



Cavity Map

by Gera1d

Problem

Submissions

Leaderboard

Discussions

Editorial

Topics

You are given a square map of size $n \times n$. Each cell of the map has a value denoting its depth. We will call a cell of the map a *cavity* if and only if this cell is not on the border of the map and each cell adjacent to it has *strictly smaller depth*. Two cells are adjacent if they have a common side (edge).

You need to find all the cavities on the map and depict them with the uppercase character **X**.

Input Format

The first line contains an integer, n , denoting the size of the map. Each of the following n lines contains n positive digits without spaces. Each digit (1-9) denotes the depth of the appropriate area.

Constraints

$$1 \leq n \leq 100$$

Output Format

Output n lines, denoting the resulting map. Each cavity should be replaced with character **X**.

Sample Input

```
4
1112
1912
1892
1234
```

Sample Output

```
1112
1X12
18X2
1234
```

Explanation

The two cells with the depth of 9 fulfill all the conditions of the Cavity definition and have been replaced by X.

 Submissions: [41373](#)



Max Score: 30

Difficulty: Easy

Rate This Challenge:

Need Help?

[String Basics](#)

[More](#)Current Buffer (saved locally, editable)  Java 7 

```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         Scanner in = new Scanner(System.in);
11         int n = in.nextInt();
12         String[] grid = new String[n];
13         for(int grid_i=0; grid_i < n; grid_i++){
14             grid[grid_i] = in.next();
15         }
16     }
17 }
18
```

Line: 1 Col: 1

 [Upload Code as File](#)☐ Test against custom input[Run Code](#)[Submit Code](#)

Join us on IRC at [#hackerrank](#) on freenode for hugs or bugs.

[Contest Calendar](#) | [Blog](#) | [Scoring](#) | [Environment](#) | [FAQ](#) | [About Us](#) | [Support](#) | [Careers](#) | [Terms Of Service](#) | [Privacy Policy](#) | [Request a Feature](#)