Problem I. Interactive Array Guessing

Time limit: 3 seconds
Memory limit: 512 megabytes

This is an interactive problem.

Jury has prepared n non-empty integer arrays $a_1, a_2, \ldots, a_n$. Each array consists of at most 10 positive integers not exceeding 1000. The elements of each array are pairwise distinct.

You can make queries of the following kind: choose several indices $q_1, q_2, \ldots, q_m$, where $1 \le m \le n$ and $1 \le q_i \le n$. These indices do not have to be distinct. The testing system tells you the contents of arrays $a_{q_1}, a_{q_2}, \ldots, a_{q_m}$ in the same order. However, these contents are concatenated without any delimeters.

Your task is to find the contents of all n arrays.

Interaction Protocol

First, the testing system writes the integer n — the number of arrays ($1 \le n \le 1000$).

Your solution shall print requests of two types:

- "`?` $m\ q_1\ q_2\ \ldots\ q_m$" corresponds to a query about the contents of arrays $a_{q_1}, a_{q_2}, \ldots, a_{q_m}$. The testing system responds with the total length of these arrays, followed by the contents of array a_{q_1}, followed by the contents of array a_{q_2}, ..., followed by the contents of array a_{q_m}.
- "`!` $k_1\ a_{1,1}\ \ldots\ a_{1,k_1}\ \ldots\ k_n\ a_{n,1}\ \ldots\ a_{n,k_n}$" tells that your program has determined the contents of all the arrays, where k_i is the length of array a_i. The request is formed by the length of array a_1, followed by the contents of array a_1, followed by the length of array a_2, followed by the contents of array a_2, ..., followed by the length of array a_n, followed by the contents of array a_n.

Don't forget to flush the output after each request!

Your solution must issue exactly one request of the second type. It must be the last request, and the solution must terminate gracefully after issuing it.

Your solution is allowed to issue at most 20 requests of the first type.

Example

standard input	standard output
3 5 1 1 2 2 1 4 1 2 1 1 2 1 2	 ? 3 1 2 3 ? 3 1 3 1 ? 1 2 ! 1 1 2 1 2 2 2 1