

Mango Seller

Mr. Fotka is a mango seller. Recently he noticed that he is losing some of his regular customers. The reason is the mangoes he sells contain formalin. So for increasing customers he decided to offer something. Also he has a least target quantity of selling mangoes in a day. The customer who meets the target, gets some extra mangoes.

He had n customers today, numbered 1 through n . Given the quantity of mango each customer bought and the target quantity of Mr. Fotka. You have to find the lucky customer who wins some extra mangoes.

Input

First line contains two integers n and m ($1 \leq n, m \leq 10^5$) – the number of customers in that day and the number of queries.

The following line contains n integers q_1, q_2, \dots, q_n ($1 \leq q_i \leq 10^4$) – where q_i is the quantity that the i^{th} customer bought.

Each of next m lines contains an integer t ($1 \leq t \leq 10^9$) – the target quantity of the day.

Output

For each query print the customer number who wins extra mangoes or -1 if no one gets the offer.

Sample Input	Sample Output
5 3	3
1 2 1 3 4	2
4	-1
2	
15	

In the first query, 3rd customer meets the target ($1 + 2 + 1 = 4$).