E. Number Transformation II

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given a sequence of positive integers $x_1, x_2, ..., x_n$ and two non-negative integers a and b. Your task is to transform a into b. To do that, you can perform the following moves:

- subtract 1 from the current a;
- subtract a mod x_i $(1 \le i \le n)$ from the current a.

Operation a mod x_i means taking the remainder after division of number a by number x_i.

Now you want to know the minimum number of moves needed to transform a into b.

Input

The first line contains a single integer n $(1 \le n \le 10^5)$. The second line contains n space-separated integers $x_1, x_2, ..., x_n$ $(2 \le x_i \le 10^9)$. The third line contains two integers a and b $(0 \le b \le a \le 10^9, a - b \le 10^6)$.

Output

Print a single integer — the required minimum number of moves needed to transform number a into number b.

Examples

input
3 3 4 5 30 17

output
6

input
3 5 6 7 1000 200

output
206