

Java → Basic syntax and simple programs → Arrays

Multi-dimensional array → Check sudoku

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Hard 32 minutes ?

Code Challenge — Write a program

Wow! This problem is kind of tricky. If you're ready to put your thinking cap on, brace yourself and good luck! Otherwise, you can skip it by now and return any time later

N-size sudoku is a game with a square table of N^2 width and height divided into N^2 smaller squares of N width and height. In a solved state, each of these smaller squares, as well as each row and column of a full square, contains all numbers from 1 to N^2 without repetition.

Given a number N on the first line and a full sudoku table on the next N^2 lines. Every line contains N^2 integers.

Your task is to determine whether this sudoku is solved or not. Output "YES" if this sudoku table is solved, otherwise "NO".

N can be from 1 to 10.

Hint

Here is an example of solved sudoku with squares, where the size of side N is 3.

N = 3

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

Sample Input 1:

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

Sample Output 1:

YES

Sample Input 2:

```
2
1 1 2 2
1 1 2 2
3 3 4 4
3 3 4 4
```

Sample Output 2:

NO

Sample Input 3:

```
1
1
```

Sample Output 3:

YES

Code Editor [IDE](#)

- ✓ IDE is responding IntelliJ IDEA 2020.1
- ✓ EduTools plugin is responding 3.6-2020.1-4714



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Ian Darby [10 days ago](#) [Report](#)

- Check for:
- 1) All elements of board are in range 1.. N^2
 - 2) Every row contains full range of numbers 1.. N^2

- 3) Every column contains full range of numbers $1..N^2$
- 4) Check the edge cases of $N=1$ and $N=10$
- 4) Every board is sub-divided in to a virtual array of N , $N \times N$ tiles such that:
 - Every $N \times N$ tile contains full range of numbers $1..N^2$

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User 5069765 14 days ago [Report](#)

Check for repeated elements: columns, rows, small squares: added elements to hashset and then compared the size of hashset with the size of column, row, or small square.

Check that no elements of sudoku more than given n .

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A **Abhishek** 16 days ago [Report](#)

Mathematics enthusiast:

Consider creating a formula to get the box location based on the current index in the array. Then based on the index value of an element (say i & j), check if the current row, column, or box has only one element copy.

If you are a seasoned developer: consider using the HashMap data structure.

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S **Spizami** 16 days ago [Report](#)

Don't panic! Take small steps.

First make sure your input is correct and that you can make an array of the correct size interchangeably.

Then figure out where you need to test. Make sure your test areas stay within the range of the array.

After that, figure out what you need to test for. Remember, if one thing is wrong, the whole thing is wrong. Everything must be true!

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UP **User P** about 1 month ago [Report](#)

smaller squares of "N" dimension must also be a valid sudoku.

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Igor Galan 6 months ago [Report](#)

To devs, and hint. Tests check if numbers $< N \times N$ but not if numbers ≥ 1 .

It was difficult task, and took me hours (I didn't understand the rules of the game at first), but I like it anyway.

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UP **User P** about 1 month ago [Report](#)

"but not if numbers > 1 ".

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