

Name :



PART 1

WELCOME



TEAM FRANCE



WSC 2009

35 minutes – 350 points

3 for 4 – Classic	40 points	
3 for 4 – Alphanum	50 points	
3 for 4 – Diagonal	60 points	
3 for 4 – Killer	95 points	
3 for 4 – Irregular	105 points	
Time bonus	10 points / minute saved	

Scoring :

PART 1 - WELCOME

35 minutes – 350 points

3 for 4 – Classic	40 points
3 for 4 – Alphanum	50 points
3 for 4 – Diagonal	60 points
3 for 4 – Killer	95 points
3 for 4 – Irregular	105 points

Each puzzle consists of a “ **3 for 4** ” **Sudoku**.

Fill in the grid so that every row, every column and every 2x3 box contains the digits 1 through 6, and according to the rules applying to each grid.

The grey cells of the fourth grid contain the same digit as the grey cells in the corresponding positions in the three other grids.

The four grids need to be solved correctly and completely to score the allocated points.
There will be no partial points.

Bonus points are only awarded if all the puzzles in the round are solved completely and correctly.

3 Classic for a 4th Classic.

Fill in the grids so that every row, every column and every 2x3 box contains the digits 1 through 6.

The grey cells of the fourth grid contain the same digit as the grey cells in the corresponding positions in the three other grids.

				5	2
		5			
			6		
3	2				
		3		4	
	1		3		5

		5			3
				2	
		4		6	
	2		1		
	4				
6			4		

5			2		
	3				
		6		5	
				4	6
4					

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Part 1 – Welcome 3 for 4 Classic		
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3 Alphanum for a 4th Alphanum.

Fill in the grids so that every row, every column and every 2x3 box contains the set of 6 characters presented in the grid.

The grey cells of the fourth grid contain the same digit as the grey cells in the corresponding positions in the three other grids.

	h				t
	4				
C				W	
					h
				C	
4				S	

	4				h
			W	4	
	h	t			
			h	S	
	W	C			
t					

			4		
W			S	h	
	W				
	S			C	
	C	4			S

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Part 1 – Welcome 3 for 4 Alphanum		
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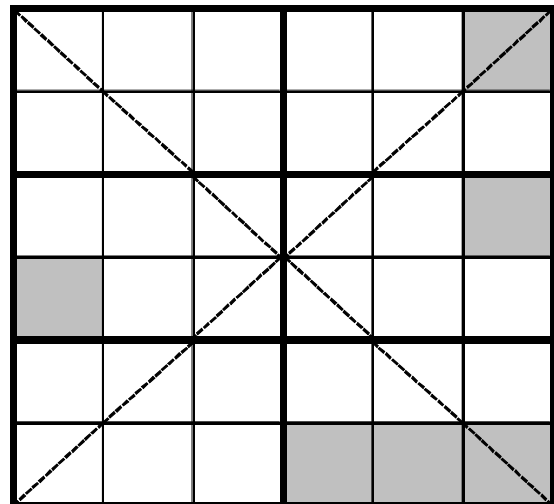
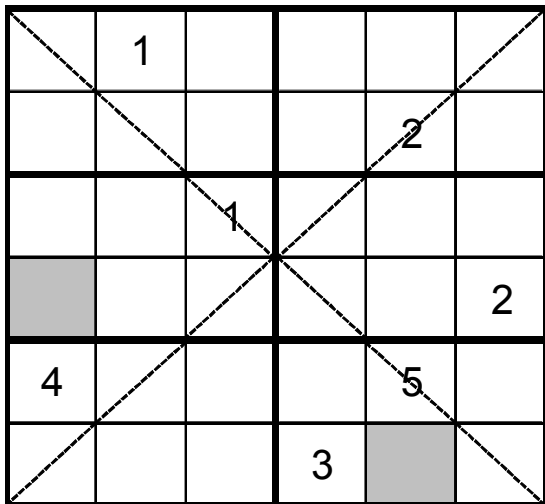
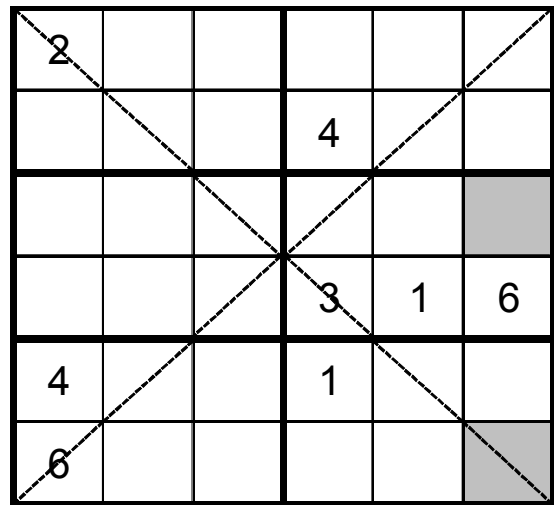
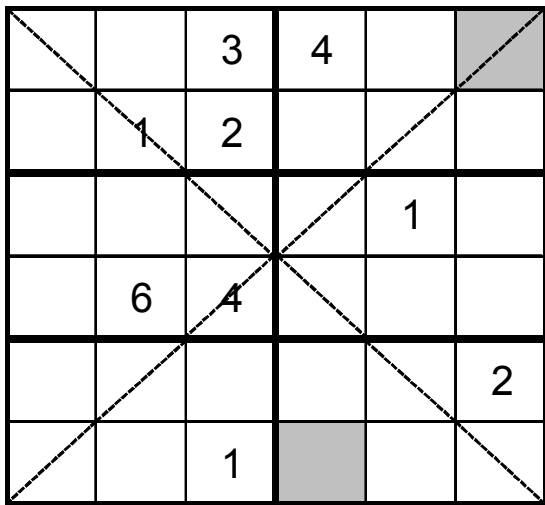
“ 3 for 4 ” – Diagonal

