☰

Rankings

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✔ **Points:** 100 (partial)
⏱ **Time limit:** 2.0s
☰ **Memory limit:** 256M

✎ **Author:**
   admin

❯ **Problem type**

⌄ **Allowed languages**
   C, C++

Problem Statement

The DSA EndLab exam just concluded, and the rankings were published. Few(**k**) students edited the rankings to place their names at the top without changing the order of the remaining names. Now, all students have sent their version of the rankings to the teacher. Help the teacher determine whether the set of received rankings is possible or not, i.e., does there exist an original ranking from which all k submitted rankings could have been generated by those k students?

Input Format

- The first line contains a single integer **t**, the number of testcases.
- Each testcase starts with a single line containing 2 integers **n** and **k**. The total number of students and the number of students who have edited.
- The next k lines consist on n integers - the ranking from some student's perspective. (if the 1st entry is i, then this ranking is the ith student's perspective).
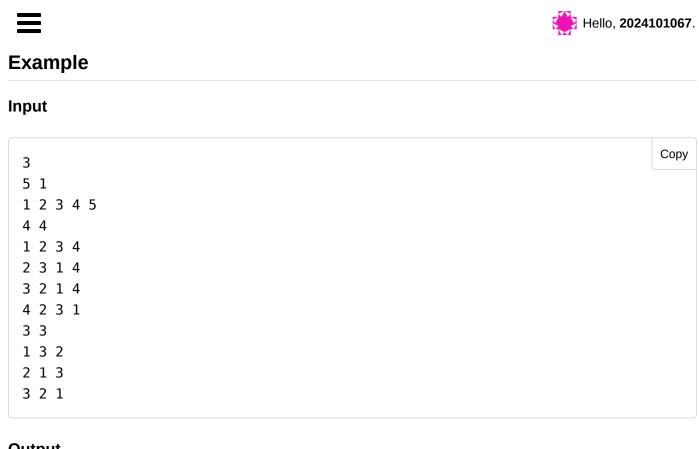
Output Format

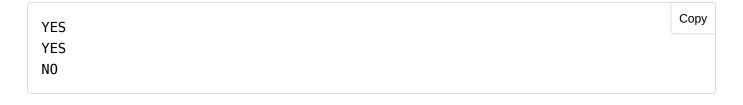- Print the answer in a single line in block letters (YES or NO).

Constraints

- `1 ≤ t ≤ 2 * 100`

☰   ✳ Hello, **2024101067**.

Example

Input

```
3
5 1
1 2 3 4 5
4 4
1 2 3 4
2 3 1 4
3 2 1 4
4 2 3 1
3 3
1 3 2
2 1 3
3 2 1
```

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Output

```
YES
YES
NO
```

Copy

❓ Clarifications

Report an issue

No clarifications have been made at this time.