Sudoku's step by step solver

1 Introduction

On this PDF, the reader will be able to see how to solve the given sudoku:

Row ↓ / Col →	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0			7				3		2
1	2					5		1	
2				8		1	4		
3		1			9	6			8
4	7	6						4	9
5									
6				1		3			
7	8		1		6				
8				7				6	3

On the following pages, with each iteration of the code, the conclusions madeby the algorithm will be showed next to a representation of the sudoku with allthe discovered values.
The way to refer to a particular cell will be using coordinates (r, c). This way, the value 'r' represents the row's number and 'c' the column's number. This will be represented every time the sudoku's representation is generated as you can see.
To see the code used to generate this file and solve the sudoku, please go to the author of the code's github: Jkutkut's GitHub

2 Steps

2.1 New Iteration

Row ↓ **Col →**

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0			7				3		2
1	2					5		1	
2				8		1	4		
3		1			9	6			8
4	7	6						4	9
5									
6				1		3			
7	8		1		6				
8				7				6	3

Let's focus on the cell on the position **(0, 0)**
If we look at the row on this cell, this cell can not be [7, 3, 2].
If we look at the col on this cell, this cell can not be [8].
If we look at the row containing this cell, we know that this cell should be 1 because no one this row can be this value.
Therefore, the value of this cell is **1**

Let's focus on the cell on the position **(0, 3)**
If we look at the row on this cell, this cell can not be [7, 3, 2].
If we look at the 3 by 3 on this cell, this cell can not be [5, 1].
If we look at the col on this cell, this cell can not be [8].
If we look at the row containing this cell, we know that this cell should be 6 because no one this row can be this value.
Therefore, the value of this cell is **6**

Let's focus on the cell on the position **(0, 4)**
If we look at the row on this cell, this cell can not be [7, 3, 2].
If we look at the 3 by 3 on this cell, this cell can not be [5, 8, 1].
If we look at the col on this cell, this cell can not be [9, 6].
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(0, 5)**
If we look at the row on this cell, this cell can not be [7, 3, 2].
If we look at the col on this cell, this cell can not be [5, 1, 6].
If we look at the 3 by 3 on this cell, this cell can not be [8, 4].
Therefore, the value of this cell is **9**

Let's focus on the cell on the position **(1, 3)**
If we look at the row on this cell, this cell can not be [2, 5, 1].
If we look at the col on this cell, this cell can not be [8, 7, 6].
If we look at the 3 by 3 on this cell, this cell can not be [9, 4].
Therefore, the value of this cell is **3**

Let's focus on the cell on the position **(1, 4)**
If we look at the row on this cell, this cell can not be [2, 5, 1, 3].
If we look at the 3 by 3 on this cell, this cell can not be [8].
If we look at the col on this cell, this cell can not be [9, 6, 4].
Therefore, the value of this cell is **7**

Let's focus on the cell on the position **(1, 8)**
If we look at the 3 by 3 on this cell, this cell can not be [3, 1, 4].
If we look at the col on this cell, this cell can not be [2, 8, 9].
If we look at the row on this cell, this cell can not be [5, 7].
Therefore, the value of this cell is **6**

Let's focus on the cell on the position **(2, 4)**
If we look at the 3 by 3 on this cell, this cell can not be [5, 3].
If we look at the row on this cell, this cell can not be [8, 1, 4].
If we look at the col on this cell, this cell can not be [9, 6, 7].
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(5, 6)**
If we look at the col on this cell, this cell can not be [3, 4].
If we look at the 3 by 3 on this cell, this cell can not be [8, 9].
If we look at the row containing this cell, we know that this cell should be 6 because no one this row can be this value.
Therefore, the value of this cell is **6**

Let's focus on the cell on the position **(7, 3)**
If we look at the col on this cell, this cell can not be [8].
If we look at the 3 by 3 on this cell, this cell can not be [1, 3, 7].
If we look at the row on this cell, this cell can not be [6].
If we look at the col containing this cell, we know that this cell should be 9 because no one this col can be this value.
Therefore, the value of this cell is **9**

