SWISS
LOGIC PUZZLE
FEDERATION

INSTRUCTION BOOKLET

Swiss Qualification Tournament
for the
14th World Sudoku Championship

May 10 – 13, 2019

Tournament Details

The tournament will take place on the website of Logic Masters, the German representation of the World Puzzle Federation: http://logic-masters.de/.

The tournament will be open from **Friday, May 10, 12:00 CEST** to Monday, **May 13, 23:59 CEST**.

To start the tournament, follow the indications on the website. There are two PDF documents involved:

- one is the Instruction Booklet that you are reading now which contains the rules and examples of the different variants of sudokus appearing in the tournament.
- the second document is an encrypted PDF file containing the actual tournament sudokus. This document will be available for download just before the tournament. Starting the tournament will give the player the password to decrypt the PDF file.

Answer codes:

- Once you start the tournament, you will be given **120 minutes** to submit the answer codes. It is therefore recommended to start no later than on Monday May 13 at 21:59 CEST in order to make it before the end of the tournament time window.
- Answer codes consist of rows/columns (left-to-right, top-to-bottom) indicated by arrows outside the sudokus. See the examples of this booklet.
- The answer codes can be changed and/or entered multiple times without penalty during these 120 minutes.

For each correctly solved sudoku you will be awarded the marked points. For a wrong answer you will get 5 points minus. For not solved sudokus you will get no points.

The tournament is destined to evaluate the admission of Swiss players to the World Sudoku Championship 2019. Players from all Nations are kindly welcome to compete too.

The sudokus in this tournament have been created by Michaël Genier. For **questions**, feel free to contact Michaël Genier (email: lohox14@gmail.com).

International test solvers helped to make sure the sudokus are valid and to synthesise an adapted number of points per sudoku. The number of points gives an indication of the difficulty of the sudoku in question.

Special thanks to the test solvers:

Bastien Vial-Jaime, Anne Limoges, Giulia Franceschini, Philippe Meyer, François Blecon

List of Sudokus

Nr.	Sudoku type	Points
1	Classic	20
2	Classic	30
3	Diagonal	93
4	Antiknight	75
5	Killer	77
6	Irregular	59
7	Windoku	60
8	Next to nine	32
9	Distances	107
10	Clone	107
11	One bug per line	60
12	Outside sudoku	43
13	Outside sums	70
14	Product last digit	71
15	Odd even sum	90
16	Same parity	56
17	Kill the palindromes!	150
	Total	**1200**

Answer Codes

You will have two possibilities regarding the answer codes which will be consistent on the whole test.

1. Two horizontal arrows.

   Enter the digits from left to right for the row pointed by the upper arrow(A) and then make the same for the row pointed by the lower arrow(B).

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

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

Answer Code:
235471689 429753816

2. One horizontal and one vertical arrow.

   Enter the digits from left to right for the row pointed by the horizontal arrow(A) and then enter the digits from top to bottom for the column pointed by the vertical arrow(B).

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

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

Answer code:
192847563 615279348

1-2 Classics [20 / 30 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once.

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

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

3 Diagonal [93 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. Moreover digits do not repeat on the two main diagonals.

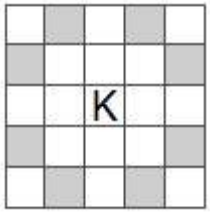
			7		6			
9				4				
4	1				3		6	2
8		7						
		1			4	9		
2		3		7				
			8					
			4		5			
		9		1	7		8	

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

4 Antiknight [75 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. Two cells that are one knight move away from each other cannot contain the same digit.

Knight move: Two squares away horizontally and one square vertically, or two squares vertically and one square horizontally.

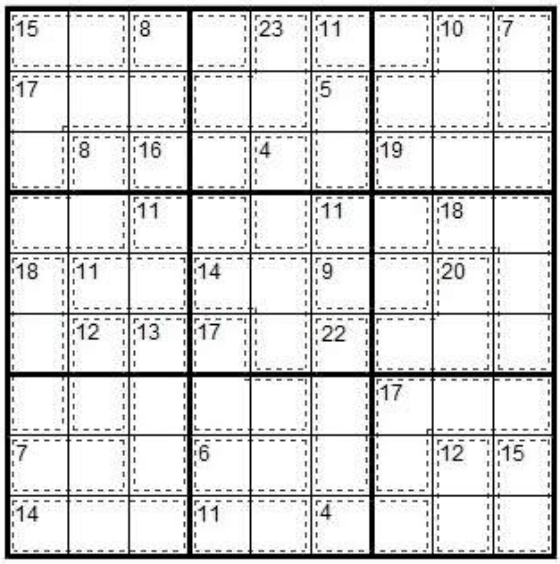


	3				2	7		
8	2			4		9	3	
	7		5				2	
	6				1	4		
3	1			8			7	
	4					8		1
2		7					4	
		8			3	2	6	

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

5 Killer [77 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. The number at the top-left corner of each cage equals the sum of digits inside the cage. Digits do not repeat inside a cage.



