Problem E. Funny Riding

Time limit 700 ms
Memory limit 256MB

Problem Description

In order to participate in 515504, Biaz needs to ride his motorcycle from his home to NYCU. The distance from his home to NYCU can be represented on a number line, with Biaz's home at point 0 and NYCU at point M.

Because the journey is very long, Biaz must refuel on the way; otherwise, he will face the embarrassing situation of having to push his motorcycle when it runs out of fuel. There are n gas stations along the way, with the i-th gas station located at point c_i. Additionally, due to fierce competition, each gas station has a different fuel price, and filling up the tank at each gas station costs a_i dollars.

Moreover, whenever Biaz needs to refuel, he will always fill up the tank completely—there is no situation where he will only refuel partially. Each time he refuels, he must pay a_i dollars at the gas station.

Biaz starts his journey from home with a full tank of fuel, and once the tank is full, it can cover a distance of x. Given all the above information, can Biaz reach NYCU without running out of fuel? If so, what is the minimum amount of money he needs to spend on refueling?

Input format

The first line of the input contains three positive integers n, M, and x ($1 \leq n \leq 10^6, 1 \leq x \leq M \leq 10^{18}$), representing the number of gas stations, the location of NYCU, and the maximum distance the motorcycle can travel on a full tank of fuel.

The second line contains n positive integers $a_1, a_2, \ldots, a_n$ ($1 \leq a_i \leq 10^9$), representing the cost of filling up the tank at each gas station.

The third line contains n positive integers $c_1, c_2, \ldots, c_n$ ($0 < c_1 < c_2 < \cdots < c_n < M$), representing the positions of each gas station on the number line.

Output format

If Biaz cannot reach NYCU, please output `-1`. Otherwise, please output the minimum amount of money Biaz needs to spend on refueling.

Subtask score

Subtask	Score	Additional Constraints
1	10	$n \leq 20, x \leq 1000$
2	26	$n \leq 3000$
3	25	$a_i = 1$
4	39	No constraints

Sample

Sample Input 1

```
5 6 3
4 8 7 6 3
1 2 3 4 5
```

Sample Output 1

```
7
```

Sample Input 2

```
5 10 3
6 5 5 3 6
1 3 7 8 9
```

Sample Output 2

```
-1
```

Notes

- In the first sample test, Biaz refuels at the 3rd gas station, and it can be proven that this results in the least amount of money spent.
- In the second sample test, even if Biaz refuels at the 2nd gas station, his motorcycle will run out of fuel before reaching the 3rd gas station. So sad.