22/01/2022, 15:21 Problem - B - Codeforces

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B. Red and Blue

time limit per test: 2 seconds memory limit per test: 512 megabytes input: standard input

output: standard output

Monocarp had a sequence a consisting of n+m integers a_1,a_2,\ldots,a_{n+m} . He painted the elements into two colors, red and blue; n elements were painted red, all other m elements were painted blue.

After painting the elements, he has written two sequences r_1, r_2, \ldots, r_n and b_1, b_2, \ldots, b_m . The sequence r consisted of all red elements of a in the order they appeared in a; similarly, the sequence b consisted of all blue elements of a in the order they appeared in a as well.

Unfortunately, the original sequence was lost, and Monocarp only has the sequences r and b. He wants to restore the original sequence. In case there are multiple ways to restore it, he wants to choose a way to restore that maximizes the value of

$$f(a) = \max(0, a_1, (a_1 + a_2), (a_1 + a_2 + a_3), \dots, (a_1 + a_2 + a_3 + \dots + a_{n+m}))$$

Help Monocarp to calculate the maximum possible value of f(a).

Input

The first line contains one integer t ($1 \le t \le 1000$) — the number of test cases. Then the test cases follow. Each test case consists of four lines.

The first line of each test case contains one integer n ($1 \le n \le 100$).

The second line contains *n* integers r_1, r_2, \ldots, r_n (-100 $\leq r_i \leq$ 100).

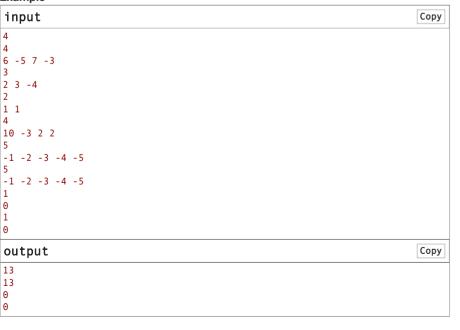
The third line contains one integer m ($1 \le m \le 100$).

The fourth line contains m integers b_1, b_2, \ldots, b_m ($-100 \le b_i \le 100$).

Output

For each test case, print one integer — the maximum possible value of f(a).

Example



Note

In the explanations for the sample test cases, red elements are marked as **bold**.

Educational Codeforces Round 101 (Rated for Div. 2)

Finished

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In the first test case, one of the possible sequences a is [6, 2, -5, 3, 7, -3, -4].

In the second test case, one of the possible sequences a is [10, 1, -3, 1, 2, 2].

In the third test case, one of the possible sequences a is

$$[-1, -1, -2, -3, -2, -4, -5, -3, -4, -5].$$

In the fourth test case, one of the possible sequences a is $[0, \mathbf{0}]$.

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