Problem B. Guess by Remainder

Input file:	*standard input*
Output file:	*standard output*
Time limit:	7 seconds
Memory limit:	512 mebibytes

This is an interactive problem.

We have chosen an integer m between 1 and n. Your task is to guess it, and you have to do no more queries than necessary for this n. Each of your queries must be an integer which has no more than n digits in its decimal notation. The answer to query x is the remainder $x \bmod m$.

Input

In the beginning, your program will receive one integer n ($1 \le n \le 10^6$).

Then your program will receive the answers to the queries. Each answer is an integer.

Output

Your program can make queries in the form "`?` *number*". When you think you know the answer, you should print "`!` *guess*", and then terminate your program immediately. Don't forget to output the line break and flush the output. To do so, you can use the following instructions:

- `fflush(stdout)` in C++;
- `System.out.flush()` in Java;
- `stdout.flush()` in Python;
- `flush(output)` in Pascal.

Examples

standard input	standard output
2 1	? 79 ! 2
3 0 0 0	? 42 ? 777 ? 8 ! 1

Note

You are not prohibited to output leading zeroes, but the checking program counts them when determining the length of the number. For example, if $n = 3$, query "001" is valid, but "0001" is invalid.

The second sample just demonstrates the interaction format, guessing can be done in smaller number of queries.