60 points

3 Diagonal for a 4th Diagonal.

Fill in the grids so that every row, every column, every 2x3 box and every highlighted diagonal contains the digits 1 through 6.

The grey cells of the fourth grid contain the same digit as the grey cells in the corresponding positions in the three other grids.



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Part 1 – Welcome 3 for 4 Diagonal		
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3 Killer for a 4th Classic.

Fill in the three first grids so that every row, every column and every 2x3 box contains the digits 1 through 6. The sum of the digits inside each dotted cage equals the number given in the top left corner of that cage. No digit can occur more than once in each cage.

Fill in the fourth grid so that every row, every column and every 2x3 box contains the digits 1 through 6.

The grey cells of the fourth grid contain the same digit as the grey cells in the corresponding positions in the three other grids.

11		7		5	
	12	12			15
11			5		
	5		12		
	7				10
8		6			

3		12	12		
9			5	12	8
	9				
11		7	13		9
12				4	

13			9		
17		5		10	
			9		
9	7		17		
		7		11	
12					

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Part 1 – Welcome 3 for 4 Killer		
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3 Irregular for a 4th Irregular.

Fill in the grids so that every row, every column and every outlined region of 6 cells contains the digits 1 through 6.

The grey cells of the fourth grid contain the same digit as the grey cells in the corresponding positions in the three other grids.

		2			
			5		
					6
4					
	1				
				3	

	1				
				4	
				3	
				2	
		6			5

	2			3	
	4				
		5			
				6	
		1			

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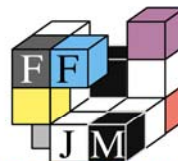
Part 1 – Welcome 3 for 4 Irregular		
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Name :



PART 2

VARIA 1



Fédération Française
des Jeux Mathématiques
association à but non lucratif
(loi de 1901)

TEAM FRANCE



WSC 2009

75 minutes – 750 points

1 4 7	15 points	
Alphabet	30 points	
Triplet	30 points	
No more than three	45 points	
Circles	50 points	
Quad	55 points	
Ring	55 points	
Consecutive	70 points	
Where is Max ?	70 points	
Puzzle	70 points	
Killer	80 points	
Thermometer	90 points	
Consecutive irregular	90 points	
Time bonus	10 points / minute saved	

Scoring :

PART 2 –VARIA 1

75 minutes – 750 points

1 4 7	15 points
Alphabet	30 points
Triplet	30 points
No more than three	45 points
Circles	50 points
Quad	55 points
Ring	55 points
Consecutive	70 points
Where is Max ?	70 points
Puzzle	70 points
Killer	80 points
Thermometer	90 points
Consecutive irregular	90 points

Bonus points are only awarded if all the puzzles in the round are solved completely and correctly.

1-4-7

15 points

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Cells with circles must contain digits 1-2-3, cells with squares must contain digits 4-5-6 and blank cells must contain digits 7-8-9.

			○	7		○	○	
○		○	○	6			9	
8		○			○		○	
○	○	8	5				○	
	○		○					○
	5			○	○	○	8	
○			7	○		○	5	
	○	○						○
				○	○	9		○

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Part 2 – Varia 1
1 4 7

Alphabet**30 points**

Fill in the grid so that every row, every column and every 3x3 box contains the set of 9 letters presented in the grid.

		E			I	S		
	S		A					I
		L					A	
A			O			U		
	E		V		Q		I	
L				A				E
	Q			V	O			A
E			S					O
	L	V	Q			E		S

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Part 2 – Varia 1 Alphabet		
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Triplet**30 points**

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

The grey areas contain the same three digits.

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

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Part 2 – Varia 1 Triplet		
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No more than three **45 points**

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.
 Each main diagonal contains only three different digits.

