INDIAN SUDOKU CHAMPIONSHIP 2010

INSTRUCTION BOOKLET
Offline Final

24th January 2010

Linked Classics – 10:00 – 10:35
Samurai Sudoku – 10:50 - 11:35
Mixed Bag – 11:50 – 12:35
Mechanical Sudoku – 12:50 – 13:15

Sprint Semifinal

Final

Conducted by TechFest, IIT Bombay
in association with www.logicmastersindia.com

Congratulations for making it to the top 70 from the online rounds and the offline preliminary round held at TechFest!

The ISC 2010 will consist of 4 rounds testing the various aspects of your sudoku solving skills with a total of 1650 points.

The first round Linked Classics will consist of 6 classic puzzles with a twist. The points for this round will be awarded as follows:

Puzzle	I	II	III	Bonus	Total
Linked Row Classics	45	60	75	20	200
Linked Column Classics	30	40	60	20	150

Points will be awarded for each of the individual puzzles only if it is a part of the complete solution. 20 bonus points will be awarded for solving all 3 puzzles in a linked set correctly.

The second round will consist of 4 standard variations arranged in the form of a Samurai Sudoku, bound together by a Classic Sudoku. A Samurai sudoku consists of a total of 41 regions (3X3 boxes and outlined regions in irregular sudoku). 5 points will be awarded for correctly solving each of the 41 regions. Bonus points will be awarded for completely solving each of the variations correctly.

Odd	Diagonal	Irregular	Extra Region	Classic
30	45	55	65	50

The third round will consist of a mixed bag of new variants. The points for these variants are as follows:

Roman Sudoku	70
Extra Region Sudoku	70
Fortress Sudoku	90
Distance Sudoku	100
Palindrome Sudoku	100
Inequality Sudoku	120
Total	**550**

The fourth round is a mechanical puzzle, where transparent tiles need to be arranged in an appropriate configuration to create a valid sudoku grid. Points will be awarded as follows:

First five correctly placed tiles	5*10
Next 2 correctly placed tiles	2*20
Last 2 correctly placed tiles	2*30
Complete Solution	50
Total	**200**

Time Bonus

Time Bonuses will be awarded in rounds 1, 2 and 4. Time bonuses will be awarded for correctly solving every sudoku puzzle in the round and submitting before the stipulated time. The time bonus will be 10 into the number of full minutes saved.

Ties

In case of a tie for the top 8 positions for semi-finals, the tie will be broken by following rules:

1) Least number of incorrect puzzles.
2) Faster solver in a tie Breaker puzzle.

Sprint Semi Finals

The top 8 from the first four rounds will be selected for the Sprint Semi Finals where their sudoku solving speed will be put to the test. The semi finals will consist of 6 fast paced sudokus.

The top 8 will be seated in order of their ranking with the 1^{st} rank having a head start of 3 minutes over the 8^{th} rank. The 1^{st} ranker will have a time advantage over all other ranks from 2 to 7 in proportion of their scores in the first 4 rounds.

Participants will have one puzzle on their desk at a time. After solving they will immediately submit the puzzle and wait for 1 minute till the sudoku is checked. If the puzzle is correct the participant will be allowed to proceed to the next sudoku, else he/she will have to correct the sudoku and submit again.

The first 4 to complete all 6 puzzles will advance to the Finals.

In case of tie in submission of last sudoku, rank from the first four rounds will be used to break tie.

Finals

The Finals will consist of three puzzles to be solved on a whiteboard. All four participants will start the sudokus simultaneously and submit the sudoku upon completion. Participants will be given upto 15 minutes to solve each sudoku. The winner will be decided based on the following criteria.

1) Maximum number of correctly solved sudokus.
2) Minimum time taken for solving the sudokus across all sudokus.
3) Number of digits filled in the grid.

Round 1

Linked Classics - 35 minutes - 350 points + Time Bonus

Linked Row Classics (45 + 60 + 75 + 20 bonus) 200 points

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

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

Fill in the grids so that every row, every column and every 3x3 box contains the digits 1 through 9.
Exactly one row in each grid has identical digits at identical positions.

The individual Classics have their own points and points will be awarded only if the answer matches the final answer satisfying the 3 sudokus.

20 bonus points for solving all of them.

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

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

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

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

Linked Column Classics (30 + 40 + 60 + 20 bonus) 150 points

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

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

Fill in the grids so that every row, every column and every 3x3 box contains the digits 1 through 9.
Exactly one column in each grid has identical digits at identical positions.

The individual Classics have their own points and points will be awarded only if the answer matches the final answer satisfying the 3 sudokus.

20 bonus points for solving all of them.

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

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

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

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

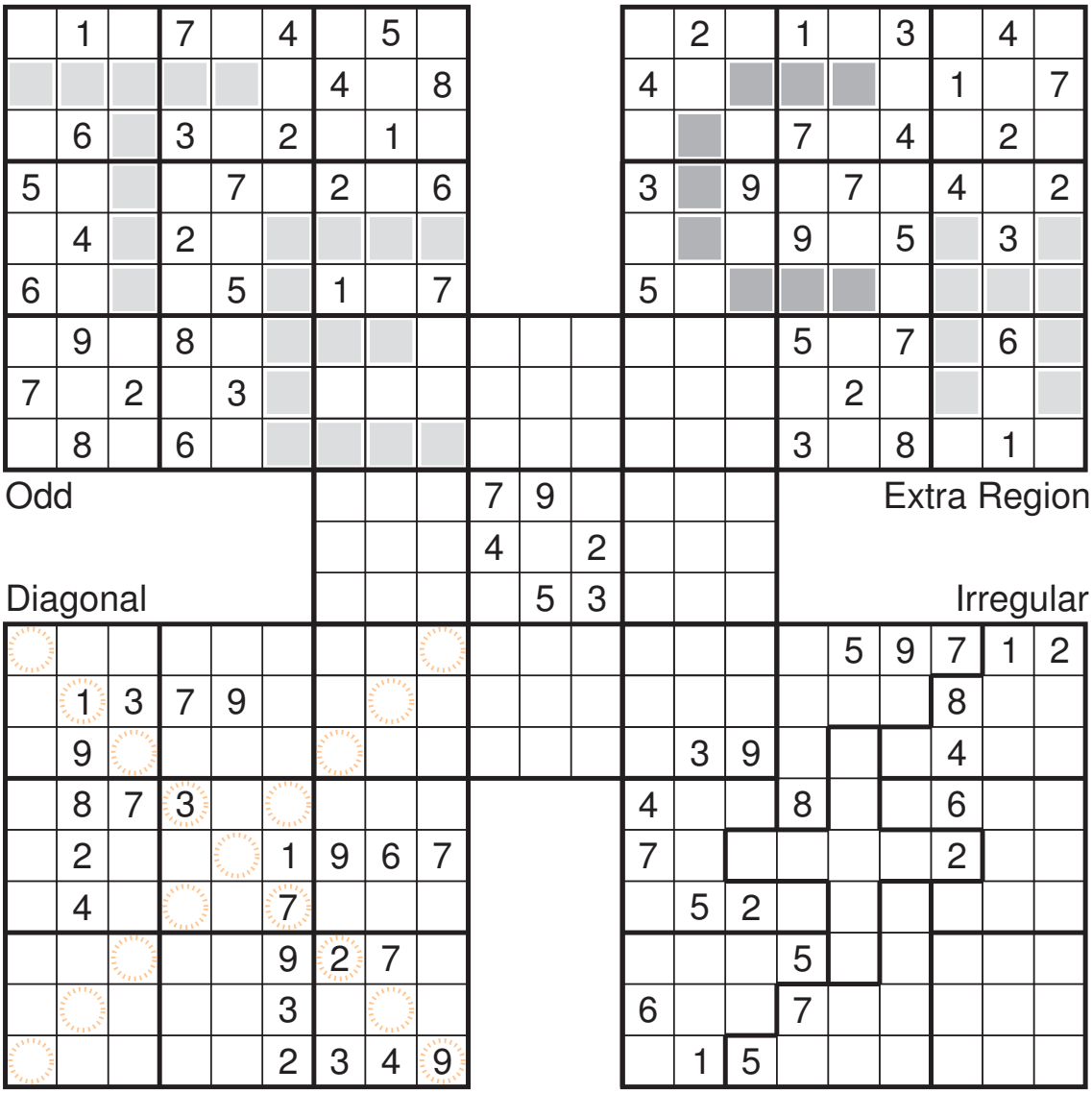
Round 2

Samurai Sudoku - 45 minutes - 450 points + Time Bonus

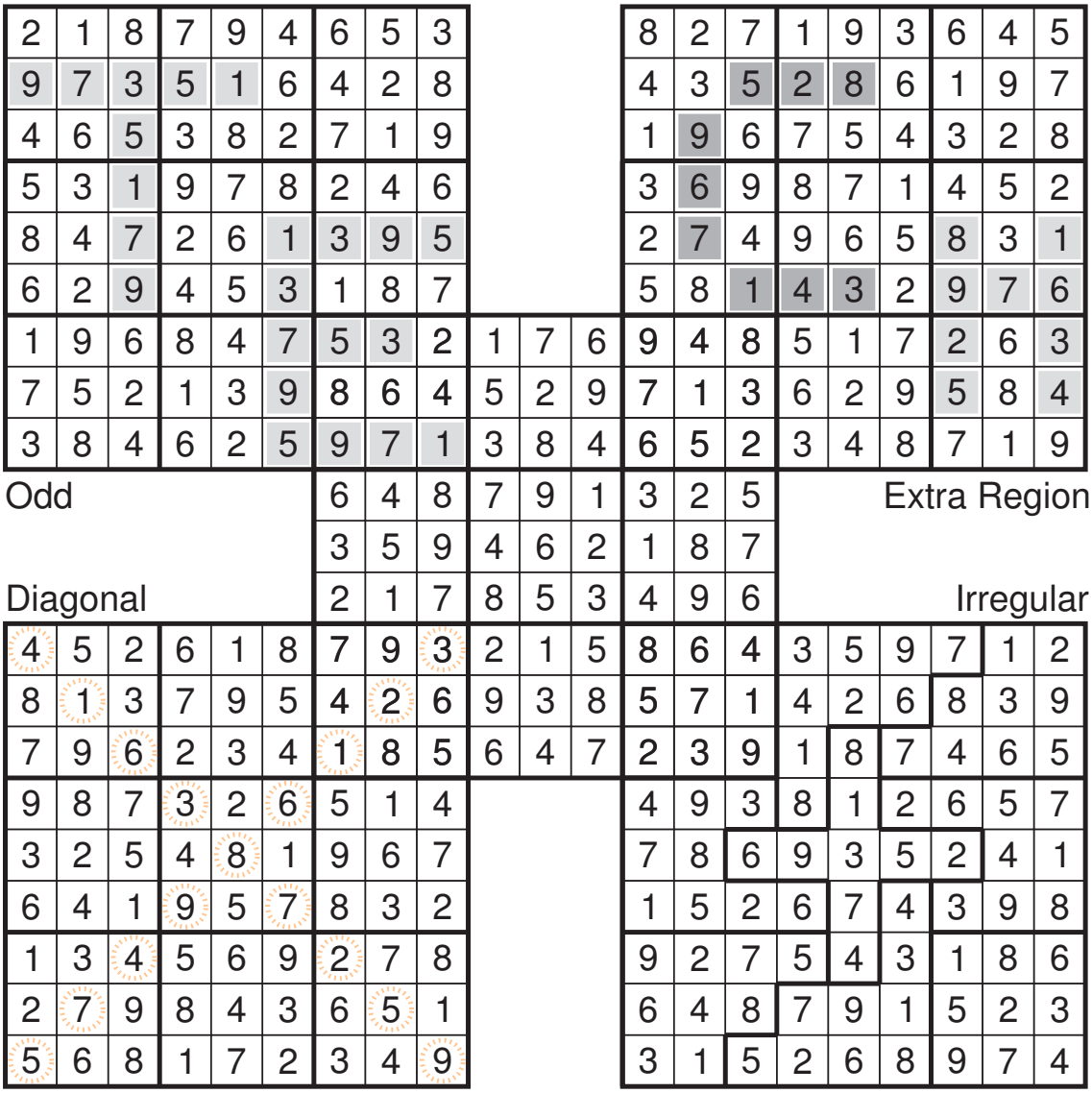
(41 *5 = 205, Odd - 30, Diagonal - 45, Irregular - 55, Extra Region - 65, Classic - 50)

Four Sudoku variations are overlapping on a classic Sudoku. In each of the 5 Sudokus, every row, every column and 3X3 box contains digits from 1 through 9.
Additional rules for variations:
In Odd Sudoku, the shaded cells can contain odd digits only.
In Diagonal, the marked diagonals contain 1 through 9.
In Irregular, the outlined shapes contain 1 through 9.
In Extra Region, every shaded region of 9 cells contains 1 through 9.

