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

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

Output Format

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

Sample Input

```
2
3 10
2 1 3
7 8 9
4 5
1 2 2 1
3 3 3 4
```

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:

   - $a_0 + b_0 = 1 + 9 = 10 \geq k$
   - $a_1 + b_1 = 2 + 8 = 10 \geq k$
   - $a_2 + b_2 = 3 + 7 = 10 \geq k$

   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 1; as this is not the case, we print `NO` on a new line.