Let's focus on the cell on the position **(5, 5)**
If we look at the col on this cell, this cell can not be [5, 1, 6, 3].
If we look at the 3 by 3 on this cell, this cell can not be [9].
If we look at the col containing this cell, we know that this cell should be 7 because no one this col can be this value.
Therefore, the value of this cell is **7**

Let's focus on the cell on the position **(5, 8)**
If we look at the col on this cell, this cell can not be [2, 8, 9, 3, 6].
If we look at the 3 by 3 on this cell, this cell can not be [4].
If we look at the row on this cell, this cell can not be [7].
If we look at the col containing this cell, we know that this cell should be 1 because no one this col can be this value.
Therefore, the value of this cell is **1**

Let's focus on the cell on the position **(7, 1)**
If we look at the col on this cell, this cell can not be [1, 6].
If we look at the row on this cell, this cell can not be [8, 9].
If we look at the row containing this cell, we know that this cell should be 3 because no one this row can be this value.
Therefore, the value of this cell is **3**

Let's focus on the cell on the position **(8, 6)**
If we look at the col on this cell, this cell can not be [3, 4].
If we look at the row on this cell, this cell can not be [7, 6].
If we look at the row containing this cell, we know that this cell should be 1 because no one this row can be this value.
Therefore, the value of this cell is **1**

2.2 New Iteration

Row ↓ / Col →

	0	1	2	3	4	5	6	7	8
0	1		7	6	4	9	3		2
1	2			3	7	5		1	6
2				8	2	1	4		
3		1			9	6			8
4	7	6						4	9
5						7	6		1
6				1		3			
7	8	3	1	9	6				
8				7			1	6	3

Let's focus on the cell on the position **(4, 4)**
If we look at the col on this cell, this cell can not be [9, 2].
If we look at the 3 by 3 on this cell, this cell can not be [6].
If we look at the row on this cell, this cell can not be [7, 4].
This cell and (4, 2) are linked. Value 3 is on one of these 2 cells.
This cell and (5, 4) are linked. Value 3 is on one of these 2 cells.
If we look at the row containing this cell, we know that this cell should be 1 because no one this row can be this value.
Therefore, the value of this cell is **1**

Let's focus on the cell on the position **(5, 4)**
If we look at the col on this cell, this cell can not be [9, 7, 2, 4].
If we look at the 3 by 3 on this cell, this cell can not be [6].
If we look at the row on this cell, this cell can not be [1].
This cell and (4, 4) are linked. Value 3 is on one of these 2 cells.
If we look at the col containing this cell, we know that this cell should be 3 because no one this col can be this value.
Therefore, the value of this cell is **3**

Let's focus on the cell on the position **(3, 7)**
If we look at the col on this cell, this cell can not be [1].
If we look at the row on this cell, this cell can not be [9, 6].
If we look at the 3 by 3 on this cell, this cell can not be [8, 4].
This cell and (3, 6) are linked. Value 7 is on one of these 2 cells.
This cell and (5, 7) are linked. Value 3 is on one of these 2 cells.
The cell (5, 7) is no longer 3 and these cells were linked, so the value of this cell is 3
Therefore, the value of this cell is **3**

Let's focus on the cell on the position **(6, 1)**
If we look at the col on this cell, this cell can not be [1, 6].
If we look at the row on this cell, this cell can not be [3].
If we look at the 3 by 3 on this cell, this cell can not be [8].
If we look at the col containing this cell, we know that this cell should be 7 because no one this col can be this value.
Therefore, the value of this cell is **7**

Let's focus on the cell on the position **(3, 6)**
If we look at the col on this cell, this cell can not be [3, 4].
If we look at the row on this cell, this cell can not be [1, 9, 6].
If we look at the 3 by 3 on this cell, this cell can not be [8].
This cell and (3, 7) are linked. Value 7 is on one of these 2 cells.
This cell and (7, 6) are linked. Value 7 is on one of these 2 cells.
The cell (7, 6) is no longer 7 and these cells were linked, so the value of this cell is 7
Therefore, the value of this cell is **7**

