

## A. DZY Loves Hash

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

DZY has a hash table with  $p$  buckets, numbered from  $0$  to  $p - 1$ . He wants to insert  $n$  numbers, in the order they are given, into the hash table. For the  $i$ -th number  $x_i$ , DZY will put it into the bucket numbered  $h(x_i)$ , where  $h(x)$  is the hash function. In this problem we will assume, that  $h(x) = x \bmod p$ . Operation  $a \bmod b$  denotes taking a remainder after division  $a$  by  $b$ .

However, each bucket can contain no more than one element. If DZY wants to insert an number into a bucket which is already filled, we say a "conflict" happens. Suppose the first conflict happens right after the  $i$ -th insertion, you should output  $i$ . If no conflict happens, just output  $-1$ .

### Input

The first line contains two integers,  $p$  and  $n$  ( $2 \leq p, n \leq 300$ ). Then  $n$  lines follow. The  $i$ -th of them contains an integer  $x_i$  ( $0 \leq x_i \leq 10^9$ ).

### Output

Output a single integer — the answer to the problem.

### Examples

input
10 5 0 21 53 41 53
output
4
input
5 5 0 1 2 3 4
output
-1

### Codeforces Round #FF (Div. 2)

Finished

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Start virtual contest

### → Problem tags

implementation

No tag edit access

### → Contest materials

- Announcement 
- Tutorial 