FEASTOFPIGS

The pig's are having a feast tonight!! There are *N* momos numbered from 0 to *N-1*. They are all arranged in a row on a table. Also *K* pigs are attending the feast. The j^{th} pig has hunger *a[j]*. A pig with hunger *a[j]* only eats all momos with number i such that when *i* is divided by *a[j]*, the remainder is 0. For example, if there are 20 momos and a pig has hunger 3, then the pig will eat momos at position 0,3,6,9,12,15,18. **Once a momo at a particular position is eaten by one pig, it cannot be eaten by a different pig.**

You're task is simple, given the number of momos, and hunger of *K* pigs, find the total number of momos left after the feast.

Input

The first line of the input contains two integers N and *K*, where *N* is the number of momos and K is the number of pigs. Lines 2,3,...,K+1 describe the hunger of *K* pigs. Line *i+1 (1 ≤ i ≤ K)* contains a single integer representing the hunger of the i^{th} pig(i.e. *a[i]*).

It is guaranteed that:

Either ($1 \le N \le 10^6$ and $1 \le K \le 100$) or ($1 \le N \le 10^{14}$ and $1 \le K \le 20$)

The hunger of every pig lies between 1 and N.

Output

A line containing a single integer, which is the number of momos left on the table after all pigs have finished eating.

Example

Input:
20 3
3
6
5

Output:
11