5 points will be given for each correct 3X3 box (outlined region in case of Irregular sudoku) if the answer is part of the complete solution. Bonus points will be awarded for each completely solved variant, the solution being a part of the complete solution.



Answer in the next page.


Odd
Extra Region
Diagonal
Irregular

Round 3
Mixed Bag – 45 minutes – 550 points

Extra Region Sudoku (70 points)
Fill in the grid so that every row, every column, every 3x3 box, and every shaded region of 9 cells contains the digits 1 through 9.

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

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

Roman Sudoku (70 points)
Complete the grid such that each row, column and 3x3 box contain numbers 1 to 9 as shown in Roman numbers. Some lines are already given, which cannot be removed. (Both Roman and English digits will be accepted)

I – 1
II – 2
III – 3
IV – 4
V – 5
VI – 6
VII – 7
VIII – 8
IX -9

		II						II
I			I		X		I	
		III		I		III		
				II		II	III	
III		I		II				
III				I		X		III
	X	II			I	II		
				II	III			

IX	VI	VIII	III	V	II	IV	I	VII
VII	V	I	IV	VIII	IX	III	VI	II
IV	II	III	VI	I	VII	III	V	IX
II	IV	IX	V	III	I	VII	VIII	VI
III	VII	VI	IX	II	VIII	V	IV	I
VIII	I	V	VII	VI	IV	IX	II	III
VI	III	IV	II	IX	V	I	VII	VIII
I	IX	VII	VIII	IV	VI	II	III	V
V	VIII	II	I	VII	III	VI	IX	IV

Fortress (90 points)

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. If a green and a white cell are orthogonally adjazent then the green cell has the greater value.

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

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

Distance Sudoku (100 points)

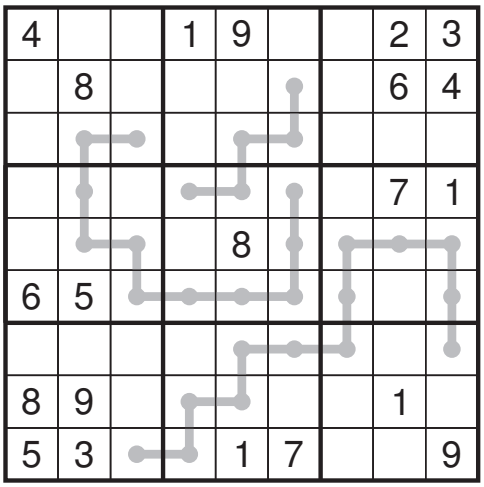
Fill in the grid so that every row, every column and every outlined region of nine cells contains the digits 1 through 9. The distance between two digits in each row and column is specified. The order of these digits is from left to right or from top to bottom.

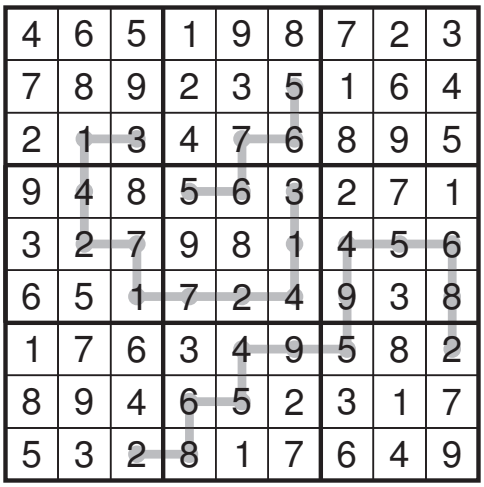
9-5:5	4-7:6	8-9:5	7-8:6	8-4:2	2-7:7	5-3:7	3-6:6	1-7:7	
									4-8:6
									6-4:5
									6-3:7
									2-6:6
									5-1:6
									9-8:7
									9-2:6
									4-8:6
									4-5:5

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

Palindrome Sudoku (100 points)

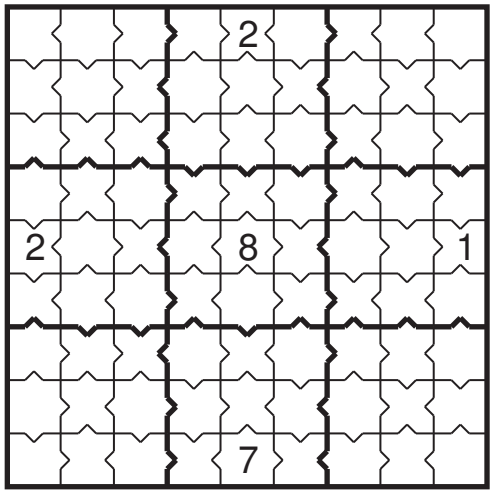
Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. The digits in the squares connected with the grey line form palindromes i.e. they read the same from both directions e.g. 56765.

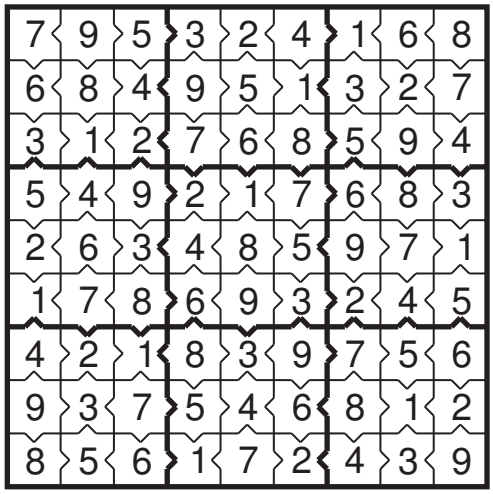




Inequality Sudoku (120 points)

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Digits must be placed according to the given inequality symbols (< or >).

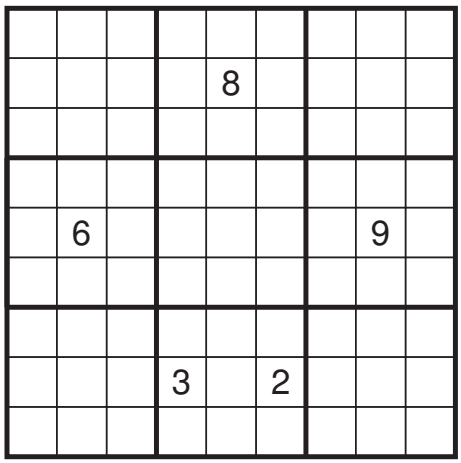




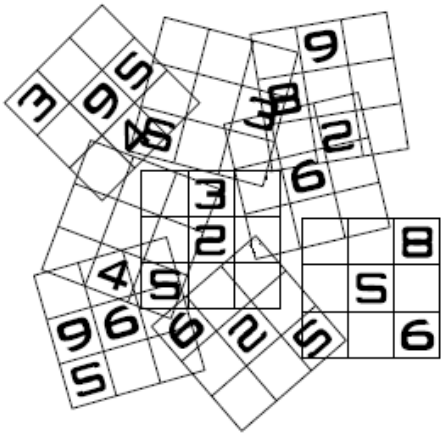
Round 4
Mechanical (25 minutes) 200 points +Time Bonus
(10*5 for first 5 correctly placed tiles + 20*2 for next 2 correctly placed tiles + 30*2 for last 2 correctly placed tiles + 50 for complete solution)

This part consists of a diagonal sudoku in which each row, column, each diagonal and each 3X3 box should contain the digits 1-9 exactly once.
The base sudoku will consist of a solving grid with a few givens, which will not be sufficient to solve the entire puzzle.
Apart from the grid there will be 9 3X3 sized tiles printed on transparent sheet.
The tiles need to be placed on the base grid to form a valid diagonal sudoku grid, such that each tile is placed on a different 3X3 box of the base grid.
The givens on the transparent tiles cannot overlap a given on the base grid.
The transparent tiles can be rotated/ flipped, but the numerals on the tiles must be in an upright position as shown here.

1 2 3 4 5 6 7 8 9

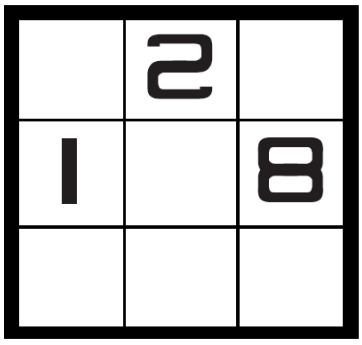


Base Grid

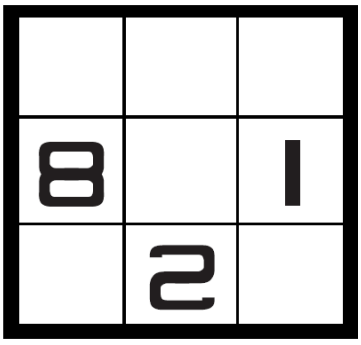


Transparent Tiles

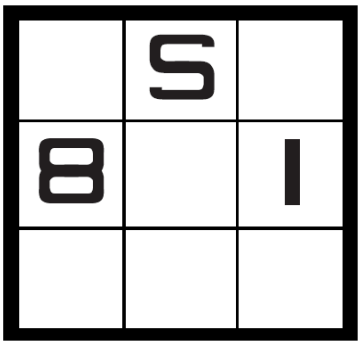
Tiles can be rotated and flipped as shown below.



Original Tile



Rotated by 180^0



Flipped

Hint: All digits except 7 can be rotated/ flipped. Have fun figuring out how 4 can be transformed ☺

Sprint Semifinal

Classic Sudoku

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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

Trio Sudoku

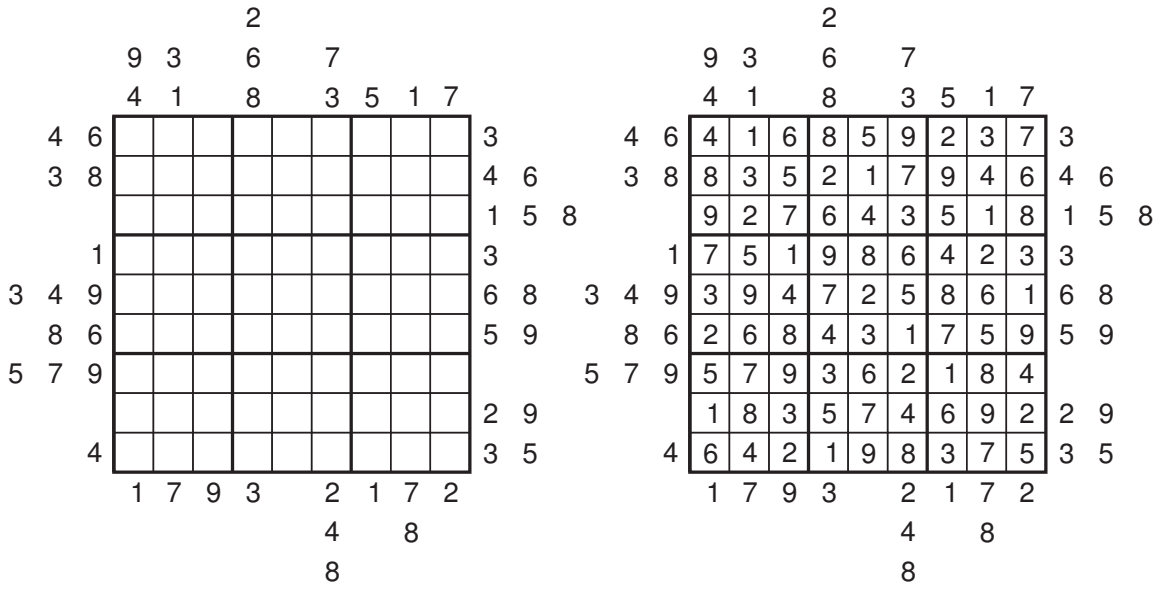
Fill in the grid with digits from 1 through 9 so that every row, every column and every outlined region contains distinct digits. Cells with circles must contain the digits 1, 2 and 3. Cells with squares must contain the 4, 5 and 6. Blank cells must contain the digits 7, 8 and 9.

○		○	□			□	□	○
□	□	○	□	○				○
	□		○	○	□	4	○	
□	○		7	□		○	○	6
○	□		③	□	○			□
8	○	□		○	□		□	○
	○	○			○	□	□	□
□		□	□		○	○	①	
○		□	○	□	□	○		7

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

Outside Sudoku

Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Outside digits must be inserted in the first 3 cells of the corresponding row or column.



