# 6277 Addictive Bubbles

Alice is a mobile game developer. She writes a new port of the Chain Shot! game (also known as SameGame, Jawbreaker, Bubble Shot, etc) called Addictive Bubbles.

The game is played on a rectangular board filled with color bubbles. On each turn player selects a group of adjacent bubbles of the same color. Selected bubbles are removed from the board. Bubbles that are no longer supported fall down. If there are empty columns, they are removed.

Selected group   Not supported bubbles   Empty columns   Final state
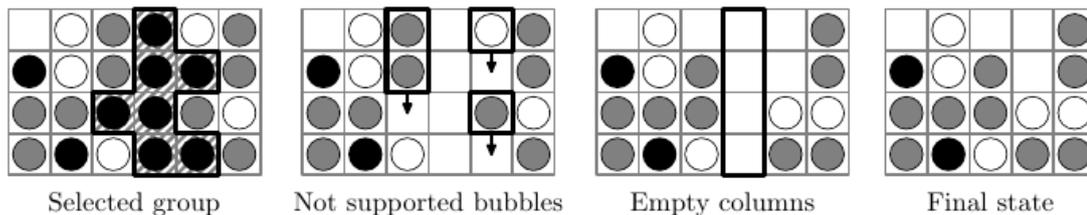
The number of points scored by the move is a square of the number of bubbles in the selected group. For the sample turn shown on the figure, 49 points are scored.

Turns are repeated until the board is empty. The total number of points is the sum of points scored on each turn.

The blueprint of the level consists of board dimensions and the number of bubbles of each color.

Your task is to help Alice write a bonus level generator. Given the blueprint, generator must produce a level that allows a skillful player to score the maximum possible number of points compared to all levels with the same blueprint.

Input

The input will contain several test cases, each of them as described below.

The input contains the blueprint.

The first line of the input contains three positive integers h, w and c — number of rows and columns of the board, and the number of colors ($1 \le h, w \le 10; 1 \le c \le 9$).

The second line of the input contains c positive integer numbers — the number of bubbles of each color. The total number of bubbles is $h \cdot w$.
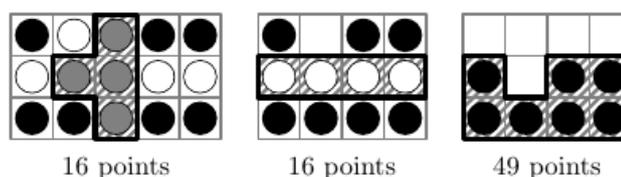
Output

For each test case, the output must follow the description below.

Output the designed level — a $h \times w$ matrix of characters. The bubbles of the first color must be denoted by '1', the second color — by '2', etc.

Note for the sample:

A sequence of turns, yielding the maximum possible number of points — 81:

16 points   16 points   49 points

Sample Input

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3 5 3
4 4 7
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Sample Output

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31233
12211
33233
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