



Problem D. Mr. Guan in the convenience store

TimeLimit: 0.3 seconds
MemoryLimit: 256 megabytes

You run a small convenience store. Every day, you handle a fixed inventory list, including fresh produce, cookies, and other items. The list contains n items, and the i -th item costs a_i units to add to the inventory.

While you're busy organizing the inventory, a mysterious regular customer, Mr. Guan, always appears and strikes up a conversation. He looks at you curiously and asks : "Hey, if I give you a number c , can you tell me how many costs a_i on your inventory list are coprime with it?"

You find his question strange, but you don't want to be rude. So you decide to answer him carefully and accurately, while also doing it quickly to avoid delaying your inventory work.

Your task is : "For each number c given by Mr. Guan, calculate how many costs a_i in your inventory list are coprime with c ." Here, two numbers a, b are coprime if their greatest common divisor is 1 ($\gcd(a, b) = 1$).

For example, suppose your costs on the inventory list is: $a = [2, 7, 9, 4, 13]$ and Mr. Guan asks for $c = 8$. In this case, there are three costs on the inventory list that is coprime with 8 are 7, 9, and 13.

Input

The first line contains two integers n and q — representing the number of items on the inventory list and the number of queries Mr. Guan will ask.

The second line contains n integers $a_1 \dots a_n$, where a_i represents the costs of i -th item on the inventory list.

Each of the following q lines contains a single integer c_j , which is the value Mr. Guan asks about in his j -th query.

- $1 \leq n, q \leq 2 \cdot 10^5$
- $1 \leq a_i \leq 10^6$, for all $1 \leq i \leq n$
- $1 \leq c_j \leq 10^6$, for all $1 \leq j \leq q$

Output

For each query c_j , output one integer — the count of costs on the inventory list that are coprime with c_j .

Examples

standard input	standard output
5 2 2 7 9 4 13 8 14	3 2
6 3 10 20 30 40 50 60 15 2 7	0 0 6
5 3 9982 44 353 199999 1 114 514 2025	3 3 5