

CCC '14 S1 - Party Invitation

Canadian Computing Competition: 2014 Stage 1, Junior #4, Senior #1

You are hosting a party and do not have room to invite all of your friends. You use the following unemotional mathematical method to determine which friends to invite.

Number your friends $1, 2, \dots, K$ and place them in a list in this order. Then perform m rounds. In each round, use a number to determine which friends to remove from the ordered list.

The rounds will use numbers r_1, r_2, \dots, r_m . In round i remove all the remaining people in positions that are multiples of r_i (that is, $r_i, 2r_i, 3r_i, \dots$) The beginning of the list is position 1.

Output the numbers of the friends that remain after this removal process.

Input Specification

The first line of input contains the integer K ($1 \leq K \leq 100$). The second line of input contains the integer m ($1 \leq m \leq 10$), which is the number of rounds of removal. The next m lines each contain one integer. The i^{th} of these lines ($1 \leq i \leq m$) contains r_i ($2 \leq r_i \leq 100$) indicating that every person at a position which is multiple of r_i should be removed.

Output Specification

The output is the integers assigned to friends who were not removed. One integer is printed per line in increasing sorted order.

Sample Input

```
10
2
2
3
```

Output for Sample Input

```
1
3
7
9
```

Explanation of Output for Sample Input

Initially, our list of invitees is `{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}`. There will be two rounds of removals. After the first round of removals, we remove the even positions (i.e., every second position), which causes our list of invitees to be `{1, 3, 5, 7, 9}`. After the second round of removals, we remove every 3rd remaining invitee: thus, we keep 1 and 3, remove 5 and keep 7 and 9, which leaves us with an invitee list of `{1, 3, 7, 9}`.