

Problem A

Two arrays

Time limit: 1 second

Memory limit: 256 megabytes

You are given two integer arrays a and b , each containing n elements: $a_1, a_2, \dots, a_n$ and $b_1, b_2, \dots, b_n$.

You are allowed to perform the following operation any number of times:

- Choose an index i ($1 \leq i \leq n$), and **increase both** a_i and b_i by one.

Given two integers C and D , determine the **minimum number of operations** required to make the two arrays satisfy:

$$\max(a) - \min(a) \leq C \quad \text{and} \quad \max(b) - \min(b) \leq D.$$

Here, $\max(a)$ and $\min(a)$ denote the maximum and minimum elements of array a , respectively; similarly for $\max(b)$ and $\min(b)$.

Input

The first line contains an integer T , which is the number of test cases. For each test case:

- The first line contains three integers n, C, D ($1 \leq n \leq 10^5$, $0 < C, D \leq 10^9$).
- The second line contains n integers $a_1, a_2, \dots, a_n$ ($-10^9 \leq a_i \leq 10^9$).
- The third line contains n integers $b_1, b_2, \dots, b_n$ ($-10^9 \leq b_i \leq 10^9$).

The sum of n over all test cases is at most 10^5 .

Output

For each test case, print a single integer on a single line - the minimum number of operations required to make both arrays satisfy the given constraints. In case we cannot find a way to satisfy the condition, print -1 .

Sample Input	Sample Output
2	1
4 2 3	-1
-1 -2 -3 -4	
-1 -2 -3 -4	
5 2 1	
-1 0 1 2 3	
2 2 2 2 2	