

A. Alfajores

time limit per test: 1 second
memory limit per test: 1024 megabytes

Seba is the manager of the Paper Airplanes Workshop (TAP, the acronym in Spanish), a very large company dedicated to the art of origami. TAP has a very large building with M offices. In the i -th office, there are E_i employees working.

Due to the high demand for their product, Seba travels constantly. When he returns from his trips, he usually brings a large box of alfajores to share with his employees.

To distribute them, he visits each of the M offices of the company in order, from 1 to M .

When he arrives at the i -th office, he distributes as many alfajores as possible equally among the E_i employees of the office. After distributing them, he takes the box with the remaining alfajores and moves on to the next office.

Once he has visited all the offices, he sits at his desk and enjoys the remaining alfajores.

Seba is afraid of overindulging in sweets, so he needs to know how many alfajores he has consumed. The problem is that he does not keep track of the amount left in the box after each distribution corresponding to each trip. Luckily, he has the N tickets corresponding to the alfajores purchases, and since he knows how many people work in each office, he is sure that you can calculate those quantities for him.

Input

The first line contains two integers N and M ($1 \leq N, M \leq 10^5$), representing the number of trips Seba made and the number of offices in TAP.

The second line contains N integers A_1, A_2, \dots, A_N ($1 \leq A_i \leq 10^9$), where A_i is the number of alfajores Seba bought on the i -th trip.

Finally, the third line contains M integers E_1, E_2, \dots, E_M ($1 \leq E_i \leq 10^9$), where E_i is the number of people working in the i -th office.

Output

A single line with N integers, the quantities of alfajores that remained in the box after the distribution corresponding to each of Seba's trips.

Examples

input	Copy
3 3 140 79 5 90 42 5	
output	Copy
3 2 0	

input	Copy
10 8 120 456 7458 84 123 84 213 185 987 654 97 73 61 41 52 23 11 7	
output	Copy
0 0 2 0 3 0 1 4 6 0	

Note

In the first example, Seba brings 79 alfajores on the second trip and when passing through the first floor, as there is not enough for each employee to take one, none of them receive alfajores. When passing through the second floor, each one takes 1 alfajor, leaving 37 in the box. Finally, he arrives at the third floor where each employee takes 7, leaving 2 alfajores for Seba.


2023 Argentinian Programming Tournament (TAP)

Finished

Practice

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Torneo Argentino de Programacion

→ Virtual participation

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Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win)

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
315819382	Apr/16/2025 14:02	Accepted

→ Contest materials

Announcement (en)

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