

36. Valid Sudoku

Medium 5640 762 Add to List Share

Determine if a 9 x 9 Sudoku board is valid. Only the filled cells need to be validated **according to the following rules**:

1. Each row must contain the digits 1-9 without repetition.
2. Each column must contain the digits 1-9 without repetition.
3. Each of the nine 3 x 3 sub-boxes of the grid must contain the digits 1-9 without repetition.

- Note:
- A Sudoku board (partially filled) could be valid but is not necessarily solvable.
  - Only the filled cells need to be validated according to the mentioned rules.

Example 1:

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

Input: board =  
[["5","3",".",".","7",".",".",".","."],  
["6",".",".","1","9","5",".",".","."],  
[["9","8",".",".",".",".","6","."],  
["8",".",".","6",".",".",".","3"],  
["4",".",".","8",".","3",".",".","1"],  
["7",".",".","2",".",".",".","6"],  
[["6",".",".","2","8","."],  
[["4","1","9",".",".","5"],  
[["8",".",".","7","9"]]  
Output: true

Example 2:

Input: board =  
[["8","3",".",".","7",".",".",".","."],  
["6",".",".","1","9","5",".",".","."],  
[["9","8",".",".",".",".","6","."],  
["8",".",".","6",".",".",".","3"],  
["4",".",".","8",".","3",".",".","1"],  
["7",".",".","2",".",".",".","6"],  
[["6",".",".","2","8","."],  
[["4","1","9",".",".","5"],  
[["8",".",".","7","9"]]  
Output: false  
Explanation: Same as Example 1, except with the 5 in the top left corner being modified to 8. Since there are two 8's in the top left 3x3 sub-box, it is invalid.

Constraints:

- board.length == 9
- board[i].length == 9
- board[i][j] is a digit 1-9 or '.'.

```
1 class Solution {
2 public:
3     bool
4     isValidSudoku(vector<vector<char>>& board) {
5
6         vector<set<int>>
7         rows(9),
8         cols(9),
9         blocks(9);
10
11         for(int i=0; i<9; i++){
12             for(int j=0; j<9; j++){
13                 if
14                 (board[i][j] == '.')
15                 continue;
16
17                 int
18                 curr =
19                 board[i][j] - '0';
20
21                 if(rows[i].count(curr) ||
22                 cols[j].count(curr) ||
23                 blocks[(i/3)*3 + j/3].count(curr)){
24                     return false;
25                 }
26
27                 rows[i].insert(curr);
28                 cols[j].insert(curr);
29                 blocks[(i/3)*3 + j/3].insert(curr);
30             }
31         }
```

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Accepted Runtime:(4 ms

Your input 

[[["["["€["...

Output

Expected true