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Cavity Map

 by [Gera1d](#)[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)[Editorial](#)[Topics](#)

Problem Statement

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The two cells with the depth of 9 fulfill all the conditions of the Cavity definition and have been replaced by X.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: 20143

Max Score: 30

Difficulty: Easy

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Current Buffer (saved locally, editable)  

Java 8   

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named
8         Solution. */
9     }
10 }
```

Line: 1 Col: 1

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Run Code

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