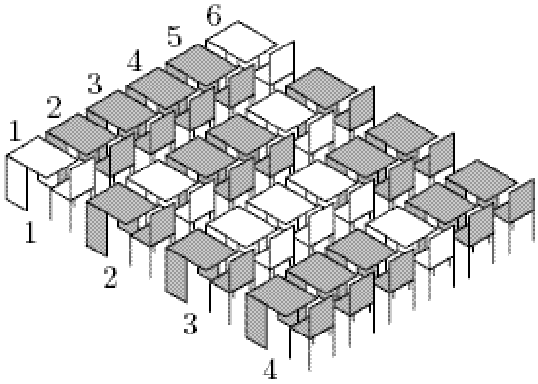
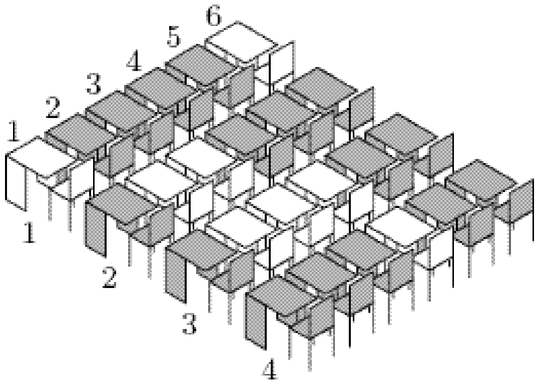
CLASS

Dr. Strange is a really strange lecturer. Each lecture he calculates class fullness and if it is small, he decreases all semester grades by one. So the students want to maximize the class fullness.

The *class fullness* is the minimum of row fullness and column fullness. The *column fullness* is the maximum number of students in a single column and the*row fullness* is the maximum number of students in a single row.

For example there are 16 students shown on the left picture (occupied desks are darkened). The *row fullness* of this arrangement is 5 (the 4-th row) and the*column fullness* is 3 (the 1-st, the 3-rd, the 5-th or the 6-th columns). So, the *class fullness* is 3. But if the students rearrange as shown on the right picture then the *column fullness* will become 4 (the 5-th column), and so the *class fullness* will also become 4.





The students of Dr. Strange need to know the arrangement that maximizes *class fullness* so they ask you to write a program that calculates it for them.

Input

The first line of the input file contains three integer numbers: *n*, *r* and *c (1 ≤ r, c ≤ 100, 1 ≤ n ≤ r × c.)* — number of students, rows and columns in the class.

Output

The first line of the output file must contain a single integer number — the maximum possible class fullness.

The following *r* lines must contain the optimal student arrangement. Each line must contain a description of a single row. Row description is a line of *c*characters either "." or "#", where "." denotes an empty desk, and "#" denotes an occupied one. If there are multiple optimal arrangements, output any one.

Examples

№	stdin	stdout
1	16 4 6	4 .####. #..### #...## ###.##