# Permuting Two Arrays



Consider two n-element arrays of integers,  $A=[a_0,a_1,\ldots,a_{n-1}]$  and  $B=[b_0,b_1,\ldots,b_{n-1}]$ . You want to permute them into some A' and B' such that the relation  $a_i'+b_i'\geq k$  holds for all i where  $0\leq i< n$ . For example, if A=[0,1], B=[0,2], and k=1, a valid A',B' satisfying our relation would be A'=[1,0] and B'=[0,2].

You are given q queries consisting of A, B, and k. For each query, print YES on a new line if some permutations A', B' exist satisfying the relation above. If no valid permutations exist, print NO instead.

## **Input Format**

The first line contains an integer, q, denoting the number of queries. The 3q subsequent lines describe each of the q queries in the following format:

- 1. The first line contains two space-separated integers describing the respective values of n (the size of arrays A and B) and k (the relation variable).
- 2. The second line contains n space-separated integers describing the respective elements of array A.
- 3. The third line contains n space-separated integers describing the respective elements of array B.

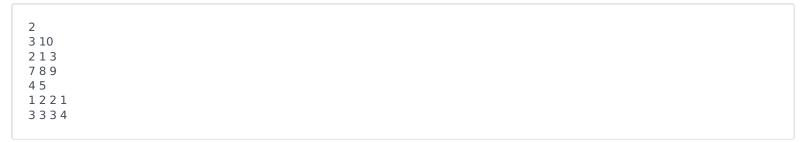
### **Constraints**

- $1 \le q \le 10$
- $1 \le n \le 1000$
- $1 \le k \le 10^9$
- $0 \le a_i, b_i \le 10^9$

## **Output Format**

For each query, print YES on a new line if valid permutations exist; otherwise, print NO.

# Sample Input



# **Sample Output**

```
YES
NO
```

### **Explanation**

We perform the following two queries:

1. A=[2,1,3], B=[7,8,9], and k=10. We permute these into A'=[1,2,3] and B'=[9,8,7] so that the following statements are true:

• 
$$a_0 + b_0 = 1 + 9 = 10 \ge k$$

• 
$$a_1 + b_1 = 2 + 8 = 10 \ge k$$

• 
$$a_2 + b_2 = 3 + 7 = 10 \ge k$$

Thus, we print YES on a new line.

2. A = [1, 2, 2, 1], B = [3, 3, 3, 4], and k = 5. To permute A and B into a valid A' and B', we would need at least three numbers in A to be greater than A; as this is not the case, we print A on a new line.