Problem B. Guess Matrix

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	256 megabytes

Your goal is to guess a hidden matrix $n \times n$ consisting of zeros and ones, using at most $5n^2$ queries. In each query you can ask whether a matrix of your choice occurs as a contiguous submatrix of the hidden matrix.

The interactor in this problem is **not adaptive**, that is, the matrix is fixed before the interaction starts and doesn't change over time.

Interaction Protocol

At the start of interaction your program receives one integer n from the jury's interactor ($1 \le n \le 60$).

To ask a query about an $a \times b$ submatrix, print a line "`?` a b", followed by a lines containing rows of the matrix. Each row has to contains b characters, each "`0`" or "`1`, without spaces. The jury's interactor will reply with a line "`1`" if your matrix occurs as a contiguous submatrix of a hidden matrix, or with a line "`0`" otherwise.

If the number of `?`-queries exceeds $5n^2$, the jury's interactor prints a line "`-1`" instead of answering the last `?`-query. In that case, your program should terminate immediately, otherwise the judging verdict will be undefined.

To end the interaction, your program has to print a line "`!`", followed by n lines containing rows of the hidden matrix, in the same format as above. After this, your program should terminate immediately.

Example

standard input	standard output
2 1 1 1 0 1 0 1	 ? 1 1 0 ? 1 2 00 ? 1 1 1 ? 1 2 01 ? 1 2 11 ? 2 2 00 11 ? 2 2 11 00 ! 2 2 11 00

Note

Extra line breaks in the sample are given to illustrate the order of interaction, and should not be present in your output, nor would be present in interactor's output.