2.3 New Iteration

Col →

Row ↓

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	1		7	6	4	9	3		2
1	2			3	7	5		1	6
2				8	2	1	4		
3		1			9	6	7	3	8
4	7	6			1			4	9
5					3	7	6		1
6		7		1		3			
7	8	3	1	9	6				
8				7			1	6	3

Let's focus on the cell on the position **(2, 0)**
If we look at the 3 by 3 on this cell, this cell can not be [7].
If we look at the col on this cell, this cell can not be [2].
If we look at the row on this cell, this cell can not be [8, 1, 4].
This cell and (2, 2) are linked. Value 3 is on one of these 2 cells.
This cell and (2, 2) are linked. Value 6 is on one of these 2 cells.
If we take a look, this and the (2, 2) cell are eather [3, 6]. Both cells can only

be these values.
This cell and (6, 0) are linked. Value 6 is on one of these 2 cells.
If we look at the col containing this cell, we know that this cell should be 3 because no one this col can be this value.
Therefore, the value of this cell is **3**

Let's focus on the cell on the position **(4, 2)**
If we look at the col on this cell, this cell can not be [7].
If we look at the 3 by 3 on this cell, this cell can not be [1].
If we look at the row on this cell, this cell can not be [6, 4, 9].
This cell and (4, 4) are linked. Value 3 is on one of these 2 cells.
This cell and (4, 5) are linked. Value 8 is on one of these 2 cells.
This cell and (2, 2) are linked. Value 3 is on one of these 2 cells.
The cell (2, 2) is no longer 3 and these cells were linked, so the value of this cell is 3
Therefore, the value of this cell is **3**

Let's focus on the cell on the position **(2, 2)**
If we look at the col on this cell, this cell can not be [7].
If we look at the 3 by 3 on this cell, this cell can not be [2].
If we look at the row on this cell, this cell can not be [8, 1, 4].
This cell and (2, 0) are linked. Value 3 is on one of these 2 cells.
This cell and (2, 0) are linked. Value 6 is on one of these 2 cells.
If we take a look, this and the (2, 0) cell are eather [3, 6]. Both cells can only be these values.
This cell and (6, 2) are linked. Value 6 is on one of these 2 cells.
This cell and (4, 2) are linked. Value 3 is on one of these 2 cells.
The cell (2, 0) has now the value 3 and these cells are linked, so this cell can not be 3
Therefore, the value of this cell is **6**

Let's focus on the cell on the position **(6, 0)**
If we look at the col on this cell, this cell can not be [2, 7].
If we look at the row on this cell, this cell can not be [1, 3].
If we look at the 3 by 3 on this cell, this cell can not be [8].
This cell and (6, 2) are linked. Value 6 is on one of these 2 cells.
This cell and (2, 0) are linked. Value 6 is on one of these 2 cells.
The cell (6, 2) is no longer 6 and these cells were linked, so the value of this cell is 6
Therefore, the value of this cell is **6**

Let's focus on the cell on the position **(4, 5)**

If we look at the col on this cell, this cell can not be [5, 1, 6, 3].
If we look at the 3 by 3 on this cell, this cell can not be [9].
If we look at the row on this cell, this cell can not be [7, 4].
This cell and (8, 5) are linked. Value 8 is on one of these 2 cells.
This cell and (4, 2) are linked. Value 8 is on one of these 2 cells.
If we look at the row containing this cell, we know that this cell should be 8 because no one this row can be this value.
Therefore, the value of this cell is **8**

