



The 2021 ICPC Southeast USA Regional Contest

Problem C Diagonals Time Limit: 10 Second(s)

Diagonals is a pencil puzzle which is played on a square grid. The player must draw a diagonal line corner to corner in every cell in the grid, either top left to bottom right, or bottom left to top right. There are two constraints:

- Some intersections of gridlines have a number from 0 to 4 inclusive on them, which is the exact number of diagonals that must touch that point.
- No set of diagonals may form a loop of any size or shape.

The following is a 5×5 example, with its unique solution:



Given the numbers at the intersections of a grid, solve the puzzle.

Input

The first line of input contains an integer n ($1 \le n \le 8$), which is the size of the grid.

Each of the next n + 1 lines contains a string s ($|s| = n + 1, s \in \{0, 1, 2, 3, 4, +\}^*$). These are the intersections of the grid, with '+' indicating that there is no number at that intersection.

The input data will be such that the puzzle has exactly one solution.



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Output

Output exactly n lines, each with exactly n characters, representing the solution to the puzzle. Each character must be either $\prime \prime \prime$ or $\prime \prime \prime$.

• Note that Sample 1 corresponds to the example in the problem description.

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Sample Input 1	Sample Output 1
5	
+1+2++	\/\\/
1++11+	
+3+2++	////\
02+++1	//\\\
++3+1+	
+1+++1	

Sample Input 2	Sample Output 2
3	/\/
++++	///
+1+1	/\/
+31+	
+0+0	

Sample Input 3	Sample Output 3
4	
+++++	
+3++2	
++3++	/\//
+3+3+	
++2+0	