

Hot Dog

Problem ID: hotdog

In today's hot dog eating contest, there are n hot dogs. The hot dogs on the floor in a line in front of the contestant and each hot dog has a different length, where a_i is the length of the i^{th} hot dog (in metres) in front of the contestant (a_1 is the hot dog closest to the contestant and a_n is the furthest).

There are m people the hot dog eating contest. Each person will get the same hot dogs in the same order in front of them, and must eat them sequentially (in order of closest to furthest).



Unfortunately, each contestant only has a limited stomach size, s_i , representing the amount of metres worth of hot dogs they can eat. You know that each contestant will fill their stomach as much as they can so that the amount of metres of hot dogs they eat is less than or equal to their stomach size.

Determine for each contestant the maximum amount of hot dogs they can eat.

Input

- The first line of input will contain two space-separated integers n and m respectively.
- The next line will contain n space-separated integers, the i^{th} of which representing a_i ($0 < a_i, s_i \leq 10^9$).
- The next m lines will contain one integer each, the i^{th} line containing s_i , representing the stomach size of the i^{th} contestant.

Output

- Output m lines, the i^{th} line representing the maximum number of hot dogs the i^{th} contestant can eat.

Constraints

- $0 < n \leq 10^5$
- $0 < m \leq 10^5$

Sample Input 1

```
7 4
4 1 2 1 4 3 6
4
3
7
9
```

Sample Output 1

```
1
0
3
4
```

Sample Input 2

```
10 4
4 29 4 2 3 4 1 9 9 4
2
33
100
39
```

Sample Output 2

```
0
2
10
4
```