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

6 Irregular [59 Points]

Place a digit from 1-9 in each empty cell in the grid such that every row, column and boldly outlined region contains nine different digits.

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

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

7 Windoku [60 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. Moreover digits do not repeat in the four grey windows.

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

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

8 Next to nine [32 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. All digits that are directly next to the digit nine are given(not necessarily in the correct order) for every row and column.

									67
									4
	8								13
									5
3									18
									56
					6				48
							2		38
									78
12	27	18	58	5	35	2	28	25	

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

9 Distances [107 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. Two digits given next to the grid should be placed into the corresponding row/column in the given order with the given distance between them.

		6							82=4
									28=2
									35=2
				4		6			78=5
						9			46=2
				1		4			28=3
2									58=4
									15=1
									17=4
16=3	32=1	43=3	35=5	27=2	19=6	58=4	91=7	79=1	

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

10 Clone [107 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. The shaded areas are clones. It means that they contain the same digits at the same locations (shaded areas cannot be mirrored or rotated).

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

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

11 One bug per line [60 Points]

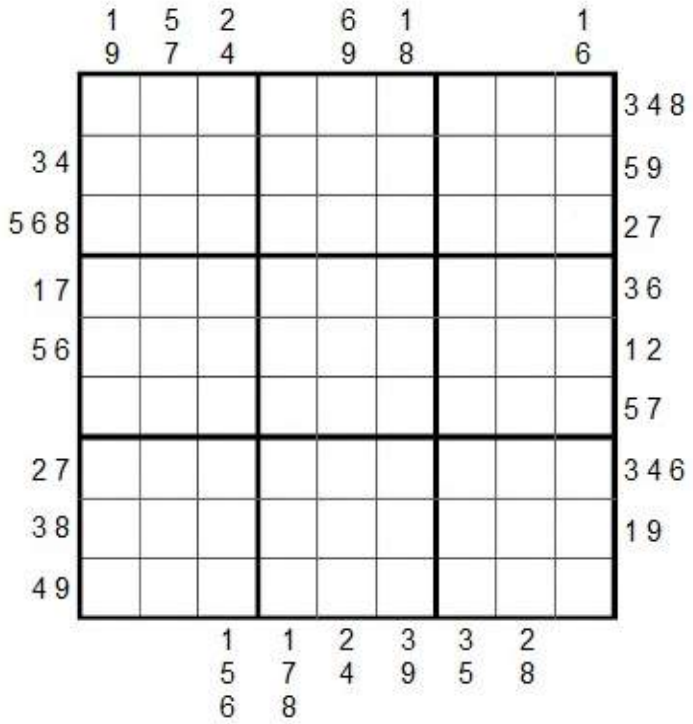
Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. Exactly one given digit in every row, column and marked 3x3 box is wrong and should be replaced by a different digit in the correct solution.

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

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

12 Outside Sudoku [43 Points]

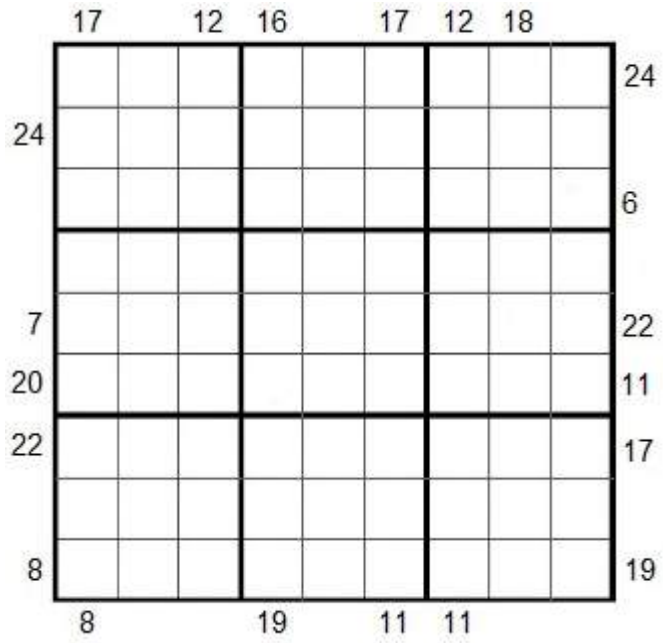
Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. Each digit outside the grid appears in one of the 1st, 2nd or 3rd cells in the corresponding direction.



