Problem ID: monopoly

In One Road City the grocery store chain *Great Buy* has a monopoly. As the city's name implies, it conveniently consists of only Smith Street, a single street forming a straight line. There are k houses along the street with given coordinates. There are also n grocery stores belonging to chain *Great Buy*.

The grocery chain *Bestworld* wants to break the monopoly and you, as regional manager, are sanctioned to open up to m stores in the city.

Studies show that shoppers are lazy and will always go to the store closest to their home. If the distance is equal, they will go to the store they are more familiar with (in our case *Great Buy*).

With an optimal placement of stores, how many households can you win as new customers?

You may place stores anywhere, including already occupied or non-integer coordinates.

> **Did you know that . . . ?**
>
> . . . the famous board game *Monopoly* has its roots in an early 20th century precursor called *The Landlord's Game*, which was created by Lizzie Magie and intended to be social criticism?

Input

The input consists of:

- One line with three integers k, n and m ($1 \leq k, n, m \leq 10^6$ and $k + n + m \leq 10^6$), where k is the number of houses, n is the number of stores belonging to *Great Buy*, and m is the number of stores chain *Bestworld* can open.
- One line with k integers $h_1, \ldots, h_k$ ($0 \leq h_i \leq 10^6$ for each i), the positions of the houses.
- One line with n integers $b_1, \ldots, b_n$ ($0 \leq b_i \leq 10^6$ for each i), the positions of *Great Buy* stores.

No two entities in the input (stores or houses) are at the same position.

Output

Output the number of houses that are closer to a *Bestworld* store than to a *Great Buy* store if you place the stores optimally.

Sample Input 1	Sample Output 1
10 2 2 1 3 4 5 6 7 8 9 11 12 2 10	7

Sample Input 2	Sample Output 2
10 2 2 1 2 3 4 6 7 8 9 21 22 5 10	7

Sample Input 3	Sample Output 3
3 2 1 6 8 7 9 5	2