Anti-Diagonal Sudoku

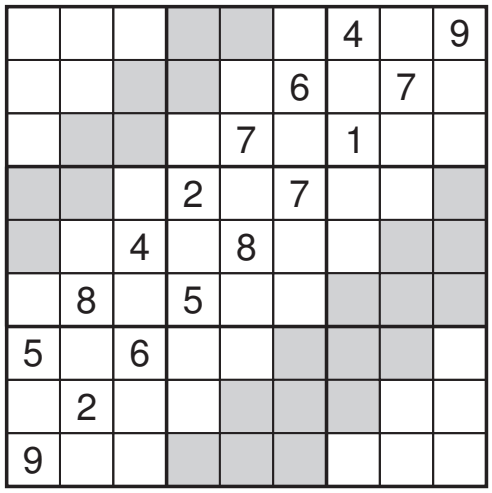
Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Each main diagonal must contain 3 digits only.

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

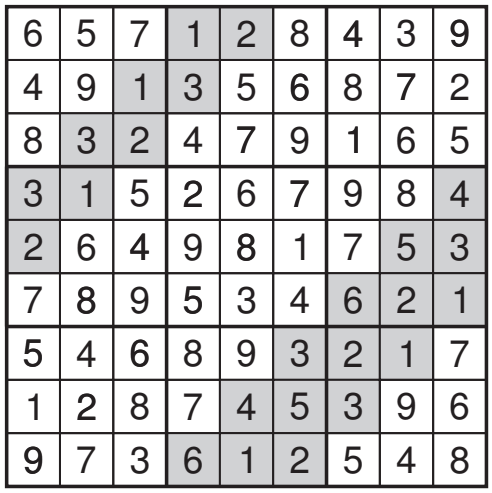
1	7	9	5	2	3	6	8	4
8	4	6	7	9	1	3	2	5
3	2	5	8	6	4	9	1	7
6	3	8	1	7	9	5	4	2
2	5	7	3	4	6	1	9	8
9	1	4	2	8	5	7	6	3
5	8	2	6	1	7	4	3	9
7	9	1	4	3	8	2	5	6
4	6	3	9	5	2	8	7	1

Stripes Sudoku

Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Each digit in the grey cell must not be larger than the number of grey cells in its 3x3 region.



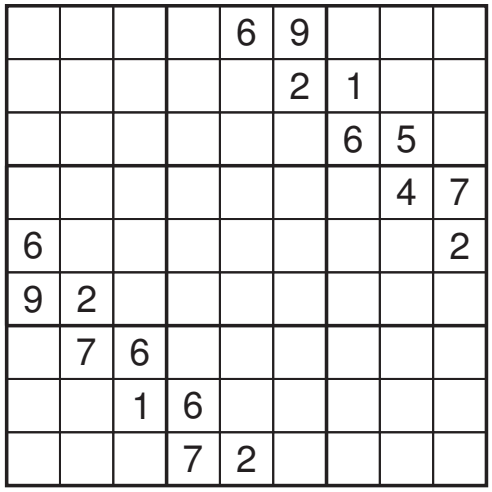
						4		9
					6		7	
				7		1		
			2		7			
		4		8				
	8		5					
5		6						
	2							
9								



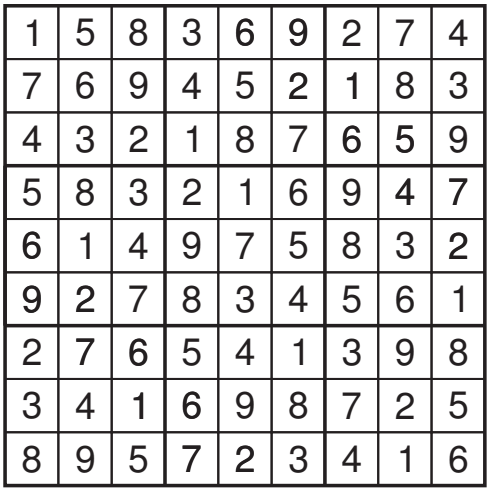
6	5	7	1	2	8	4	3	9
4	9	1	3	5	6	8	7	2
8	3	2	4	7	9	1	6	5
3	1	5	2	6	7	9	8	4
2	6	4	9	8	1	7	5	3
7	8	9	5	3	4	6	2	1
5	4	6	8	9	3	2	1	7
1	2	8	7	4	5	3	9	6
9	7	3	6	1	2	5	4	8

No Even Neighbours

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Even numbers cannot be adjacent to each other orthogonally.



				6	9			
					2	1		
						6	5	
							4	7
6								2
9	2							
	7	6						
		1	6					
			7	2				

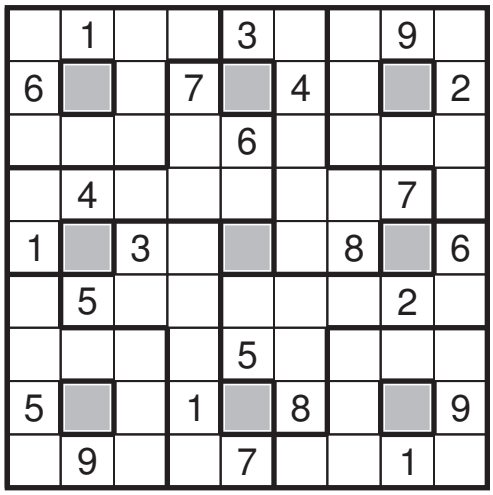


1	5	8	3	6	9	2	7	4
7	6	9	4	5	2	1	8	3
4	3	2	1	8	7	6	5	9
5	8	3	2	1	6	9	4	7
6	1	4	9	7	5	8	3	2
9	2	7	8	3	4	5	6	1
2	7	6	5	4	1	3	9	8
3	4	1	6	9	8	7	2	5
8	9	5	7	2	3	4	1	6

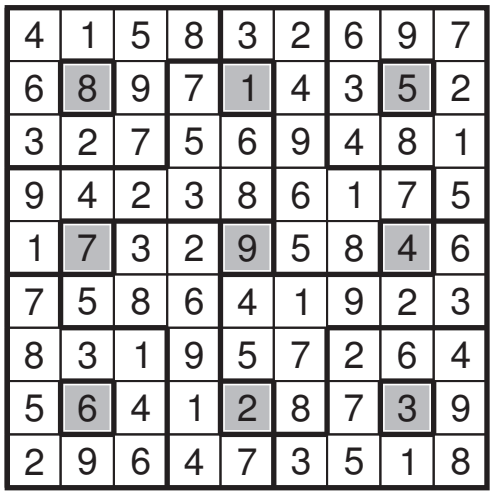
Final

Classic Sudoku
Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

Irregular-Extraregion
Fill in the grid so that every row, every column and every outlined region of nine cells contains the digits 1 through 9. The set of 9 shaded cells also contain 1 through 9.

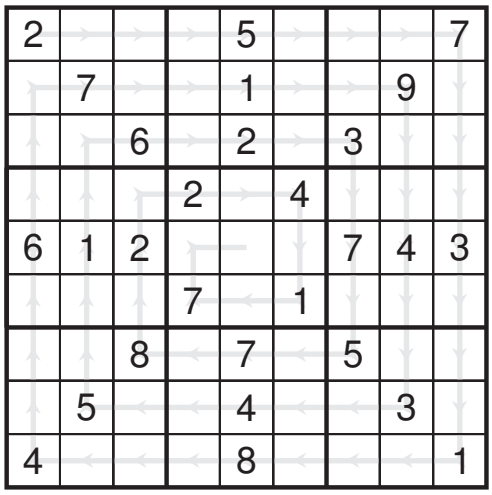


	1			3			9	
6			7		4			2
				6				
	4						7	
1		3				8		6
	5						2	
				5				
5			1		8			9
	9			7			1	

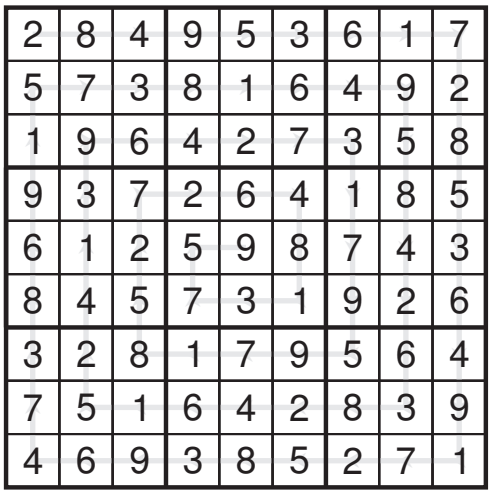


4	1	5	8	3	2	6	9	7
6	8	9	7	1	4	3	5	2
3	2	7	5	6	9	4	8	1
9	4	2	3	8	6	1	7	5
1	7	3	2	9	5	8	4	6
7	5	8	6	4	1	9	2	3
8	3	1	9	5	7	2	6	4
5	6	4	1	2	8	7	3	9
2	9	6	4	7	3	5	1	8

Snail Sudoku
Fill in the grid so that every row, every column and every outlined region of nine cells contains the digits 1 through 9. Along the path of the snail, no two digits can be consecutive.



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



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

ALL THE BEST.

Name:

Submit Time:

INDIAN SUDOKU CHAMPIONSHIP 2010

24th January 2010

Round 1

Linked Classics

35 minutes

	Points	Check1	Check2
Linked Row Classics 1	45		
Linked Row Classics 2	60		
Linked Row Classics 3	75		
Linked Row Bonus	20		
Linked Column Classics 1	30		
Linked Column Classics 2	40		
Linked Column Classics 3	60		
Linked Column Bonus	20		
Total	350		
Time Bonus			
Grand Total			

Conducted by TechFest, IIT Bombay

in association with www.logicmastersindia.com

Linked Row Classics (45 + 60 + 75 + 20 bonus) 200 points

Fill in the grids so that every row, every column and every 3x3 box contains the digits 1 through 9.

Exactly one row in each grid has identical digits at identical positions.

The individual Classics have their own points and points will be awarded only if the answer matches the final answer satisfying the 3 sudokus.

20 bonus points for solving all of them.

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

45 points ⬆

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

60 points ⬆

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

75 points ⬆

Linked Column Classics (30 + 40 + 60 + 20 bonus) 150 points

Fill in the grids so that every row, every column and every 3x3 box contains the digits 1 through 9.

Exactly one column in each grid has identical digits at identical positions.

The individual Classics have their own points and points will be awarded only if the answer matches the final answer satisfying the 3 sudokus.

20 bonus points for solving all of them.

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

30 points ⬆

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

40 points ⬆

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

60 points ⬆

Row Classic 1

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

Row Classic 2

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

Row Classic 3

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

Column Classic 1

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

Column Classic 2

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

Column Classic 3

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

Name:

Submit Time:

INDIAN SUDOKU CHAMPIONSHIP 2010

24th January 2010

Round 2

Samurai Sudoku

45 minutes

	Points	Check1	Check2
Odd Sudoku	30		
Diagonal Sudoku	45		
Irregular Sudoku	55		
Extra Region Sudoku	65		
Classic Sudoku	50		
Correct Regions X 5	205		
Total	450		
Time Bonus			
Grand Total			