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

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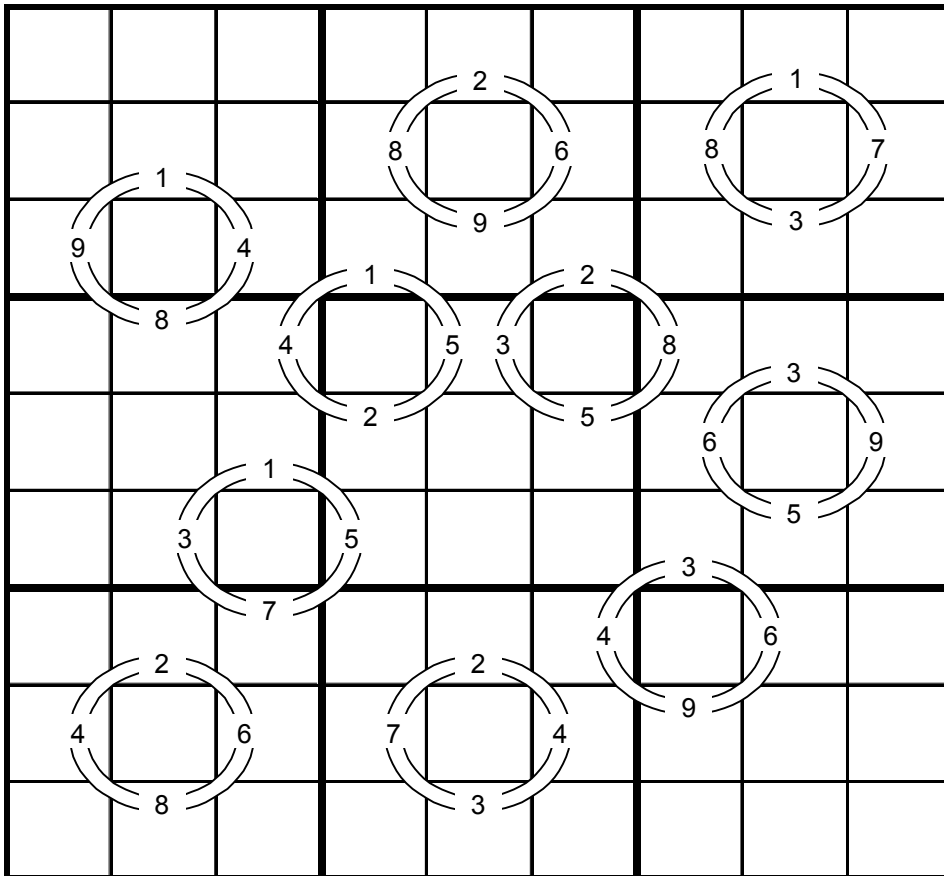
Part 2 – Varia 1 No more than three		
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Circles

50 points

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

Rotate the circles with numbers on it into the right position, keeping the order of the digits. The circles cannot be mirrored. Complete the grid.

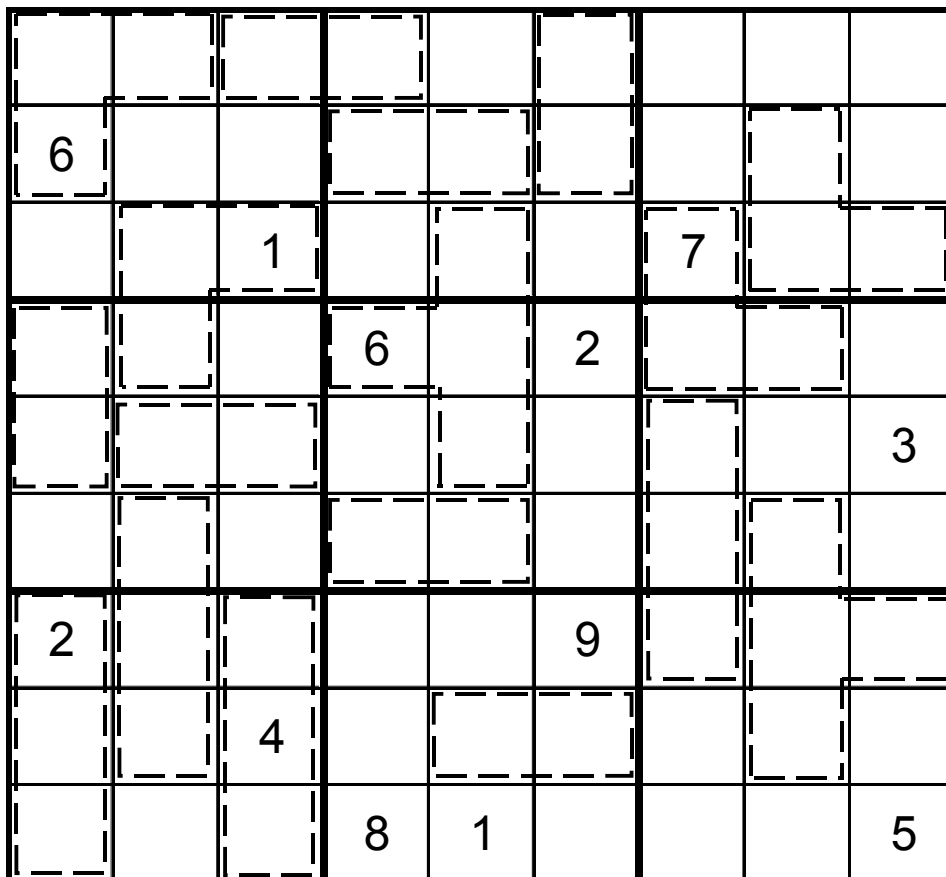


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Part 2 – Varia 1 Circles		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

Each dotted cage contains numbers that are consecutive.



