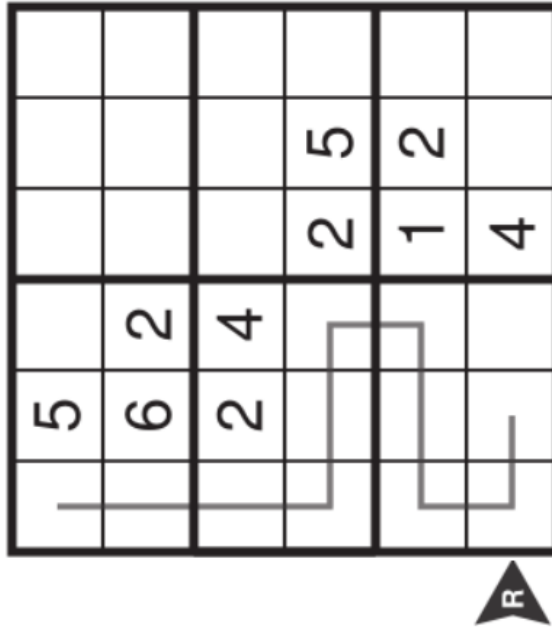


Linked Line Sudoku - 1

5 points

Apply mini classic Sudoku rules.

The numbers on the lines in the two grids are in the same order from one end to the other. However the end points on each line (start and end) are to be determined as part of solving.



Linked Line Sudoku - 2

17 points

Apply classic Sudoku rules.

The numbers on the lines in the two grids are in the same order from one end to the other. However the end points on each line (start and end) are to be determined as part of solving.

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

T

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

S

Mini Classic

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

Classic

				D					
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	
C	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

XV - 1

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

0-5 Difference

				F		
	1	2	5	3	6	4
	4	3	6	5	1	2
	6	4	1	2	3	5
	3	5	2	6	4	1
E	5	6	4	1	2	3
	2	1	3	4	5	6

XV - 2

				D							
5	2	7	9	x	1	v	4	8	6	3	
6	9	4	8	3	5	7	2	1			
1	3	8	7	6	2	9	4	5			
C	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	v	2	x	8	4	7	6

0-8 Difference

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

Anti Knight- 1

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

Overlapping - 1

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	

Anti Knight - 2

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

Overlapping - 2

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 Line - 1

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

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

Linked Line – 2

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

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