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

13 Outside sums [70 Points]

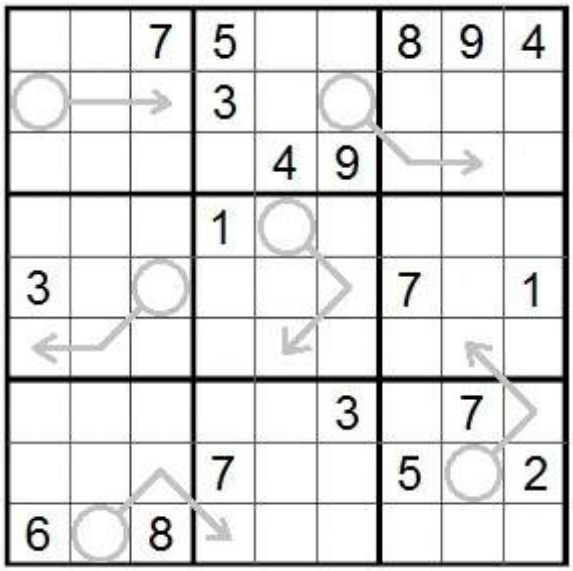
Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. The numbers around the grid show the sums of the three nearest digits in the corresponding direction.



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

14 Product last digit [71 Points]

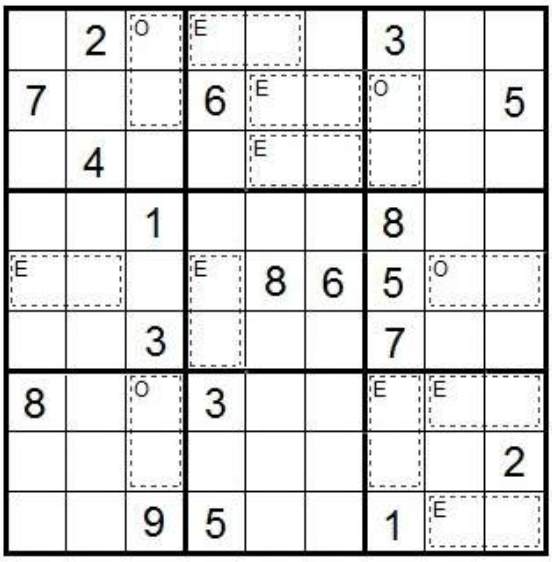
Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. The number in a circle is equal to the last digit of the product of all digits along the corresponding arrow.



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

15 Odd even sum [90 Points]

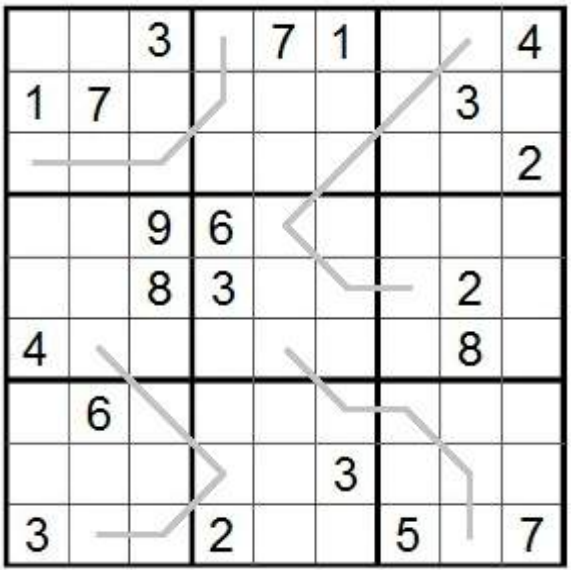
Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. The sum of the two digits in every cage marked with “O” is odd and the sum of the two digits in every cage marked with “E” is even.



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

16 Same parity [56 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. All digits along one grey line have the same parity.

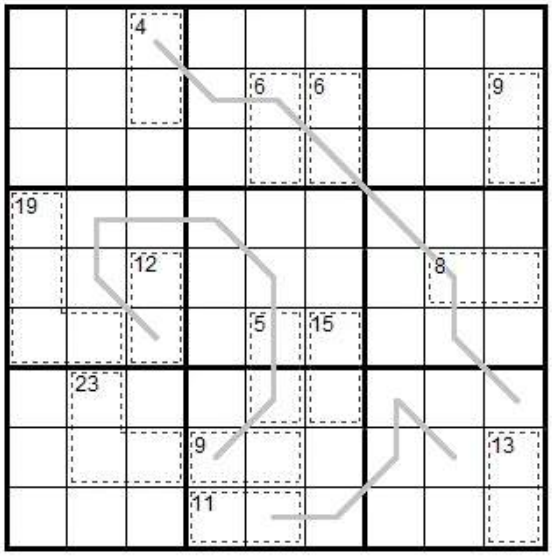


		3		7	1			4
1	7						3	
								2
		9	6					
		8	3				2	
4							8	
	6							
					3			
3			2			5		7

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

17 Kill the palindromes! [150 Points]

Place a digit from 1-9 in each empty cell in the grid such that each row, column and marked 3x3 box contains each digit exactly once. The number at the top-left corner of each cage equals the sum of digits inside the cage. Digits do not repeat inside a cage.The sequence of digits along one grey line is the same when read from both ends.



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