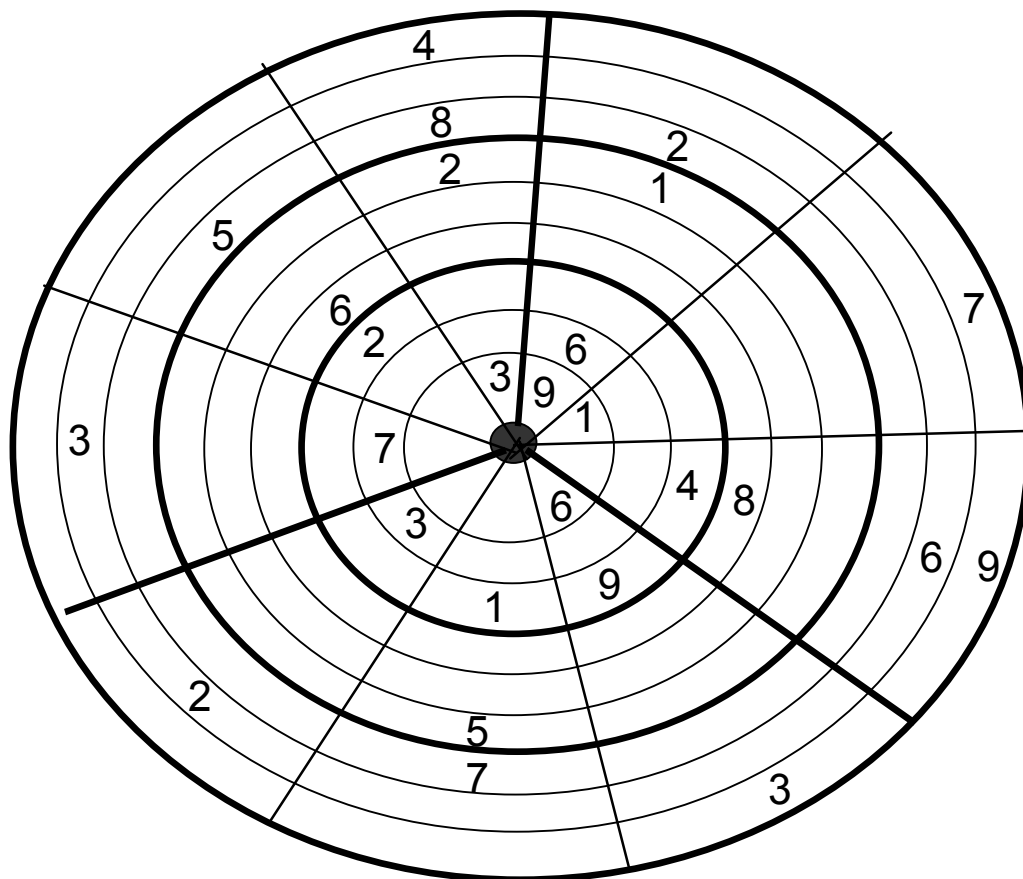
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Part 2 – Varia 1 Quad		
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Ring

55 points

Fill in the disk so that every ring, every slice and every outlined region of the disk contains the digits 1 through 9.

