

Number of divisors

In a class the teacher gave all the acm icpc aspirants a challenge on number theory. They could not solve it so they need your help. Help the students to solve this task.

The task that you will be given a number N . You have to calculate the number of positive integral divisors of that number.

(1 and N are considered to be the divisors of N)

Input

There are T test cases. ($1 \leq T \leq 102$).

First you will be given the number T . then T numbers follow.

(numbers are space separated)

next line contains T numbers N ($1 \leq N \leq 10^{18}$).

Output

In each line print the number of divisors of a number N .

Example

Input:

3

6 24 100

Output:

4

8

9