Let's focus on the cell on the position **(8, 4)**
If we look at the col on this cell, this cell can not be [9, 2, 4].
If we look at the 3 by 3 on this cell, this cell can not be [1, 3, 6].
If we look at the row on this cell, this cell can not be [7].
This cell and (8, 5) are linked. Value 8 is on one of these 2 cells.
This cell and (6, 4) are linked. Value 5 is on one of these 2 cells.
This cell and (6, 4) are linked. Value 8 is on one of these 2 cells.
If we take a look, this and the (6, 4) cell are eather [5, 8]. Both cells can only be these values.
The cell (8, 5) is no longer 8 and these cells were linked, so the value of this cell is 8
Therefore, the value of this cell is **8**

Let's focus on the cell on the position **(6, 4)**
If we look at the col on this cell, this cell can not be [9, 2, 4].
If we look at the 3 by 3 on this cell, this cell can not be [1, 3, 6, 7].
This cell and (8, 4) are linked. Value 5 is on one of these 2 cells.
This cell and (8, 4) are linked. Value 8 is on one of these 2 cells.
If we take a look, this and the (8, 4) cell are eather [5, 8]. Both cells can only be these values.
The cell (8, 4) has now the value 8 and these cells are linked, so this cell can not be 8
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(6, 8)**
If we look at the col on this cell, this cell can not be [2, 8, 9].
If we look at the row on this cell, this cell can not be [1, 3, 7, 5].
If we look at the 3 by 3 on this cell, this cell can not be [6].
This cell and (7, 8) are linked. Value 4 is on one of these 2 cells.
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(7, 5)**
If we look at the col on this cell, this cell can not be [5, 1, 6, 9].

If we look at the 3 by 3 on this cell, this cell can not be [3, 7].
If we look at the row on this cell, this cell can not be [8].
This cell and (7, 8) are linked. Value 4 is on one of these 2 cells.
This cell and (8, 5) are linked. Value 4 is on one of these 2 cells.
The cell (7, 8) is no longer 4 and these cells were linked, so the value of this cell is 4
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(8, 5)**
If we look at the col on this cell, this cell can not be [5, 1, 6, 3, 9].
If we look at the row on this cell, this cell can not be [7].
This cell and (8, 4) are linked. Value 8 is on one of these 2 cells.
This cell and (4, 5) are linked. Value 8 is on one of these 2 cells.
This cell and (7, 5) are linked. Value 4 is on one of these 2 cells.
The cell (4, 5) has now the value 8 and these cells are linked, so this cell can not be 8
The cell (7, 5) has now the value 4 and these cells are linked, so this cell can not be 4
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(5, 1)**
If we look at the col on this cell, this cell can not be [1, 6, 3].
If we look at the 3 by 3 on this cell, this cell can not be [7].
This cell and (5, 2) are linked. Value 8 is on one of these 2 cells.
This cell and (8, 1) are linked. Value 2 is on one of these 2 cells.
The cell (8, 1) is no longer 2 and these cells were linked, so the value of this cell is 2
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(5, 7)**
If we look at the col on this cell, this cell can not be [1, 4, 6].
If we look at the 3 by 3 on this cell, this cell can not be [8, 9].
If we look at the row on this cell, this cell can not be [7, 3, 2].
This cell and (3, 7) are linked. Value 3 is on one of these 2 cells.
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(0, 1)**
If we look at the row on this cell, this cell can not be [7, 3, 2, 4, 9].
If we look at the col on this cell, this cell can not be [1, 6].
This cell and (0, 7) are linked. Value 5 is on one of these 2 cells.
This cell and (0, 7) are linked. Value 8 is on one of these 2 cells.
If we take a look, this and the (0, 7) cell are eather [5, 8]. Both cells can only

be these values.
If we take a look, this and the (0, 7) cell are eather [8, 5]. Both cells can only be these values.
The cell (0, 7) is no longer 5 and these cells were linked, so the value of this cell is 5
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(0, 7)**
If we look at the row on this cell, this cell can not be [7, 9].
If we look at the 3 by 3 on this cell, this cell can not be [3, 2, 4].
If we look at the col on this cell, this cell can not be [1, 6, 5].
This cell and (0, 1) are linked. Value 5 is on one of these 2 cells.
This cell and (0, 1) are linked. Value 8 is on one of these 2 cells.
If we take a look, this and the (0, 1) cell are eather [5, 8]. Both cells can only be these values.
This cell and (6, 7) are linked. Value 8 is on one of these 2 cells.
This cell and (1, 6) are linked. Value 8 is on one of these 2 cells.
If we take a look, this and the (0, 1) cell are eather [8, 5]. Both cells can only be these values.
Therefore, the value of this cell is **8**