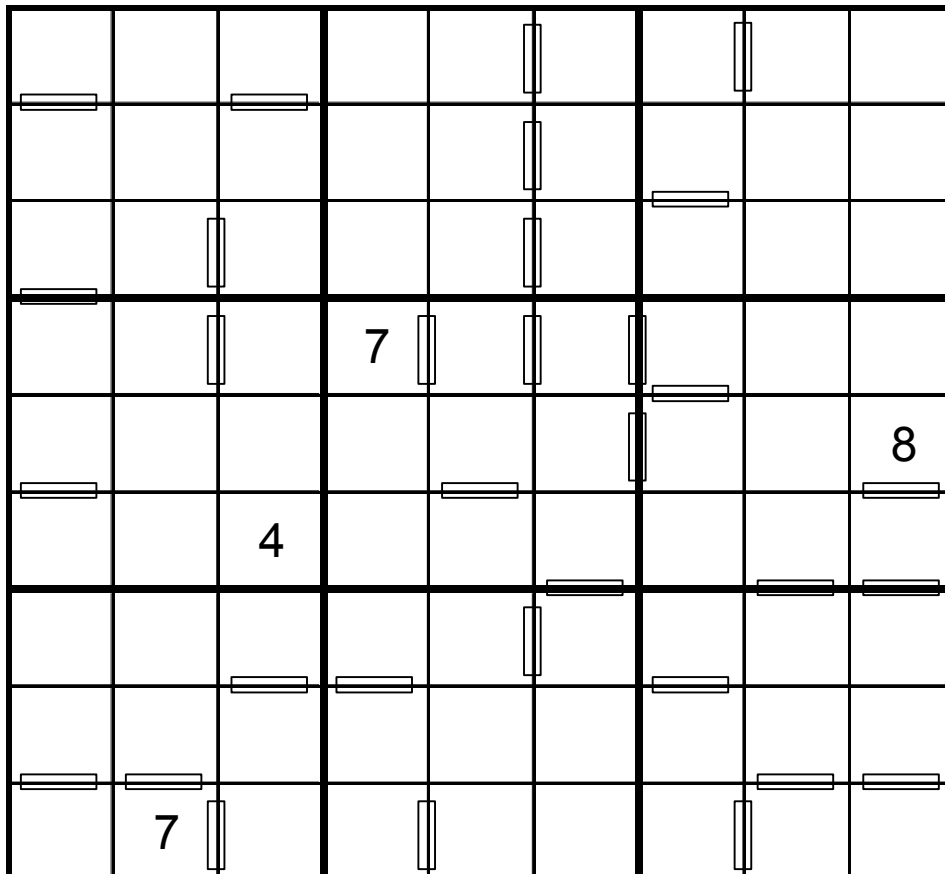


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Part 2 – Varia 1 Ring		
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Consecutive**70 points**

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. All neighbouring cells with consecutive digits have a thick border with double bars in between.



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Part 2 – Varia 1 Consecutive		
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Where is Max ?

70 points

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

Numbers outside the grid gives the position of the maximum of the first digits encountered in the same region starting from that direction (i.e. the maximum of the first 3 digits for a 9x9 grid).

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

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Part 2 – Varia 1 Where is Max ?		
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Puzzle

70 points

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

Put the puzzle pieces with numbers into the grid, wherever they fit. The pieces cannot be rotated nor mirrored. Complete the grid.

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

1	2
8	3

1	9
7	3

4	6
3	8

4	9
7	8

7	5
2	8

8	2
9	1

8	5
9	2

8	9
3	6

9	1
7	5

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Killer**80 points**

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

The sum of the digits inside each dotted cage equals the number given in the top left corner of that cage. No digit can occur more than once in each cage.

13	8	13	12	16				23
				24		3		
2	18			18		13	12	
6								
	39							12
14		6		19			19	
20			16		14			3
	13					14	15	3
	17							

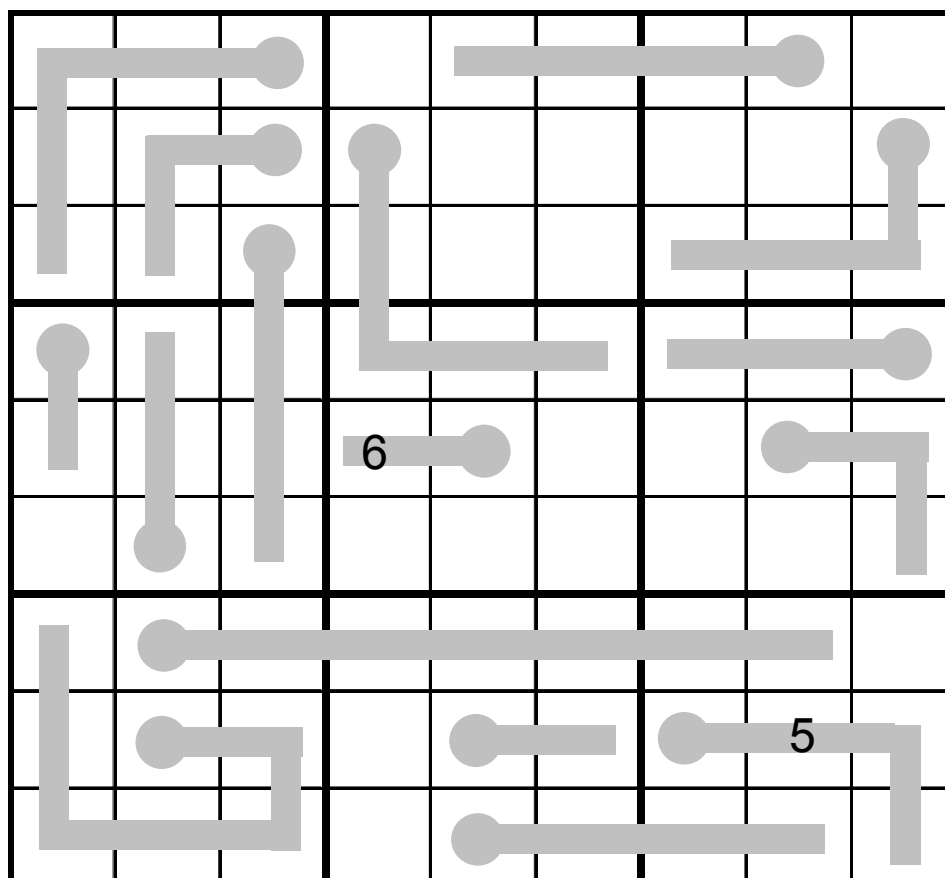
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Part 2 – Varia 1
Killer

Thermometer**90 points**

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

Thermometers are represented in the grid. The digits on these thermometers are increasing from the base of the thermometer (rounded part) to its top.

