D: Prom

Memory limit **128 MB**

Johnny is getting ready for prom, which traditionally begins with a polonnaise dance. Any mixed pair (boy and girl) can lead the polonnaise, as long as they do not differ too much in height. More precisely, the difference in their heights cannot exceed k byteometers. Jimmy wants to find out how many ways there are to choose the leading pair.

Write a program which reads the heights of all girls and boys, computes the number of possible leading pairs, and writes the result to standard output.

Input

The first line of input contains three space-separated integers n, m and k ($1 \leq n, m \leq 250\,000$, $0 \leq k \leq 1\,000\,000\,000$), denoting the number of girls, the number of boys and the maximum possible difference of height in the leading pair, respectively.

The second line of input contains a sequence of n space-separated integers a_i ($1 \leq a_i \leq 1\,000\,000\,000$): the heights of girls, given in byteometers.

The third line of input contains a sequence of m space-separated integers b_i ($1 \leq b_i \leq 1\,000\,000\,000$): the heights of boys, given in byteometers.

Output

The first and only line of output should contain a single integer — the number of possible leading pairs.

Example

Input	Output
4 5 5 15 1 5 7 1 5 10 15 1	11

There are 11 possible leading pairs: $(15, 10)$, $(15, 15)$, $(1, 1)$, $(1, 5)$, $(1, 1)$, $(5, 1)$, $(5, 5)$, $(5, 10)$, $(5, 1)$, $(7, 5)$ and $(7, 10)$.