Problem K. Interactive Algorithm

Input file:	*standard input*
Output file:	*standard output*
Time limit:	5 seconds
Memory limit:	256 mebibytes

This is an interactive problem.

I have a hidden permutation $p_1, p_2, \ldots, p_n$. You are to guess it.

You can make some queries. In one query you tell me a permutation $q_1, q_2, \ldots, q_n$ of length n, and I reply you with *similarity* of permutations p and q.

The *similarity* of two permutations is defined as follows. Let $w_1, w_2, \ldots, w_n$ be a permutation, then define $N(w)$ as the set of unordered pairs of adjacent elements in w. For example, $N([4,1,3,2]) = \{\{1,4\},\{1,3\},\{2,3\}\}$. This way, the *similarity* of p and q is the size of $N(p) \cap N(q)$.

You can make at most 25 000 queries. Note that no *algorithm* in the world can distinguish between p and reversed p, so both of these permutations will be accepted as correct answer.

This time I will not mess with you and **will not** change the hidden permutation. Though I could. You should be thankful, really.

Input

Initially you get a single line with a single integer n ($2 \le n \le 400$) — the size of the hidden permutation.

Output

When you know the hidden permutation, print an exclamation mark "`!`" and then n integers $p_1, p_2, \ldots, p_n$, or $p_n, p_{n-1}, \ldots, p_1$.

This does not count towards query limit.

Interaction Protocol

To make a query, print a question mark "`?`" and then n distinct integers $q_1, q_2, \ldots, q_n$ on a single line ($1 \le q_i \le n$).

In response read one integer s ($0 \le s < n$) on a single line, the similarity of p and q.

Do not forget to print end of line and flush your output after each query. You can make at most 25 000 queries.

Example

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