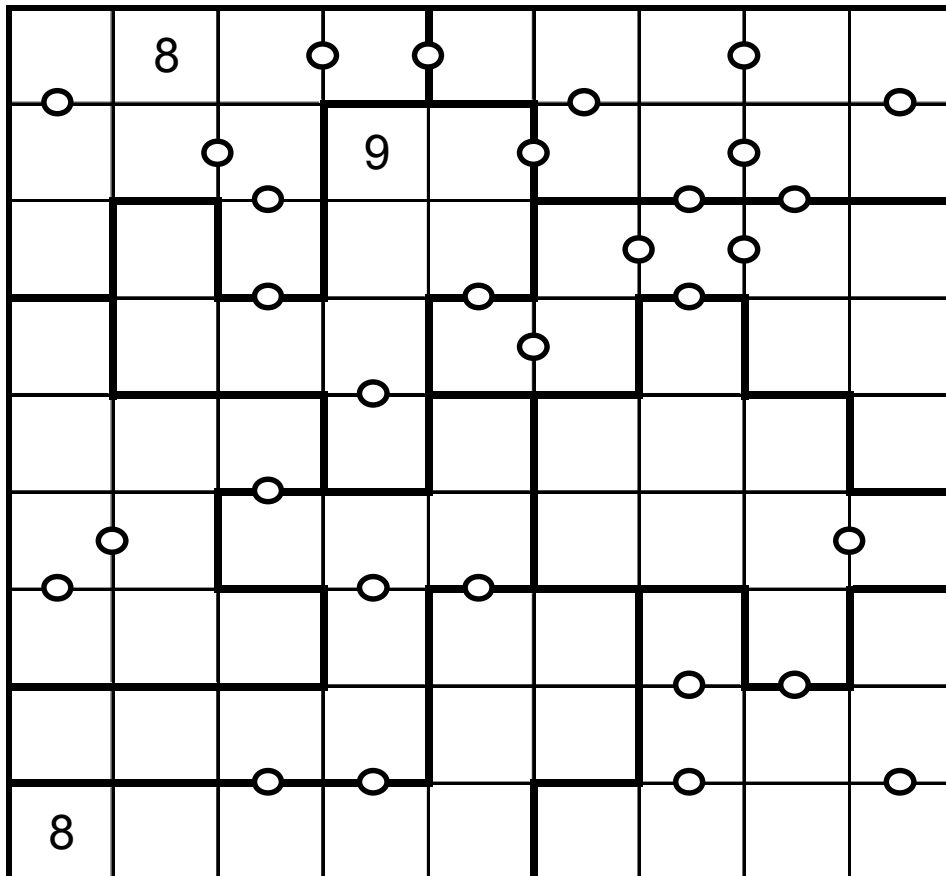


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Part 2 – Varia 1 Thermometer		
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Consecutive irregular 90 points

Fill in the grid so that every row, every column and every outlined region of 9 cells contains the digits 1 through 9. All neighbouring cells with consecutive digits have a thick border with double bars in between.



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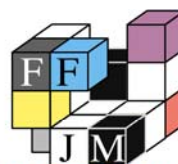
Part 2 – Varia 1 Consecutive irregular		
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Name :



PART 3

CLASSIC



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TEAM FRANCE



WSC 2009

60 minutes – 600 points

1	30 points	
2	30 points	
3	30 points	
4	40 points	
5	45 points	
6	50 points	
7	55 points	
8	70 points	
9	70 points	
10	80 points	
11	100 points	
Time bonus	10 points / minute saved	

Scoring :

PART 3 – CLASSIC

60 minutes – 600 points

1	30 points
2	30 points
3	30 points
4	40 points
5	45 points
6	50 points
7	55 points
8	70 points
9	70 points
10	80 points
11	100 points

Bonus points are only awarded if all the puzzles in the round are solved completely and correctly.