Conducted by TechFest, IIT Bombay

in association with www.logicmastersindia.com

Samurai Sudoku

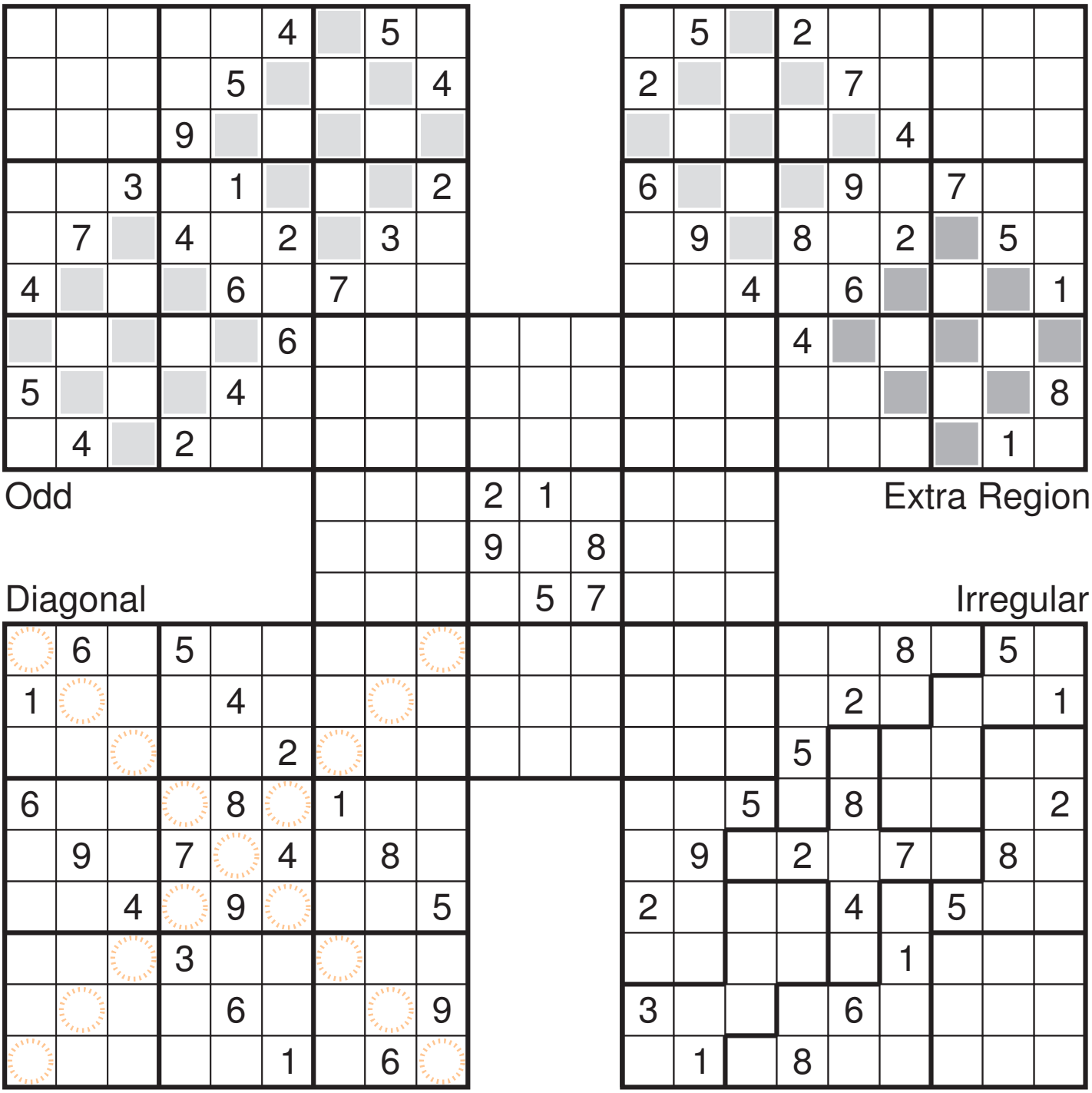
Four Sudoku variations are overlapping on a classic Sudoku. In each of the 5 Sudokus, every row, every column and 3X3 box contains digits from 1 through 9. Additional rules for variations:

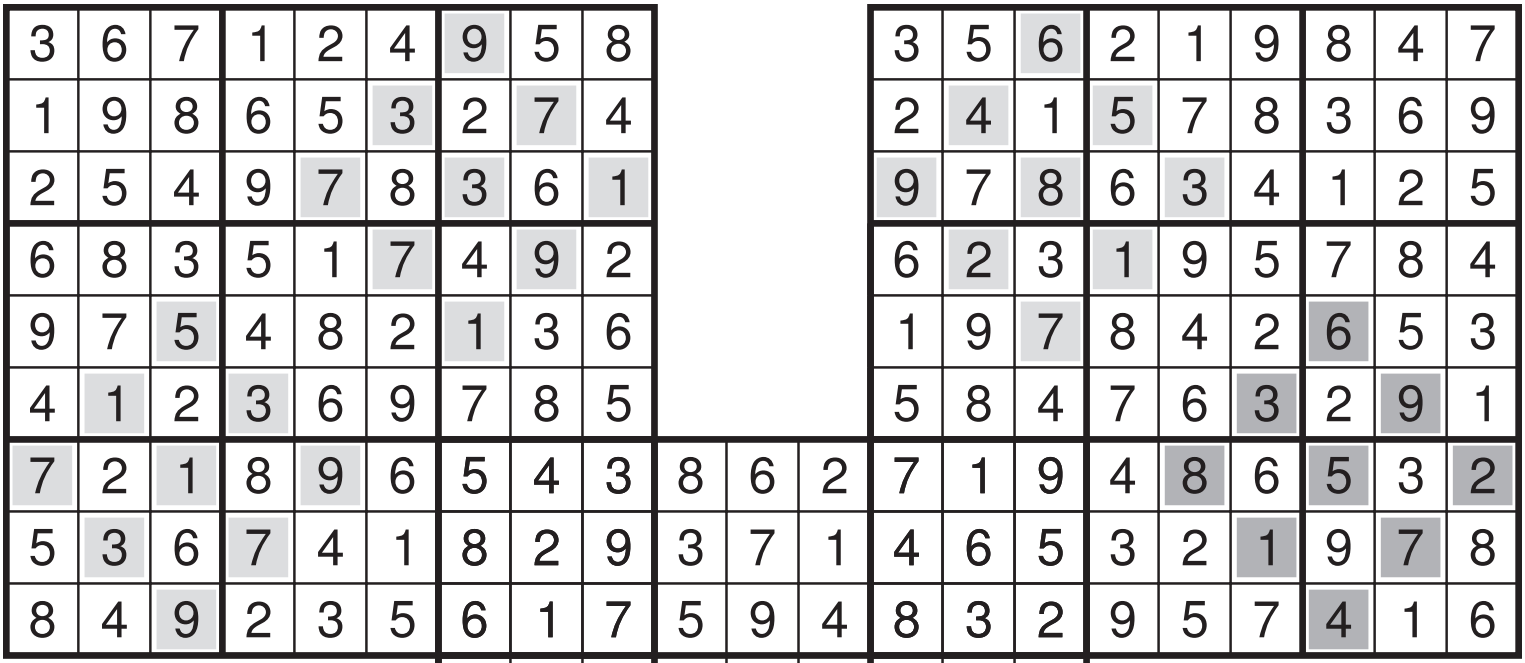
In Odd Sudoku, the shaded cells can contain odd digits only.

In Diagonal, the marked diagonals contain 1 through 9.

In Irregular, the outlined shapes contain 1 through 9.

In Extra Region, every shaded region of 9 cells contains 1 through 9.



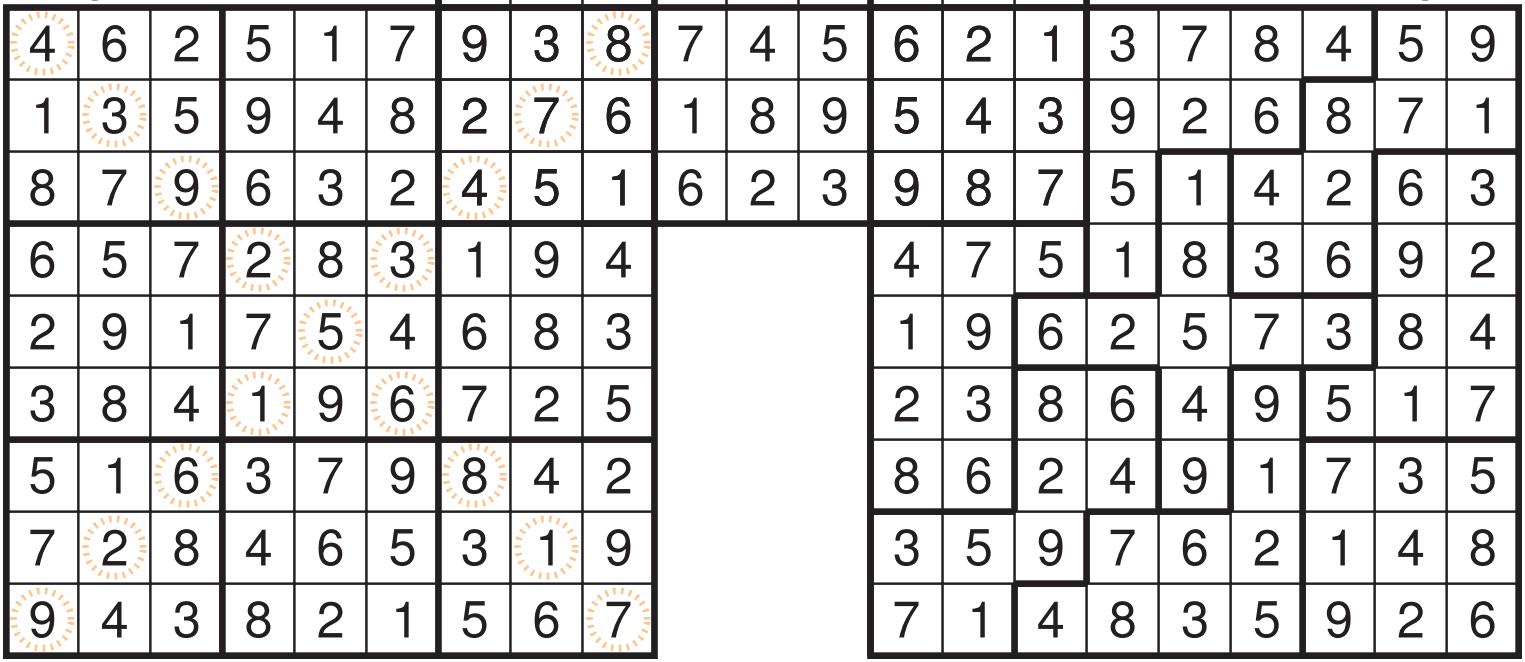


Odd

Extra Region

Diagonal

Irregular



Name:

Submit Time:

INDIAN SUDOKU CHAMPIONSHIP 2010

24th January 2010

Round 3

Mixed Bag

45 minutes

	Points	Check1	Check2
Extra Region Sudoku	70		
Roman Sudoku	70		
Fortress Sudoku	90		
Distance Sudoku	100		
Palindrome Sudoku	100		
Inequality Sudoku	120		
Total	550		

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Extra Region Sudoku
70 points

Fill in the grid so that every row, every column, every 3x3 box, and every shaded region of 9 cells contains the digits 1 through 9.

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

I	I	I	II		II			IV
I		I						
I	I	I	II		II	III		III
			V		V	VI		
VI				V			VI	
I	I	X	V		V			VI
VII		VII		V	I	I	II	III
		II	V			IV	V	VI
		III				VII	VIII	IX

