4692   Vertical Sums

One of Buster's favorite pastimes (he usually does this while waiting for his dog biscuits to bake) is playing the game of vertical sums. To play the game, Buster writes all the numbers from 1 to 19, in order, into a grid. He places the numbers into the grid by starting at the cell in the upper left corner of the grid and works his way cell by cell, from left to right, across the row. Once he finishes the top row he moves to the row immediately below it and repeats the process. As he works his way through the grid he places numbers into some of the cells he visits along the way. Single digit numbers fit into single cells; however, two-digit numbers are placed into two adjacent cells in the same row. Other then to represent a two-digit number, digits cannot share an edge of a cell, horizontally or vertically.

An example of a correctly filled grid is shown below:

Buster's friend Arnie loves arithmetic and after Buster fills in one of his grids, Arnie computes the sum of the numbers in each column (in the grid above Arnie's sums appear below the grid in the row that is shaded gray). One day over dog biscuits Arnie suggests to Buster that another way to play the game would be to start out with the sums and then fill in the grid, using the same rules as before, so that sum of the digits in each column match the sums.

Heidi and Sammy, while waiting for the next set of dog biscuits, overhear this conversation. They decide that it is possible to write a program that, given the size of the grid and the sums, fills in the grid if possible. Once they settle on an algorithm they realize that between napping, protecting the house, and walking, they do not have time to write the program. So, they decide to outsource the project to you.

Input

Input to your program consists of positive integers, separated by white space. The first line contains two integers, r and c, the number of rows and columns of the grid to be filled (each ≤ 15). The second

line contains c integers — each is the sum of the digits in the corresponding column of the grid. (These sums add up to 100.)

Output

Your output is either a single line with 'No solution.' or the grid of digits, r lines with c characters each, where you represent each cell of the grid by a digit or a period.

Sample Input

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7 10
4 11 4 13 5 20 6 17 6 14
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Sample Output

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1.2.3.4.5.
...6.7.8.9
10........
..11..12..
13..14..15
..16..17..
18..19....
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