Let's focus on the cell on the position **(6, 6)**
If we look at the col on this cell, this cell can not be [3, 4].
If we look at the row on this cell, this cell can not be [1].
If we look at the 3 by 3 on this cell, this cell can not be [6].
This cell and (1, 6) are linked. Value 8 is on one of these 2 cells.
This cell and (1, 6) are linked. Value 9 is on one of these 2 cells.
If we take a look, this and the (1, 6) cell are eather [8, 9]. Both cells can only be these values.
The cell (1, 6) is no longer 8 and these cells were linked, so the value of this cell is 8
Therefore, the value of this cell is **8**

Let's focus on the cell on the position **(1, 6)**
If we look at the col on this cell, this cell can not be [3, 4].
If we look at the 3 by 3 on this cell, this cell can not be [2, 1, 6].
If we look at the row on this cell, this cell can not be [5, 7].
This cell and (6, 6) are linked. Value 8 is on one of these 2 cells.
This cell and (6, 6) are linked. Value 9 is on one of these 2 cells.
If we take a look, this and the (6, 6) cell are eather [8, 9]. Both cells can only be these values.
This cell and (0, 7) are linked. Value 8 is on one of these 2 cells.
This cell and (2, 7) are linked. Value 9 is on one of these 2 cells.

The cell (0, 7) has now the value 8 and these cells are linked, so this cell can not be 8
Therefore, the value of this cell is **9**

Let's focus on the cell on the position **(2, 1)**
If we look at the 3 by 3 on this cell, this cell can not be [7, 2].
If we look at the row on this cell, this cell can not be [8, 1, 4].
If we look at the col on this cell, this cell can not be [6, 3].
This cell and (2, 7) are linked. Value 9 is on one of these 2 cells.
The cell (2, 7) is no longer 9 and these cells were linked, so the value of this cell is 9
Therefore, the value of this cell is **9**

Let's focus on the cell on the position **(6, 7)**
If we look at the col on this cell, this cell can not be [1, 4].
If we look at the row on this cell, this cell can not be [3, 7, 5].
If we look at the 3 by 3 on this cell, this cell can not be [6].
This cell and (0, 7) are linked. Value 8 is on one of these 2 cells.
This cell and (2, 7) are linked. Value 9 is on one of these 2 cells.
This cell and (6, 2) are linked. Value 2 is on one of these 2 cells.
The cell (0, 7) has now the value 8 and these cells are linked, so this cell can not be 8
The cell (2, 7) is no longer 9 and these cells were linked, so the value of this cell is 9
Therefore, the value of this cell is **9**

Let's focus on the cell on the position **(8, 1)**
If we look at the col on this cell, this cell can not be [1, 6, 9, 5].
If we look at the 3 by 3 on this cell, this cell can not be [8].
If we look at the row on this cell, this cell can not be [7, 3, 2].
This cell and (5, 1) are linked. Value 2 is on one of these 2 cells.
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(1, 2)**
If we look at the col on this cell, this cell can not be [7].
If we look at the row on this cell, this cell can not be [2, 5, 1, 3, 6].
This cell and (1, 1) are linked. Value 4 is on one of these 2 cells.
If we look at the 3 by 3 on this cell, this cell can not be [9].
The cell (1, 1) is no longer 4 and these cells were linked, so the value of this cell is 4
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(1, 1)**
If we look at the 3 by 3 on this cell, this cell can not be [7].
If we look at the row on this cell, this cell can not be [2, 5, 1, 3].
If we look at the col on this cell, this cell can not be [6, 9, 4].
This cell and (1, 2) are linked. Value 4 is on one of these 2 cells.
Therefore, the value of this cell is **8**

