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HOME TOP CONTESTS GYM PROBLEMSET GROUPS RATING API HELP CALENDAR

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS STANDINGS CUSTOM INVOCATION

D. Subarray Sorting

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given an array $a_1, a_2, \ldots, a_n$ and an array $b_1, b_2, \ldots, b_n$.

For one operation you can sort in non-decreasing order any subarray $a[l \ldots r]$ of the array a.

For example, if $a = [4, 2, 2, 1, 3, 1]$ and you choose subbarray $a[2 \ldots 5]$, then the array turns into $[4, 1, 2, 2, 3, 1]$.

You are asked to determine whether it is possible to obtain the array b by applying this operation any number of times (possibly zero) to the array a.

Input

The first line contains one integer t ($1 \le t \le 3 \cdot 10^5$) — the number of queries.

The first line of each query contains one integer n ($1 \le n \le 3 \cdot 10^5$).

The second line of each query contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le n$).

The third line of each query contains n integers $b_1, b_2, \ldots, b_n$ ($1 \le b_i \le n$).

It is guaranteed that $\sum n \le 3 \cdot 10^5$ over all queries in a test.

Output

For each query print `YES` (in any letter case) if it is possible to obtain an array b and `NO` (in any letter case) otherwise.

Example

input Copy

```
4
7
1 7 1 4 4 5 6
1 1 4 4 5 7 6
5
1 1 3 3 5
1 1 3 3 5
2
1 1
1 2
3
1 2 3
3 2 1
```

output Copy

```
YES
YES
NO
NO
```

Note

In first test case the can sort subarray $a_1 \ldots a_5$, then a will turn into $[1, 1, 4, 4, 7, 5, 6]$, and then sort subarray $a_5 \ldots a_6$.

Educational Codeforces Round 67 (Rated for Div. 2)

Finished

Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++11 5.1.0

Choose file: 选择文件 未选择任何文件

Submit

→ Last submissions

Submission	Time	Verdict
56610229	Jul/06/2019 09:56	Wrong answer on test 19
56609470	Jul/06/2019 09:35	Time limit exceeded on test 18
56608942	Jul/06/2019 09:21	Time limit exceeded on test 18
56412822	Jul/02/2019 04:59	Time limit exceeded on test 18
56374290	Jul/01/2019 08:48	Time limit exceeded on

		test 18
56374094	Jul/01/2019 08:41	Time limit exceeded on test 18
56374030	Jul/01/2019 08:39	Runtime error on test 3
56358053	Jun/30/2019 20:59	Wrong answer on test 2

→ Contest materials

- Announcement #1 (en)
- Announcement #2 (ru)
- Tutorial #1 (en)
- Tutorial #2 (en)
- Tutorial #3 (ru)

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