Problem G. Rectangle-free Grid

Input file:	*no input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

Construct an $N \times N$ grid with the following conditions:

- $2 \leq N \leq 150$
- Each cell is filled with either '`O`' or '`.`'.
- There are at least 1700 cells with '`O`'.
- For each tuple of four integers i, j, k, l such that $1 \leq i < j \leq N$ and $1 \leq k < l \leq N$, at least one of the four cells (i, k), (i, l), (j, k), (j, l) is filled with '`.`'.

Input

There is no input.

Output

The first line should contain an integer N. The following N lines should contain N characters each ('`O`' or '`.`'), and these N lines describe the grid.

Example

no input	standard output
	5 ....OOO ...O. ..O..

Note

Output for this example satisfies all conditions but the third (number of '`O`' in the grid).