

Find Possible Choices in a Sudoku Grid:

Sudoku is a single-player puzzle game in which the player “must insert the numbers one to nine into a grid consisting of nine squares subdivided into a further nine smaller squares in such a way that every number appears once in each horizontal line, vertical line, and square.”

Now given the below puzzle,

	A	B	C	D	E	F	G	H	I
1		4	6	3				7	9
2	7		3			6	4		
3			5					3	6
4		5				1	6		3
5	3	7		5	6	4	9		
6		6	9	8	2	3			7
7				6	3		7		
8						7	3	6	8
9	6	3	7		1	8		9	

There are some blocks left empty, where you need to place a correct number ranging from 1 to 9. Now if you consider 1A block, you can observe the following things:

- In the 1 row you have 4,6,3,7,9 values
- In A column you have 7,3,6 values
- In (1-3)x(A-C) (3 by 3 subgrid) you have 4,6,7,3,5

Now the possible values for 1A block is 1,2,8. Your task is to provide these possible values.

Now the above puzzle is given as the input in the following way:

Input : .463...797.3..64....5....36.5...16.337.5649...69823..7...63.7.....7368637.18.9.

Where “.” represents the blank block.

You need to print all the possible values for each blank block which is represented as block

Output :

128
58
25
1258
1289
129
589
1258
125
1289
1289
12479
4789
29
128
248
248
79
79
248
128
128
12
14
145
145
124589
124589
124589
2459
1245
1245
12459
12459
12459
2459
2459
245
245
245

You also need to validate the sudoku in the following ways:

- Make sure you have only 81 values in the input including the dots.

- Make sure no repeated values are there in any row, column and subgrid.

If the sudoku is already solved you will not find any missing blocks.