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

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

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

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

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Part 3 – Classic Classic 2		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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

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

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Part 3 – Classic Classic 4		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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Part 3 – Classic Classic 5		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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Part 3 – Classic Classic 6		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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Part 3 – Classic Classic 7		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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Part 3 – Classic Classic 8		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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

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

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Part 3 – Classic Classic 10		
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Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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Part 3 – Classic Classic 11		
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Name :



PART 4

SAMURAI



TEAM FRANCE



WSC 2009

35 minutes – 350 points

Upper Mix	70 points	
Lower Mix	70 points	
Odd Even	70 points	
Diagonal	70 points	
Irregular and Diagonal	70 points	
Time bonus	10 points / minute saved	

Scoring :

PART 4 – SAMURAI

35 minutes – 350 points

Upper Mix	70 points
Lower Mix	70 points
Odd Even	70 points
Diagonal	70 points
Irregular and Diagonal	70 points

Upper Mix

Sudomath	Killer	Inequality
Killer + Triplet	Kropki	Consecutive + Triplet
Consecutive + Triplet	Triplet	Odd

Diagonal

Odd Even

Lower Mix

Frame + Ratio	Extra region	Killer
Inequality	Extra region + Kropki	Kropki
Arrow	Equality Killer	Frame + X V

Irregular and Diagonal

Bonus points are only awarded if the entire samurai is solved completely and correctly.

Upper Mix

70 points

Fill in the grid according to the rules applying to each area.

In area 1, some rows or columns form correct arithmetic expressions.

In area 2 and 4, the sum of the digits inside each dotted cage equals the number given in the top left corner of that cage. No digit can occur more than once in each cage.

In area 3, numbers must be placed according to greater (>) and less (<) signs.

In area 5, if absolute difference between two digits in neighbouring cells equals 1, then they're separated by a white dot. If digit from one cell is half the digit of the neighbouring cell, then they're separated by a black dot. The digits 1 and 2 can be separated by either a white or a black dot.

In areas 6 and 7, all neighbouring cells with consecutive digits have a thick border with double bars in between.

In area 9, the digits are shared with the Odd / Even Sudoku. The dark grey cells can contain odd digits only (1 3 5 7 9).

Additionally, in the whole grid, the triplets of light grey cells contain the same three digits.

Lower Mix

70 points

Fill in the grid according to the rules applying to each area.

In area 1, numbers outside the grid equal the sum of the first three digits in the row or column in the corresponding direction. Moreover, the given clue-numbers inside the grid are fractions or ratios in the lowest terms. The clue-numbers are always placed on the border lines between selected pairs of neighbouring cells of the grid.

In area 3, the digits are shared with the central grid (Odd / Even Sudoku). The sum of the digits inside each dotted cage equals the number given in the top left corner of that cage. No digit can occur more than once in each cage.

In area 4, all inequalities marked in the grid must be accurate. Numbers must be placed according to greater (>) and less (<) signs.

In areas 5 and 6, if absolute difference between two digits in neighbouring cells equals 1, then they're separated by a white dot. If digit from one cell is half the digit of the neighbouring cell, then they're separated by a black dot. The digits 1 and 2 can be separated by either a white or a black dot.

In area 7, the digit in a grey cell is the sum of the digits on the path of the arrow starting from it.

In area 8, the sum of the digits inside each dotted cage equals the number given in the top left corner of that cage, as in a Killer Sudoku. No digit can occur more than once in each cage. Additionally, if a >, < or = sign appears between two cages, then the sums of the digits inside each dotted cage must fulfil the given (in)equalities.

In area 9, numbers outside the grid equal the sum of the first three digits in the row or column in the corresponding direction. Moreover, all the adjacent cells (sharing an edge) with two digits summing to 5 are marked by V. All the adjacent cells (sharing an edge) with two digits summing to 10 are marked by X.

Additionally, the extra region marked by light grey cells in areas 2 and 5 must also contain each digit from 1 through 9.

Odd / Even Sudoku**70 points**

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

The dark grey cells can contain odd digits only (1 3 5 7 9).

The white cells can contain even digits only, except in regions 3, 7 and 9 where they can contain all the digits.

Diagonal Sudoku**70 points**

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

Irregular and Diagonal Sudoku**70 points**

Fill in the grid so that every row, every column, every highlighted diagonal and every outlined region of 9 cells contains the digits 1 through 9.

+
 =

6
 9
 3
 16
 13

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

13 21 11
 5
 1 5
 8 9

16
 13
 16
 9
 23
 8
 15
 16
 14

6
 2
 4
 3
 8
 2
 6
 1
 2
 1
 6

15 16 14

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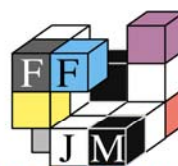
Part 4 – Samurai		
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Name :



PART 5

VARIA 2



Fédération Française
des Jeux Mathématiques
association à but non lucratif
(loi de 1901)

TEAM FRANCE



WSC 2009

100 minutes – 1000 points

Distance	90 points	
Odd Even View	130 points	
Knight step	150 points	
Total twins	190 points (150 + 40)	
Sums on line	210 points	
Stalagmite stalactite	230 points	
Time bonus	10 points / minute saved	

Scoring :

PART 5 – VARIA 2

100 minutes – 1000 points

Distance	90 points
Odd Even View	130 points
Knight step	150 points
Total twins	190 points (150 + 40)
Sums on line	210 points
Stalagmite stalactite	230 points

Bonus points are only awarded if all the puzzles in the round are solved completely and correctly.