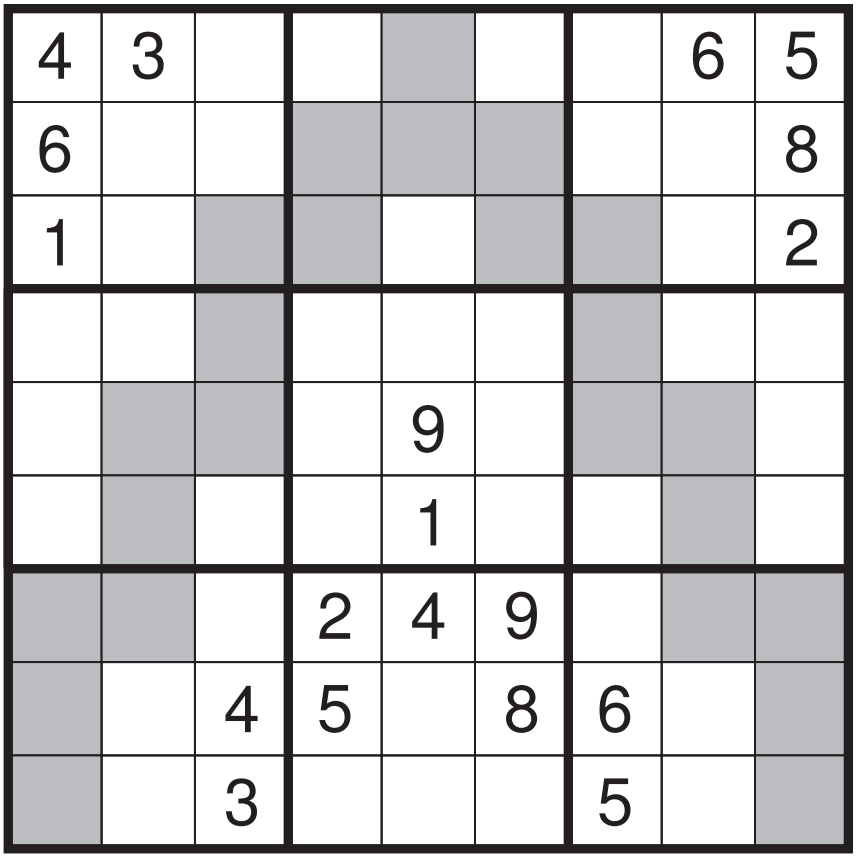
Roman Sudoku
70 points

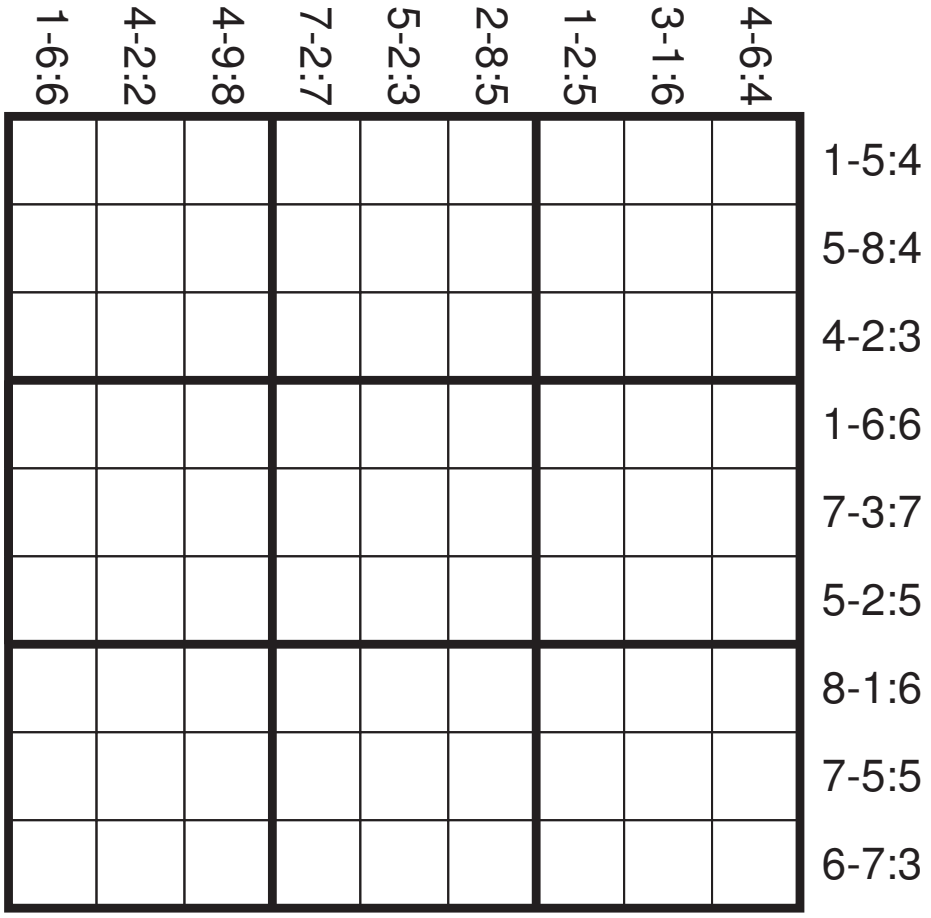
Complete the grid such that each row, column and 3x3 box contain numbers 1 to 9 as shown in Roman numbers. Some lines are already given, which cannot be removed. (Both Roman and English digits will be accepted)

I – 1	IV – 4	VII – 7
II – 2	V – 5	VIII – 8
III – 3	VI – 6	IX – 9

Fortress
90 points

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. If a grey and a white cell are orthogonally adjacent then the grey cell has the greater value.



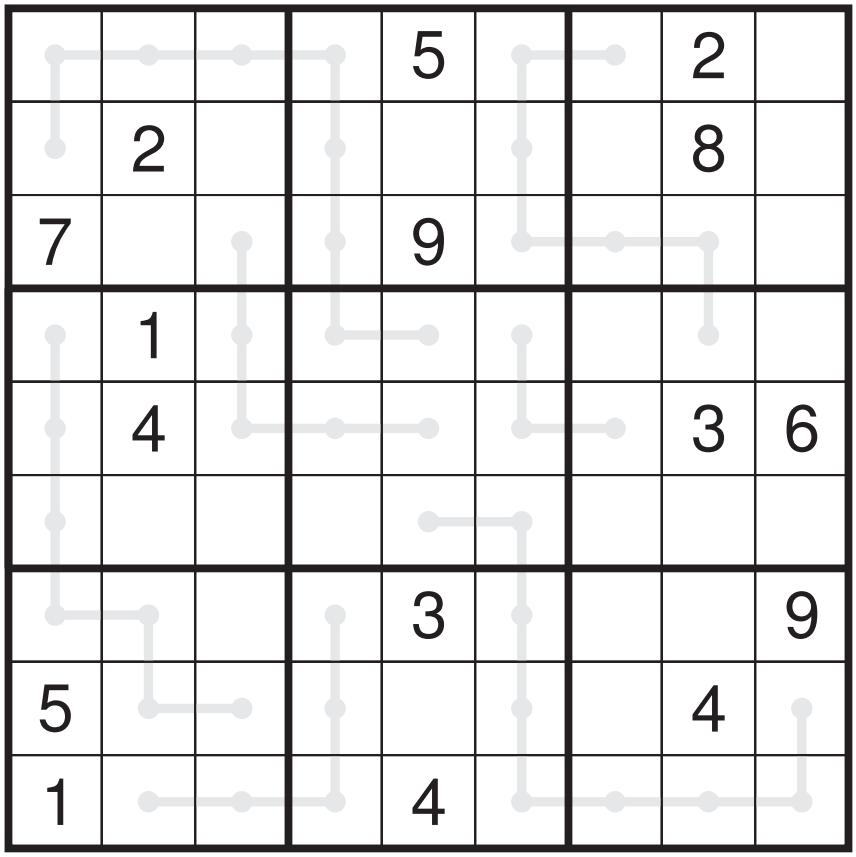


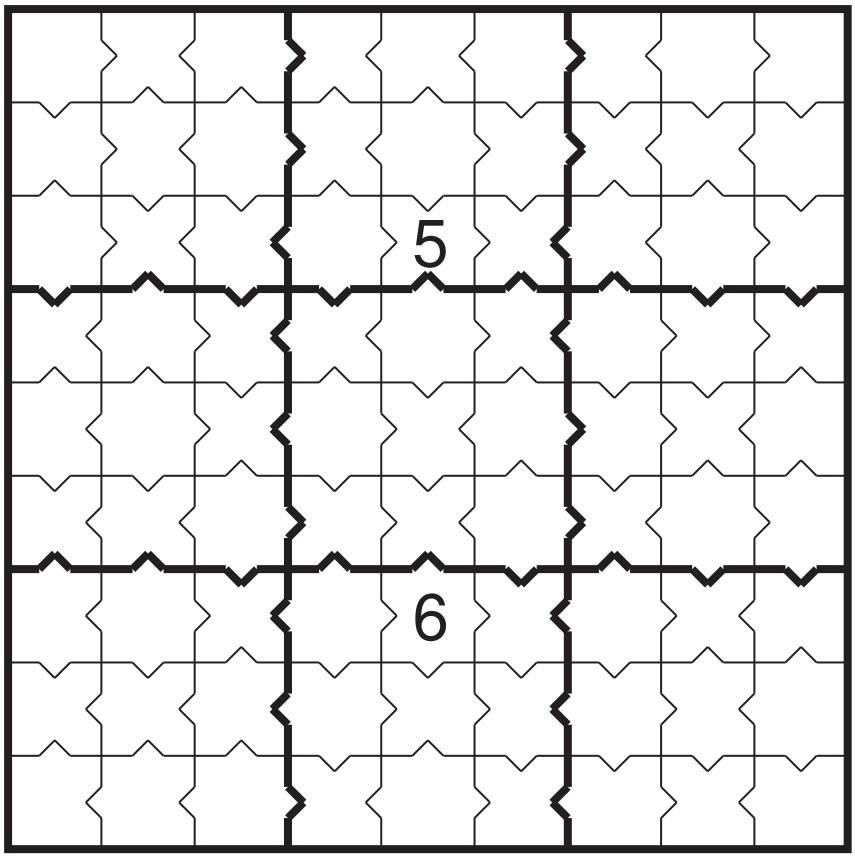
Distance Sudoku
100 points

Fill in the grid so that every row, every column and every outlined region of nine cells contains the digits 1 through 9. The distance between two digits in each row and column is specified. The order of these digits is from left to right or from top to bottom.

Palindrome Sudoku
100 points

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. The digits in the squares connected with the grey line form palindromes i.e. they read the same from both directions e.g. 56765.





Inequality Sudoku
120 points

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Digits must be placed according to the given inequality symbols (< or >).

Extra Region

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

Roman

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

Fortress

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

Distance Sudoku

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

Palindrome

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

Inequality

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

Name:

Submit Time:

INDIAN SUDOKU CHAMPIONSHIP 2010

24th January 2010

Round 4
Mechanical Sudoku

25 minutes

	Points	Check1	Check2
# of tiles correctly placed	150		
Complete Solution	50		
Total	200		
Time Bonus			
Grand Total			

