Problem B. Apartments

Time limit 1000 ms
Mem limit 524288 kB

There are n applicants and m free apartments. Your task is to distribute the apartments so that as many applicants as possible will get an apartment.

Each applicant has a desired apartment size, and they will accept any apartment whose size is close enough to the desired size.

Input

The first input line has three integers n, m, and k: the number of applicants, the number of apartments, and the maximum allowed difference.

The next line contains n integers $a_1, a_2, \ldots, a_n$: the desired apartment size of each applicant. If the desired size of an applicant is x, he or she will accept any apartment whose size is between $x - k$ and $x + k$.

The last line contains m integers $b_1, b_2, \ldots, b_m$: the size of each apartment.

Output

Print one integer: the number of applicants who will get an apartment.

Constraints

- $1 \leq n, m \leq 2 \cdot 10^5$
- $0 \leq k \leq 10^9$
- $1 \leq a_i, b_i \leq 10^9$

Sample

Input	Output
4 3 5 60 45 80 60 30 60 75	2