Distance**90 points**

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

The distance between two digits in each row and column is specified. The order of these two digits matches the order of the given clues, from left to right or from top to bottom.

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

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Part 5 – Varia 2 Distance		
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Odd Even View

130 points

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

Odd digits outside the grid represent the first odd digit that can be seen from the corresponding direction. Even digits outside the grid represent the first even digit that can be seen from the corresponding direction.

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

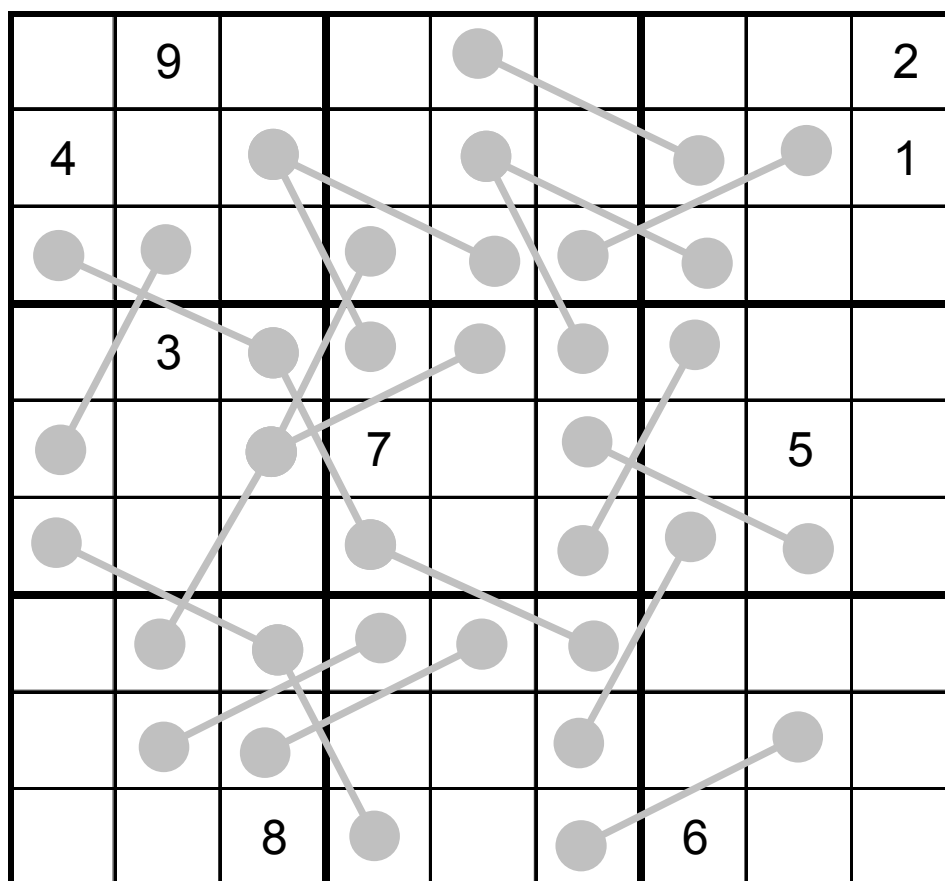
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Part 5 – Varia 2 Odd Even View		
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Knight step**150 points**

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

All cells that are a knight step away and contain the same digit are coupled together by a grey line. (In chess, the knight moves two squares forward followed by one sideways, in each step).



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Part 5 – Varia 2
Knight step

Total twins

190 points (150 + 40 points)

Fill in the two grids so that every row, every column and every 3x3 box contains the digits 1 through 9. Both grids need to be solved to obtain the total points allocated for the puzzle but partial points may be obtained by solving either one of the two grids.

The two grids are interconnected through the third one : each number of the third grid is the sum of the numbers in the corresponding cells in the two grids to solve.

17	16	11	4	6	15	9	8	4
5	9	5	7	17	15	12	11	9
9	7	11	6	7	13	17	10	10
11	6	7	8	12	9	5	18	14
9	9	13	14	13	8	5	7	12
15	6	14	14	9	3	5	11	13
5	9	10	14	7	9	9	15	12
9	14	5	9	10	13	14	8	8
10	14	14	14	9	5	14	2	8

3								

								9
						5		

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Part 5 – Varia 2 Total Twins		
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Sums on line

210 points

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

On each line, one of the numbers is the sum of the others.

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

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Part 5 – Varia 2 Sums on line		
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Stalagmite Stalactite

230 points

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

Each time three or more digits are encountered in increasing order in a row or column, a stalagmite is elevated besides the grid, in front of the row or column. The number on it indicates the length of the stalagmite i.e. the number of digits in the increasing chain.

Each time three or more digits are encountered in decreasing order in a row or column, a stalactite is dropped besides the grid, in front of the row or column. The number on it indicates the length of the stalactite i.e. the number of digits in the decreasing chain.

				8				
		9		1				
	2							
			3			1		

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Part 5 – Varia 2 Stalagmite Stalactite		
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