Conducted by TechFest, IIT Bombay
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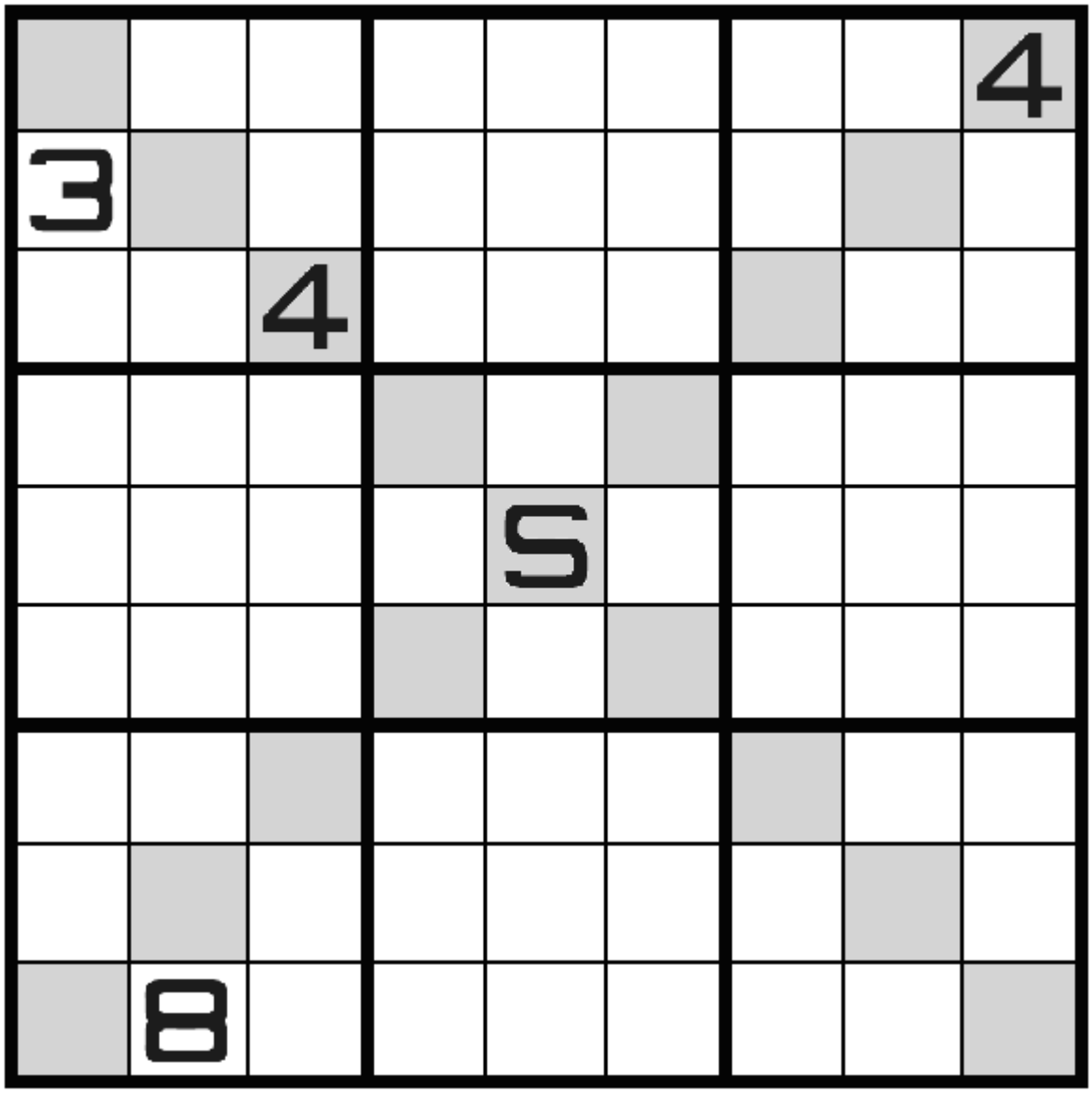
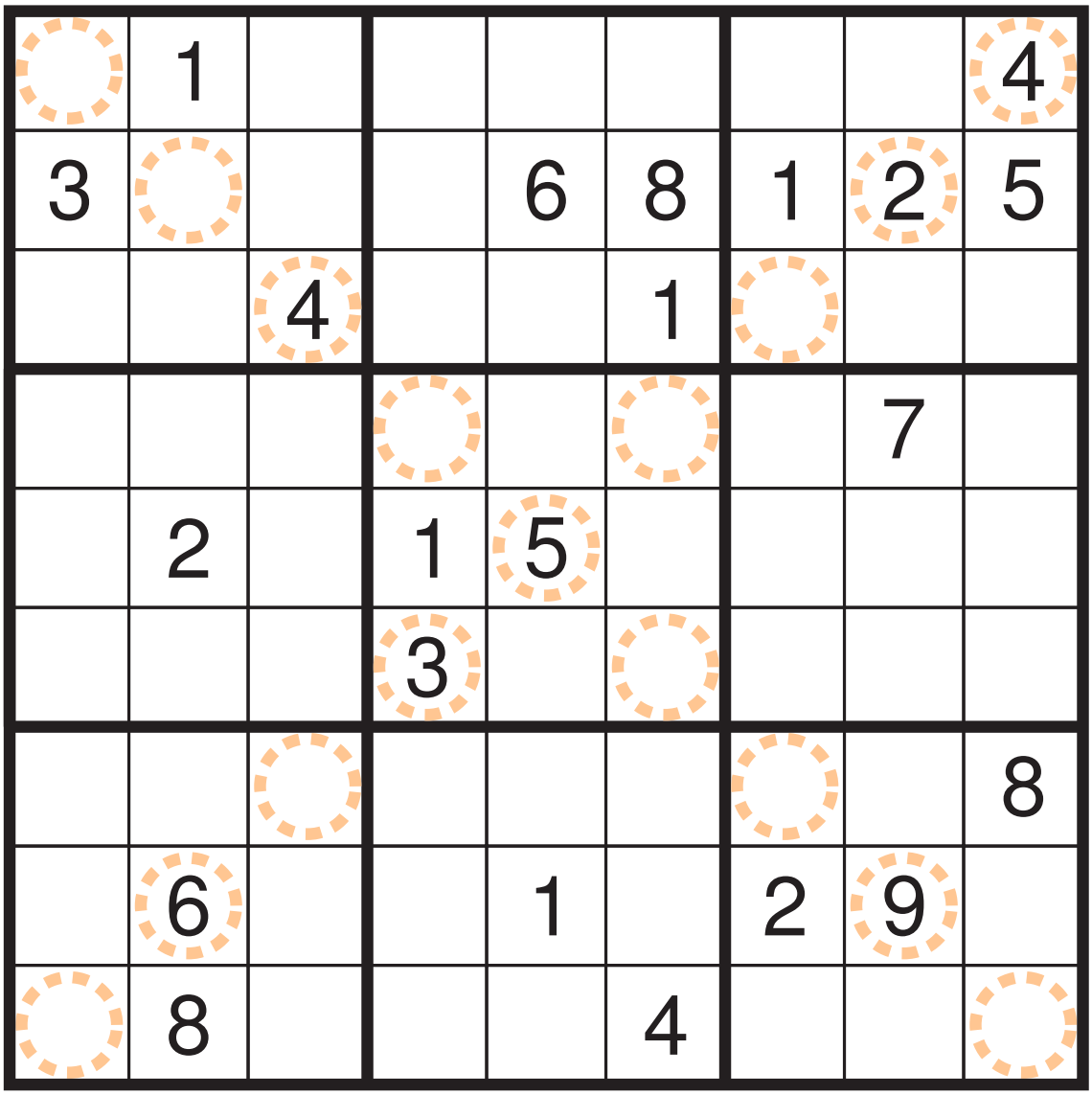
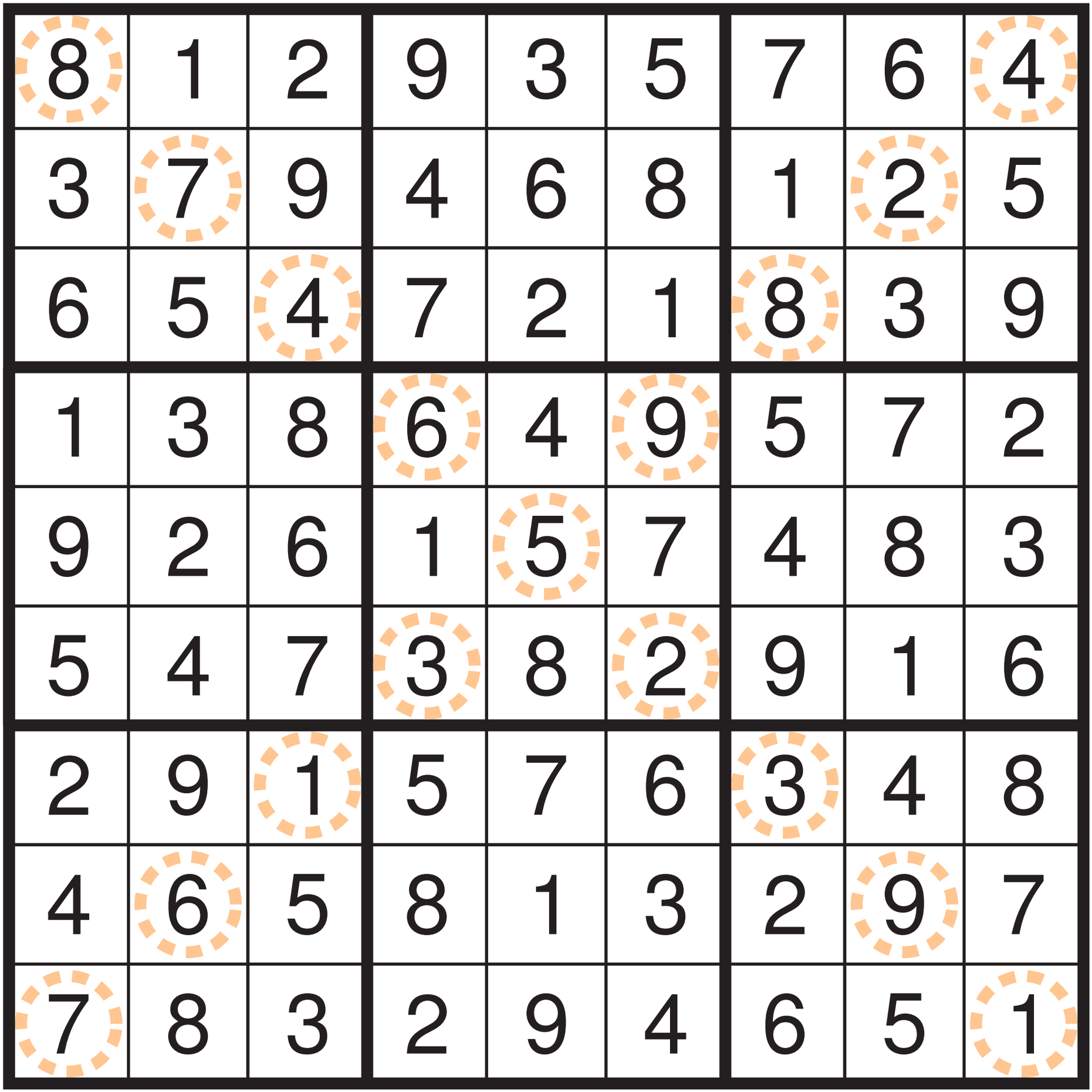

4
3
4
S
8

Name:

Diagonal Sudoku

Fill in the grid so that each row / column / 3x3 box / diagonal contains the digits 1-9 exactly once.

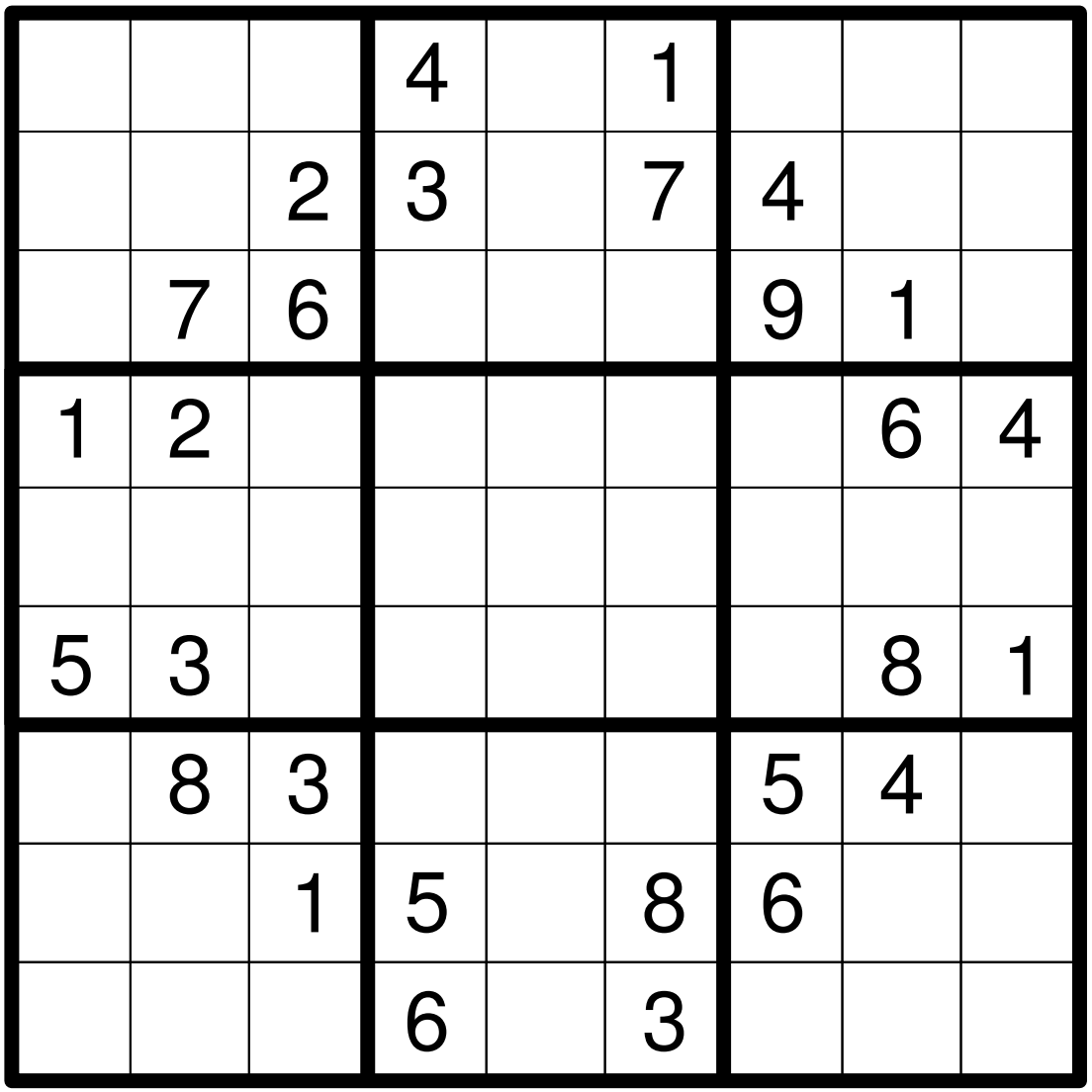



8 1 2 9 3 5 7 6 4
3 7 9 4 6 8 1 2 5
6 5 4 7 2 1 8 3 9
1 3 8 6 4 9 5 7 2
9 2 6 1 5 7 4 8 3
5 4 7 3 8 2 9 1 6
2 9 1 5 7 6 3 4 8
4 6 5 8 1 3 2 9 7
7 8 3 2 9 4 6 5 1

Classic Sudoku

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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



