

B. Tournament

time limit per test: 2 seconds
 memory limit per test: 256 megabytes

You are given an array of integers a_1, a_2, \dots, a_n . A tournament is held with n players. Player i has strength a_i .

While more than k players remain,

- Two remaining players are chosen at random;
- Then the chosen player with the lower strength is eliminated. If the chosen players have the same strength, one is eliminated at random.

Given integers j and k ($1 \leq j, k \leq n$), determine if there is any way for player j to be one of the last k remaining players.

Input

The first line contains an integer t ($1 \leq t \leq 10^4$) — the number of test cases.

The first line of each test case contains three integers n , j , and k ($2 \leq n \leq 2 \cdot 10^5$, $1 \leq j, k \leq n$).

The second line of each test case contains n integers, a_1, a_2, \dots, a_n ($1 \leq a_i \leq n$).

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output on a single line "YES" if player j can be one of the last k remaining players, and "NO" otherwise.

You can output the answer in any case (upper or lower). For example, the strings "yEs", "yes", "Yes", and "YES" will be recognized as positive responses.

Example

input	Copy
3 5 2 3 3 2 4 4 1 5 4 1 5 3 4 5 2 6 1 1 1 2 3 4 5 6	
output	Copy
YES YES NO	

Note

In the first sample, suppose that players 2 and 5 are chosen. Then player 2 defeats player 5. Now, the remaining player strengths are

3	2	4	4
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Next, suppose that players 3 and 4 are chosen. Then player 3 might defeat player 4. Now, the remaining player strengths are

Codeforces Round 1034 (Div. 3)

Contest is running

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Out of competition



→ Submit?

Language: GNU G++23 14.2 (64 bit, ms) ▼

Choose file: No file chosen

→ Last submissions

Submission	Time	Verdict
326846491	Jul/01/2025 17:54	Accepted

3	2	4
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Player 2 is one of the last three players remaining.

In the third sample, it can be shown that there is no way for player 1 to be the last player remaining.

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