

Problem C. Character Grid

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 512 mebibytes

This is an output-only problem.

Your task is to build a square grid with side length $N \geq 13$ and fill it with lowercase English letters such that the following property is held.

Let us denote the character at i -th row and j -th column as $c_{i,j}$.

Consider $N^2 \cdot (N - 1)/2$ strings of the form $A_{i,j,p} = c_{i,j}c_{i,j+1} \dots c_{i,j+p}$ for every $1 \leq i \leq N$ and every $1 \leq j, p \leq N - 1$ such that $j + p \leq N$.

Consider also $N^2 \cdot (N - 1)/2$ strings of the form $B_{i,j,p} = c_{i,j}c_{i+1,j} \dots c_{i+p,j}$ for every $1 \leq j \leq N$ and every $1 \leq i, p \leq N - 1$ such that $i + p \leq N$.

All those $N^2 \cdot (N - 1)$ strings have to be pairwise distinct.

Input

There is no input.

Output

Print the answer in the following format: first print the N ($13 \leq N \leq 100$). Then print the square grid as N lines; i -th line shall contain one string of N characters, representing the i -th row of the grid.

If there are several correct solutions, any one of them will be accepted.

Example

standard input	standard output
	4 petr ozav odsk camp

Note

For the answer from the sample, the grid property is held, but the grid size is too small to be accepted as a solution.