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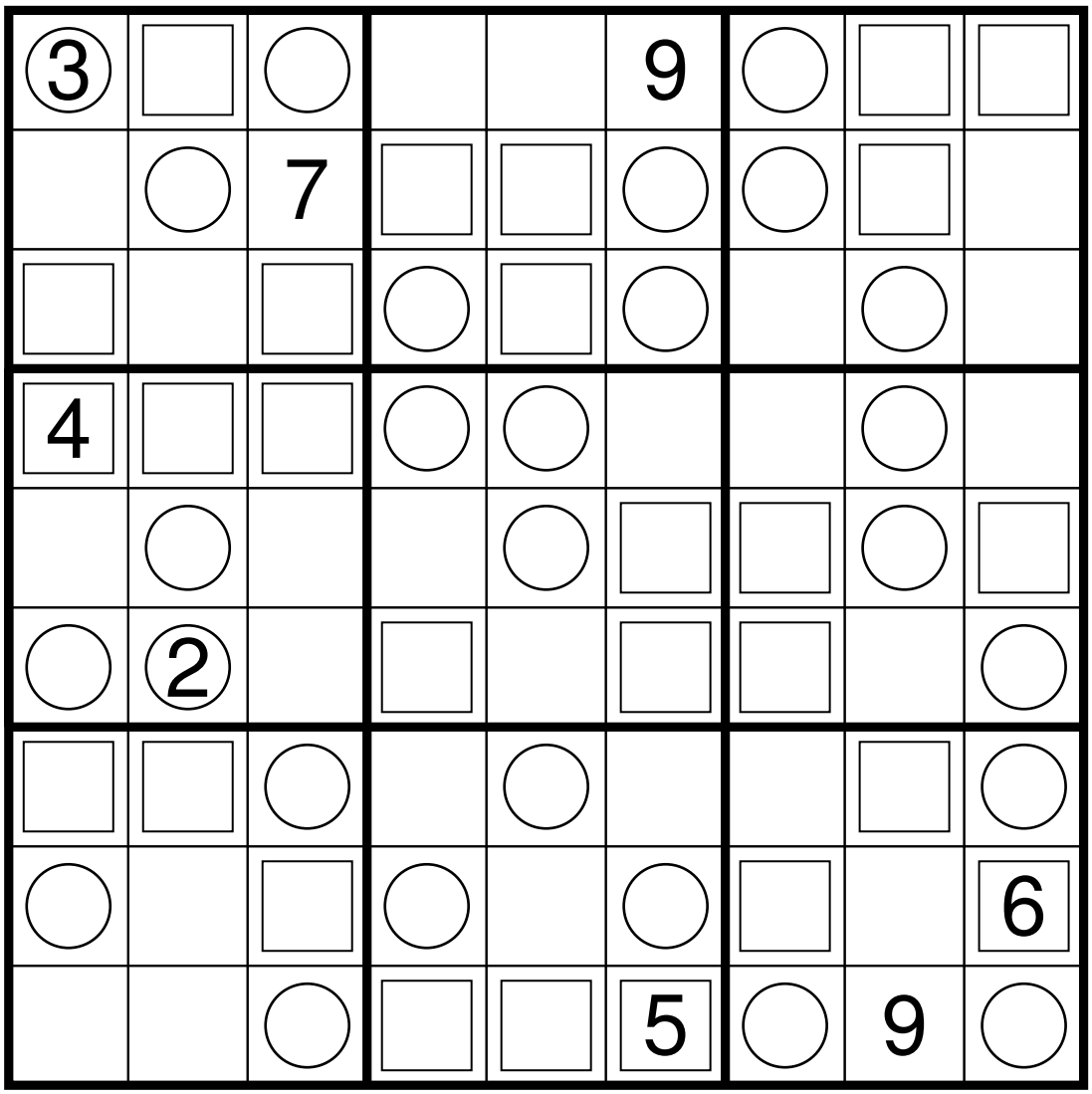
Trio Sudoku

Fill in the grid with digits from 1 through 9 so that every row, every column and every outlined region contains distinct digits. 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.

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



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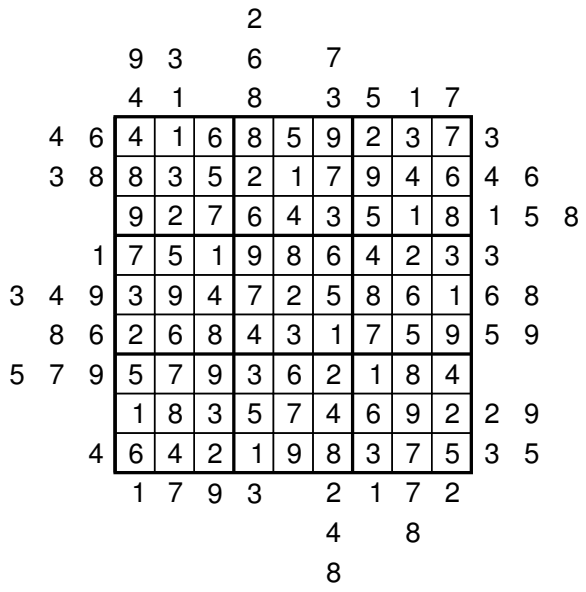
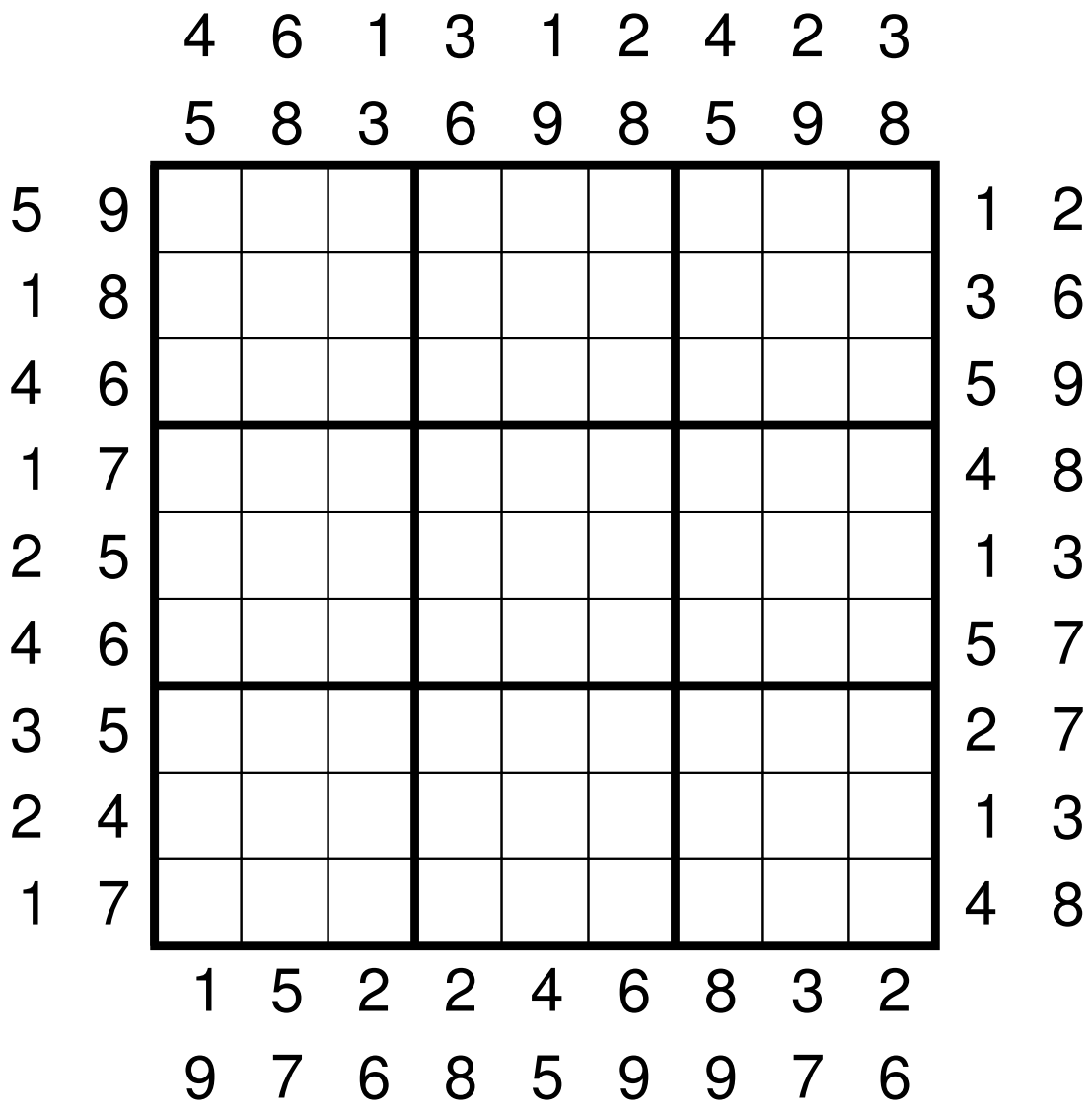
Outside Sudoku

Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Outside digits must be inserted in the first 3 cells of the corresponding row or column.





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Anti-Diagonal Sudoku

Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Each main diagonal must contain 3 digits only.

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

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

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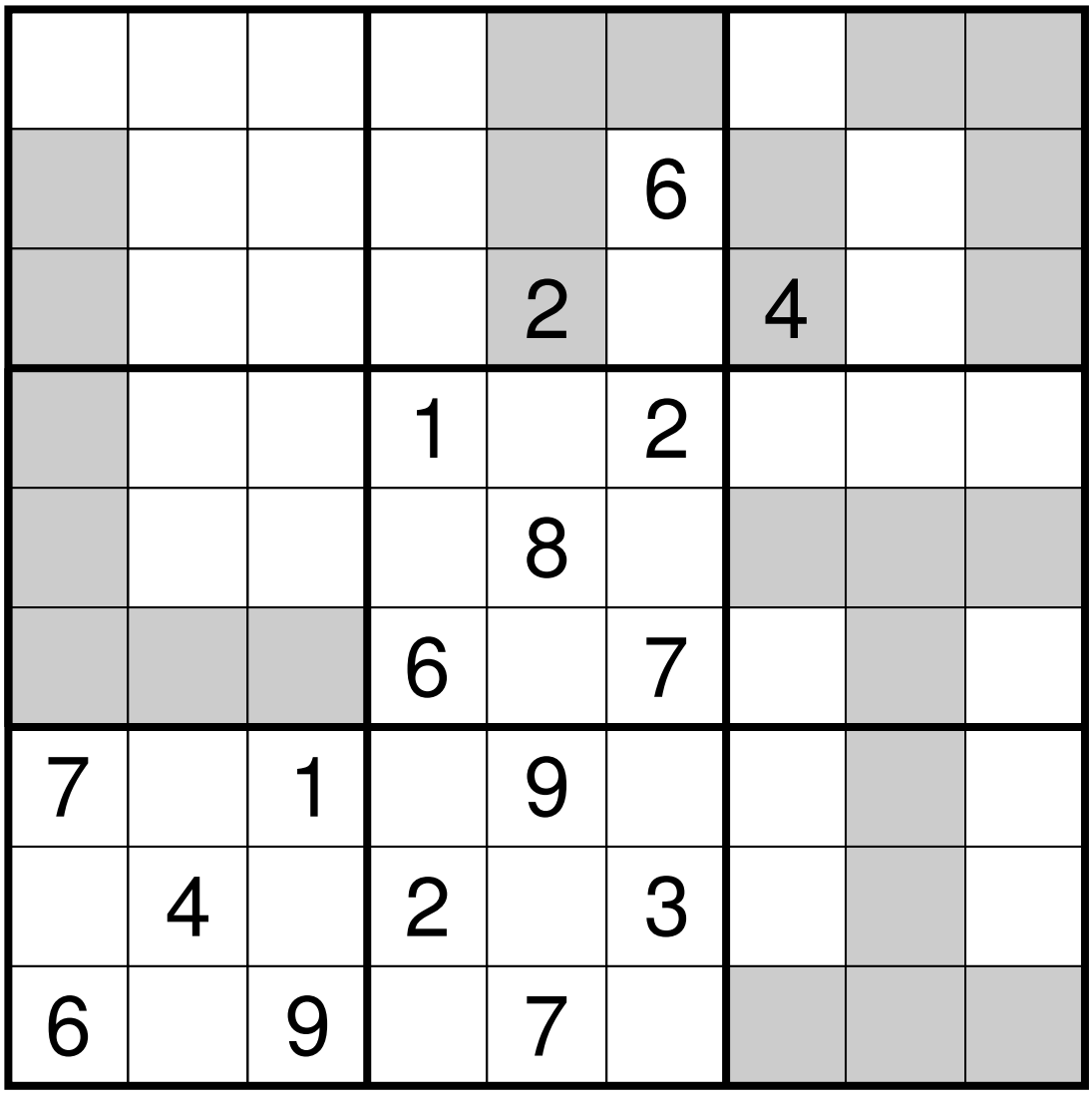
Stripes Sudoku

Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Each digit in the grey cell must not be larger than the number of grey cells in its 3x3 region.

