

CSSE 473 – Day 5

Playing Sudoku the Smart Way

- The **1** is placed by constraints

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

Playing Sudoku the Smart Way

- The 8 is placed by constraints.
- The 8 is placed by inference, because the marked spaces are reserved for the other two 8s in the respective 3-3 boxes.

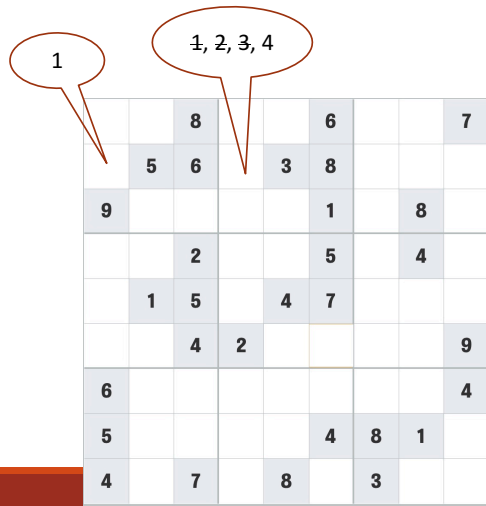
		8			6			7
	5	6		3	8			
9					1		8	
		2			5		4	
	1	5		4	7			
8		4	2					9
6	8	1						4
5					4	8	1	
4		7		8		3		

Playing Sudoku the Brute-Force way

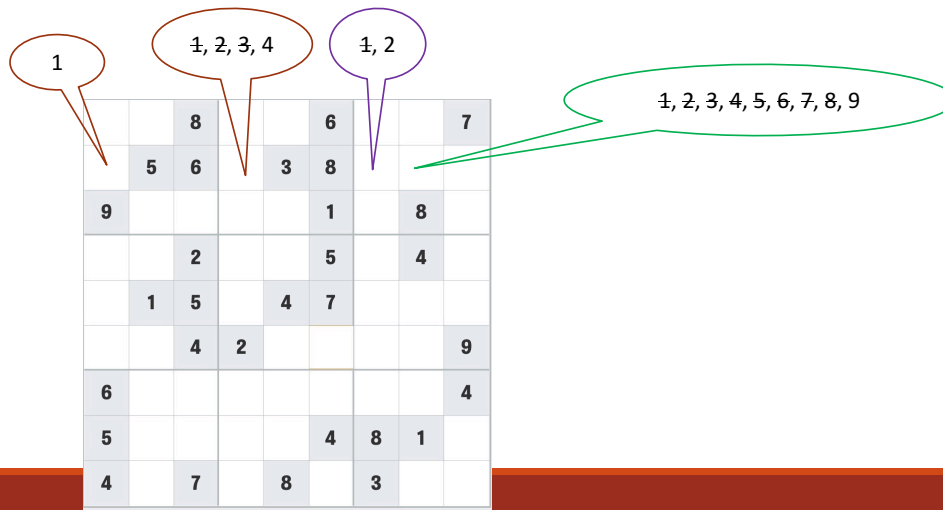
		8			6			7
	5	6		3	8			
9					1		8	
		2			5		4	
	1	5		4	7			
		4	2					9
6								4
5					4	8	1	
4		7		8		3		

For instructional purposes, we begin at row 2.

Playing Sudoku the Brute-Force way



Playing Sudoku the Brute-Force way



Playing Sudoku the Brute-Force way

1

1, 2, 3, 4

1, 2

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

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

- Once we reach 9 in the blue box, we need to backtrack to the prior position, i.e. the green box.
- There are no additional numbers in the green box beyond 9, so we backtrack to the purple box.

Playing Sudoku the Brute-Force way

1

1, 2, 3, 4

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

1, 2

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

- In the purple box, we will now choose 9.
- We will then start over in the green box
- 2 will work.
- We will run out of numbers in the blue box and backtrack all the way to the second red box.