A. Coder

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Iahub likes chess very much. He even invented a new chess piece named Coder. A Coder can move (and attack) one square horizontally or vertically. More precisely, if the Coder is located at position (x, y), he can move to (or attack) positions $(x + 1, y)$, $(x–1, y)$, $(x, y + 1)$ and $(x, y–1)$.

Iahub wants to know how many Coders can be placed on an $n \times n$ chessboard, so that no Coder attacks any other Coder.

Input

The first line contains an integer n $(1 \leq n \leq 1000)$.

Output

On the first line print an integer, the maximum number of Coders that can be placed on the chessboard.

On each of the next n lines print n characters, describing the configuration of the Coders. For an empty cell print an '`.`', and for a Coder print a '`C`'.

If there are multiple correct answers, you can print any.

Examples

input
2

output
2 C. .C