Let's focus on the cell on the position **(3, 2)**
If we look at the col on this cell, this cell can not be [7, 4].
If we look at the row on this cell, this cell can not be [1, 9, 6, 8, 3].
If we look at the 3 by 3 on this cell, this cell can not be [2].
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(3, 0)**
If we look at the col on this cell, this cell can not be [2].
If we look at the row on this cell, this cell can not be [1, 9, 6, 8, 3, 5].
If we look at the 3 by 3 on this cell, this cell can not be [7].
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(5, 3)**
If we look at the col on this cell, this cell can not be [8, 1, 7, 3].
If we look at the 3 by 3 on this cell, this cell can not be [9, 6].
This cell and (3, 3) are linked. Value 4 is on one of these 2 cells.
If we look at the row on this cell, this cell can not be [2].
The cell (3, 3) is no longer 4 and these cells were linked, so the value of this cell is 4
Therefore, the value of this cell is **4**

Let's focus on the cell on the position **(5, 0)**
If we look at the col on this cell, this cell can not be [2, 7, 8].
If we look at the 3 by 3 on this cell, this cell can not be [1, 6].
If we look at the row on this cell, this cell can not be [3, 5, 4].
Therefore, the value of this cell is **9**

Let's focus on the cell on the position **(8, 0)**
If we look at the col on this cell, this cell can not be [2, 7, 9].
If we look at the 3 by 3 on this cell, this cell can not be [8, 1].
If we look at the row on this cell, this cell can not be [6, 3, 4].
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(3, 3)**
If we look at the col on this cell, this cell can not be [8, 7, 3].
If we look at the row on this cell, this cell can not be [1, 4, 5].
If we look at the 3 by 3 on this cell, this cell can not be [9, 6].
This cell and (5, 3) are linked. Value 4 is on one of these 2 cells.
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(4, 3)**
If we look at the col on this cell, this cell can not be [8, 1, 3, 2].
If we look at the 3 by 3 on this cell, this cell can not be [9, 6].
If we look at the row on this cell, this cell can not be [7, 4].
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(4, 6)**
If we look at the col on this cell, this cell can not be [3, 4].
If we look at the 3 by 3 on this cell, this cell can not be [8, 9, 1].
If we look at the row on this cell, this cell can not be [7, 6, 5].
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(7, 6)**
If we look at the col on this cell, this cell can not be [3, 4, 2].
If we look at the row on this cell, this cell can not be [8, 1, 6, 9].
This cell and (3, 6) are linked. Value 7 is on one of these 2 cells.
Let's have a look at the following (X-Wing):
- Either the cell (2, 8) or (7, 8) has the value 7
- Either the cell (2, 7) or (7, 7) has the value 7
Acording to this facts, none of the cells on the rows 8 or 8 can be this value.
Therefore, this cell can not be 7
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(7, 8)**
If we look at the col on this cell, this cell can not be [2, 8, 9].
If we look at the row on this cell, this cell can not be [1, 6].
If we look at the 3 by 3 on this cell, this cell can not be [3, 5].
This cell and (7, 5) are linked. Value 4 is on one of these 2 cells.
This cell and (6, 8) are linked. Value 4 is on one of these 2 cells.
This cell and (2, 8) are linked. Value 7 is on one of these 2 cells.
The cell (6, 8) has now the value 4 and these cells are linked, so this cell can not be 4
Therefore, the value of this cell is **7**

