Algorithmen und Wahrscheinlichkeit
Programming Exercises

Exercise 1 – *Count the Divisors*

You are given a set of k natural numbers and you want to know how many numbers between 1 and 10^{10} (both included) can't be divided by *any* of those k numbers.

Input   The first line of the input contains the number $t \leq 30$ of test cases. Each of the t test cases is described as follows.

- It starts with a line that contains a single integer k, such that $1 \leq k \leq 10$.

- The following line contains k natural numbers $a_0 \ \ldots \ a_{k-1}$, separated by a space, such that $1 \leq a_i \leq 2^{31} - 1$, for all $i \in \{0, \ldots, k-1\}$.

Output   For each test case output one line containing one integer denoting how many numbers between 1 and 10^{10} are not divided by any of the a_i.

Points   There are two groups of test sets, worth 100 points in total.

1. For the first group of test sets, worth 50 point, you may assume that all a_i's are pairwise coprime.

2. For the second group of test sets, worth 50 point, there are no additional assumptions.

Sample Input

```
2
3
2 3 5
2
2 2
```

Sample Output

```
2666666666
5000000000
```