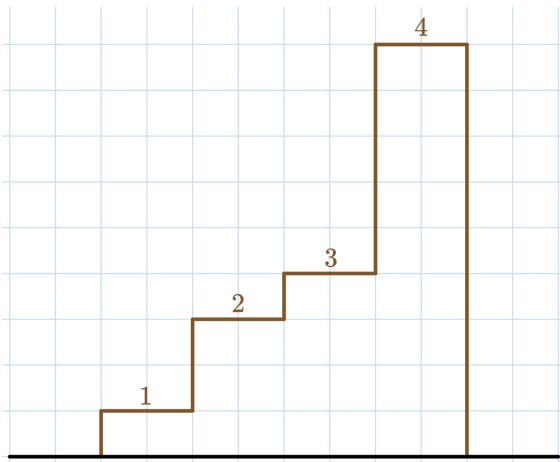


PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS STANDINGS CUSTOM INVOCATION

E. Scuza

time limit per test: 3 seconds
memory limit per test: 256 megabytes

Timur has a stairway with n steps. The i -th step is a_i meters higher than its predecessor. The first step is a_1 meters higher than the ground, and the ground starts at 0 meters.



The stairs for the first test case.

Timur has q questions, each denoted by an integer k_1, \dots, k_q . For each question k_i , you have to print the maximum possible height Timur can achieve by climbing the steps if his legs are of length k_i . Timur can only climb the j -th step if his legs are of length at least a_j . In other words, $k_i \geq a_j$ for each step j climbed.

Note that you should answer each question independently.

Input

The first line contains a single integer t ($1 \leq t \leq 100$) — the number of test cases.

The first line of each test case contains two integers n, q ($1 \leq n, q \leq 2 \cdot 10^5$) — the number of steps and the number of questions, respectively.

The second line of each test case contains n integers ($1 \leq a_i \leq 10^9$) — the height of the steps.

The third line of each test case contains q integers ($0 \leq k_i \leq 10^9$) — the numbers for each question.

It is guaranteed that the sum of n does not exceed $2 \cdot 10^5$, and the sum of q does not exceed $2 \cdot 10^5$.

Output

For each test case, output a single line containing q integers, the answer for each question.

Please note, that the answer for some questions won't fit into 32-bit integer type, so you should use at least 64-bit integer type in your programming language (like `long long` for C++).

Example

input	Copy
3 4 5 1 2 1 5 1 2 4 9 10 2 2 1 1 0 1 3 1 1000000000 1000000000 1000000000 1000000000	
output	Copy
1 4 4 9 9 0 2 3000000000	

Note

Consider the first test case, pictured in the statement.

- If Timur's legs have length 1, then he can only climb stair 1, so the highest he can reach is 1 meter.
- If Timur's legs have length 2 or 4, then he can only climb stairs 1, 2, and 3, so the highest he can reach is $1 + 2 + 1 = 4$ meters.
- If Timur's legs have length 9 or 10, then he can climb the whole staircase, so the highest he can reach is $1 + 2 + 1 + 5 = 9$ meters.

In the first question of the second test case, Timur has no legs, so he cannot go up even a single step. : (

Codeforces Round 827 (Div. 4)

Finished

Practice

Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

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
230148484	Oct/28/2023 12:54	Accepted

Problem tags

binary search greedy math *1200

No tag edit access

Contest materials

Announcement (en)

Tutorial (en)