Let's focus on the cell on the position **(2, 7)**
If we look at the 3 by 3 on this cell, this cell can not be [3, 2].
If we look at the col on this cell, this cell can not be [1, 6].
If we look at the row on this cell, this cell can not be [8, 4].
This cell and (2, 8) are linked. Value 7 is on one of these 2 cells.
This cell and (6, 7) are linked. Value 9 is on one of these 2 cells.
This cell and (1, 6) are linked. Value 9 is on one of these 2 cells.
This cell and (2, 1) are linked. Value 9 is on one of these 2 cells.
This cell and (7, 7) are linked. Value 7 is on one of these 2 cells.
The cell (1, 6) has now the value 9 and these cells are linked, so this cell can not be 9
The cell (2, 8) is no longer 7 and these cells were linked, so the value of this cell is 7
Therefore, the value of this cell is **7**

Let's focus on the cell on the position **(7, 7)**
If we look at the col on this cell, this cell can not be [1, 4].
If we look at the row on this cell, this cell can not be [8, 6, 9].
If we look at the 3 by 3 on this cell, this cell can not be [3, 5].
This cell and (2, 7) are linked. Value 7 is on one of these 2 cells.
The cell (2, 7) has now the value 7 and these cells are linked, so this cell can not be 7
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(2, 8)**
If we look at the 3 by 3 on this cell, this cell can not be [3, 1].
If we look at the col on this cell, this cell can not be [2, 9, 6].
If we look at the row on this cell, this cell can not be [8, 4].
This cell and (2, 7) are linked. Value 7 is on one of these 2 cells.
This cell and (7, 8) are linked. Value 7 is on one of these 2 cells.
The cell (7, 8) has now the value 7 and these cells are linked, so this cell can not be 7
Therefore, the value of this cell is **5**

Let's focus on the cell on the position **(5, 2)**
If we look at the col on this cell, this cell can not be [7, 5].
If we look at the 3 by 3 on this cell, this cell can not be [1, 6].
If we look at the row on this cell, this cell can not be [3, 9, 4].
This cell and (5, 1) are linked. Value 8 is on one of these 2 cells.
The cell (5, 1) has now the value 2 and these cells are linked, so this cell can not be 2
Therefore, the value of this cell is **8**

Let's focus on the cell on the position **(6, 2)**
If we look at the col on this cell, this cell can not be [7, 4].
If we look at the row on this cell, this cell can not be [1, 3, 5].
If we look at the 3 by 3 on this cell, this cell can not be [8].
This cell and (6, 0) are linked. Value 6 is on one of these 2 cells.
This cell and (2, 2) are linked. Value 6 is on one of these 2 cells.
This cell and (6, 7) are linked. Value 2 is on one of these 2 cells.
The cell (2, 2) has now the value 6 and these cells are linked, so this cell can not be 6
The cell (6, 7) has now the value 9 and these cells are linked, so this cell can not be 9
Therefore, the value of this cell is **2**

Let's focus on the cell on the position **(8, 2)**
If we look at the col on this cell, this cell can not be [7, 1, 2, 4].
If we look at the 3 by 3 on this cell, this cell can not be [8].
If we look at the row on this cell, this cell can not be [6, 3, 5].
Therefore, the value of this cell is **9**

3 Algorithm ended

With all these iterations, we can determine that the solution for this sudoku:

Row ↓ / **Col →**

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0			7				3		2
1	2					5		1	
2				8		1	4		
3		1			9	6			8
4	7	6						4	9
5									
6				1		3			
7	8		1		6				
8				7				6	3

is the following:

Row ↓ / **Col →**

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	1	5	7	6	4	9	3	8	2
1	2	8	4	3	7	5	9	1	6
2	3	9	6	8	2	1	4	7	5
3	4	1	5	2	9	6	7	3	8
4	7	6	3	5	1	8	2	4	9
5	9	2	8	4	3	7	6	5	1
6	6	7	2	1	5	3	8	9	4
7	8	3	1	9	6	4	5	2	7
8	5	4	9	7	8	2	1	6	3

If you want to see or use the code that abled this file to exist or you would like to see more code like this, check the authors GitHub: Jkutkut's GitHub