



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The two cells with the depth of 9 fulfill all the conditions of the Cavity definition and have been replaced by X.

[in](#) [twitter](#) [facebook](#)

Related Topics



[String Basics](#)

Submissions: 31965

Max Score: 30

Difficulty: Easy

[Rate This Challenge:](#)

Current Buffer (saved locally, editable)  C# 

```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static void Main(String[] args) {
8         int n = Convert.ToInt32(Console.ReadLine());
9         string[] grid = new string[n];
10        for(int grid_i = 0; grid_i < n; grid_i++){
11            grid[grid_i] = Console.ReadLine();
12        }
13    }
14 }
15
```

Line: 1 Col: 1

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

Run Code

Submit Code

Copyright © 2016 HackerRank. All Rights Reserved

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](#)