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



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No Even Neighbours

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Even numbers cannot be adjacent to each other orthogonally.

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

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

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Classic

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

Outside

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

Stripes

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

Trio

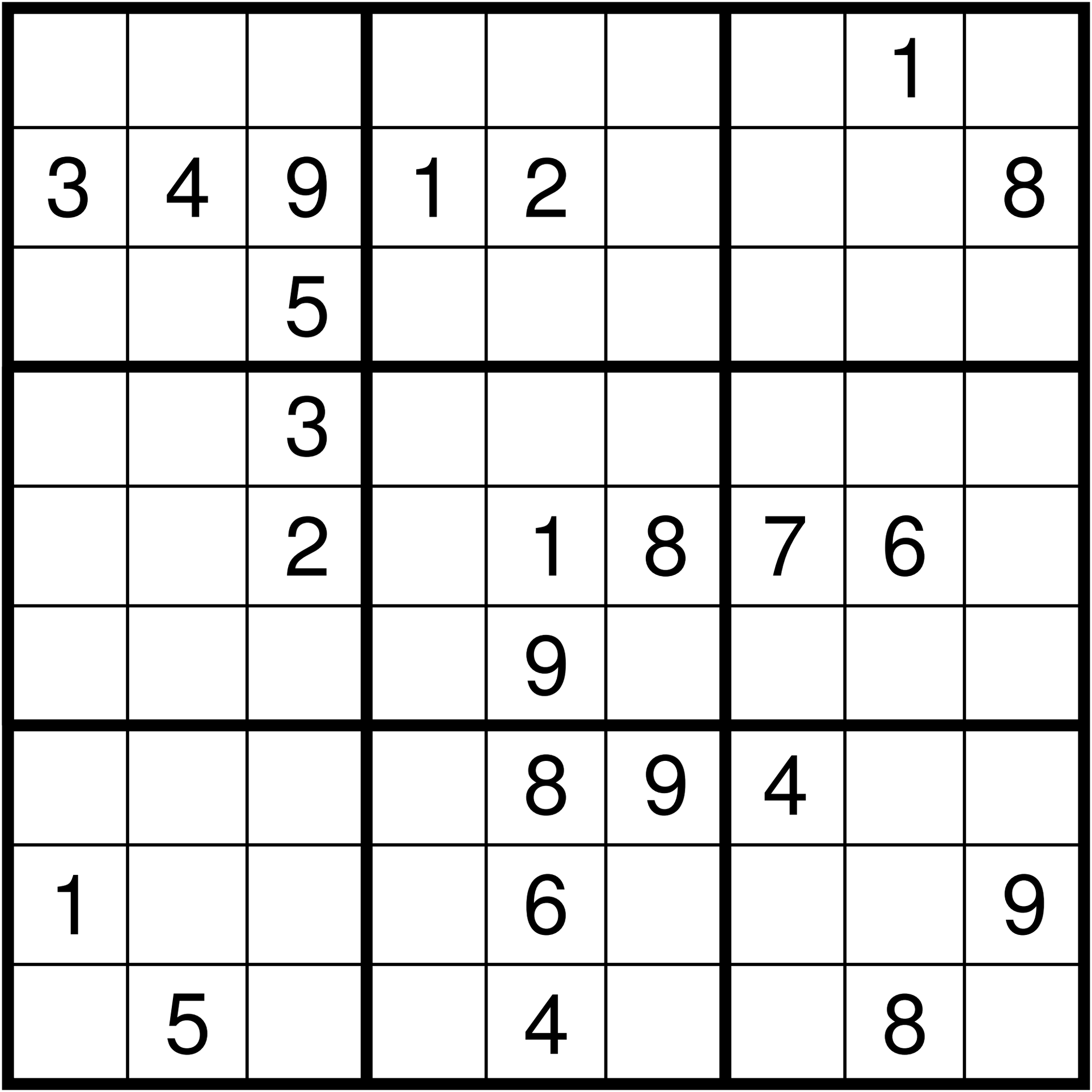
③	6	②	7	8	9	①	4	5
9	①	7	4	5	③	②	6	8
5	8	4	①	6	②	9	③	7
4	5	6	②	③	7	8	①	9
7	③	9	8	①	6	5	②	4
①	②	8	5	9	4	6	7	③
6	4	③	9	②	8	7	5	①
②	9	5	③	7	①	4	8	6
8	7	①	6	4	5	③	9	②

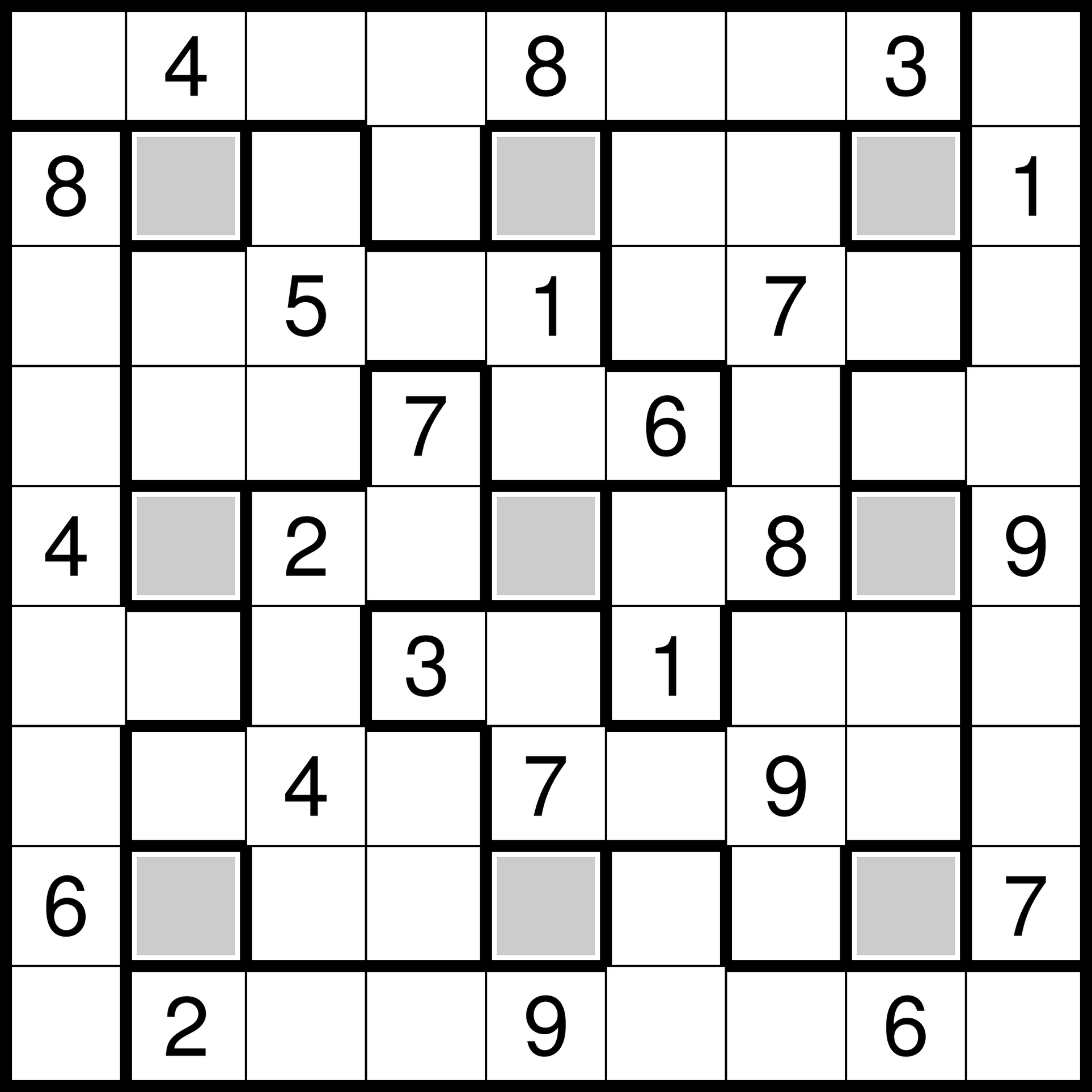
Anti-Diagonal

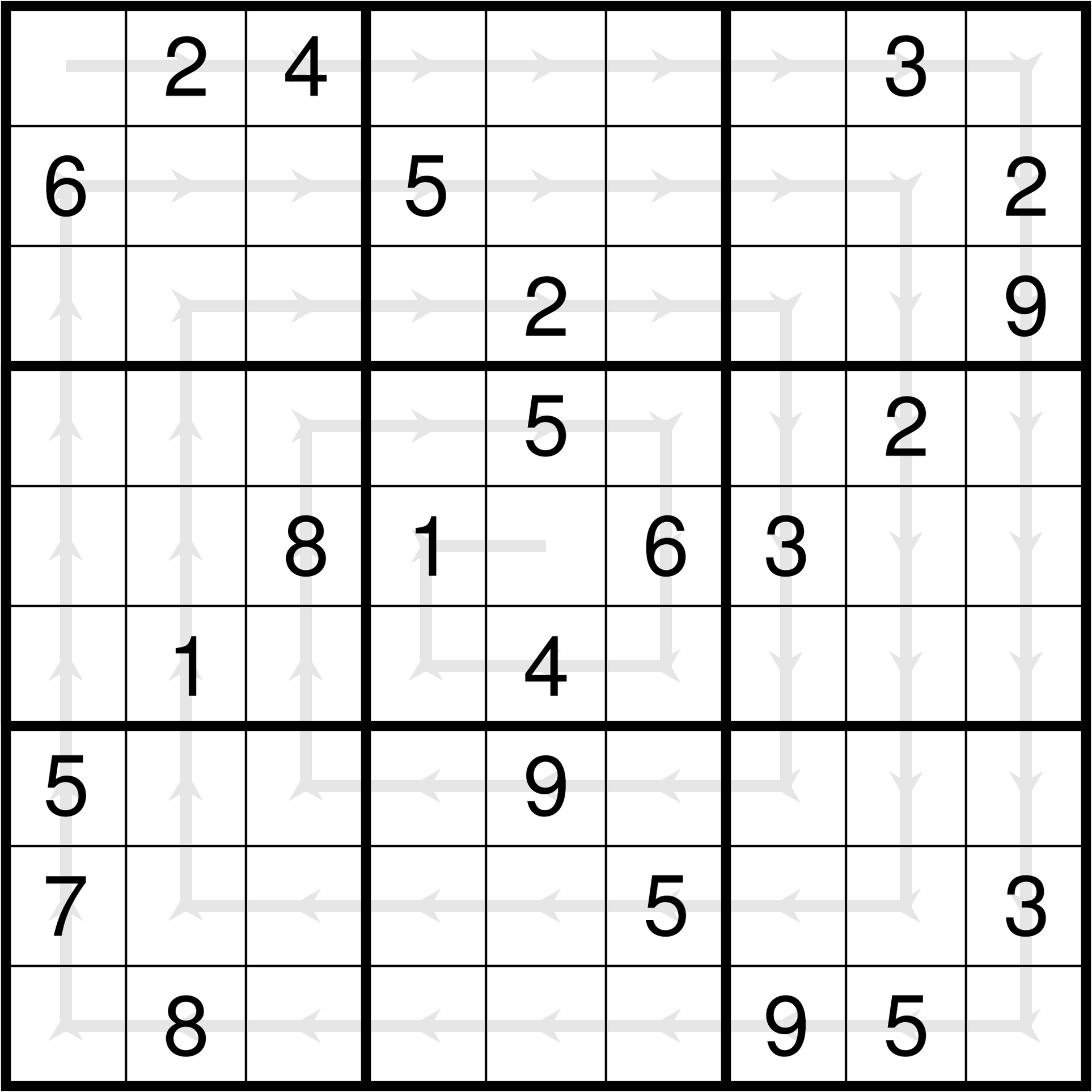
9	8	4	2	3	6	5	1	7
6	7	1	5	4	8	9	3	2
3	5	2	7	1	9	8	4	6
8	1	5	9	6	3	2	7	4
2	9	3	4	7	1	6	5	8
4	6	7	8	5	2	1	9	3
5	2	8	3	9	4	7	6	1
1	3	9	6	8	7	4	2	5
7	4	6	1	2	5	3	8	9

No-Even-Neighbours

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




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


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

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

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

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