

Problem E. Guess Table

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

Jury has created a $n \times m$ matrix A consisting of zeroes and ones. You should guess it.

In order to do that you can send no more than 200 queries. At the end you should print the desired matrix.

Each query is described by the matrix B of size $a \times b$ ($1 \leq a \leq n, 1 \leq b \leq m$) consisting of zeroes, ones and questions. The answer to the query is 1 if the matrix A contains continuous submatrix that corresponds to the given pattern B . Otherwise the answer will be equal to 0.

Formally the answer will be equal to 1 if and only if exists some values (i, j) ($1 \leq i \leq n - a + 1, 1 \leq j \leq m - b + 1$), so for each (x, y) ($1 \leq x \leq a, 1 \leq y \leq b$) B_{xy} is a question or $B_{xy} = A_{i+x-1, j+y-1}$.

Also there is another restriction for the query matrix B : there should be no row and no column fully consisting of questions.

Note the problem is interactive, so you should flush your output after each query and at the end of the guess. To do that use function `fflush(stdout)` in C++ language and `PrintWriter.flush()` in Java language.

Input

You are given two integers n and m ($1 \leq n, m \leq 13$) — the size of the matrix to guess.

Output

At the end you should print a line with a string `"Answer:"` (without quotes) on the first line. After that print n lines with m symbols `"0"` and `"1"` — the desired matrix. Don't forget to flush you output after that.

Interaction Protocol

On the first line of each your query print a string `"Query:"` (without quotes) and two integers a, b ($1 \leq a \leq n, 1 \leq b \leq m$) — the size of the submatrix. After that print a lines with b symbols `"0"`, `"1"` and `"?"`. Don't forget to flush you output after that.

After each query you will get an answer — a single line with number 1 if the desired matrix contains given submatrix and 0 otherwise.

Example

standard input	standard output
2 3	Query: 2 1 0 0
1	Query: 1 2 01
1	Query: 2 2 01 0?
1	Query: 2 3 101 ??0
0	Answer: 101 001