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# They all play cards

locked

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Problem

Submissions

Leaderboard

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There are  $N$  cards, and on each card, there are numbers from  $1$  to  $M$ . Some on the top, remaining on the bottom. Check if there exists a configuration (after flipping some cards) such that you can see all numbers from  $1$  to  $M$ .

Formally,

Set  $S = \{1, 2, 3, \dots, M-1, M\}$

You are given  $N$  cards.  $C_1, C_2, \dots, C_N$ .

On each card  $C_i$ , there is a subset  $A_i$  of  $S$  on top, and subset  $B_i$  of  $S$  on the bottom.

$A_i$  and  $B_i$  are disjoint and also,  $A_i$  is the complement of  $B_i$ .

Numbers in  $A_i$  are on top of  $C_i$ , and  $B_i$  on the bottom.

Initially all cards are faced up, and you can see numbers of  $A_i$ , and not  $B_i$ . If you flip the card, you can see  $B_i$ , but not  $A_i$ .

You need to tell whether, you can flip some of those  $N$  cards so that you can see all numbers from  $1$  to  $M$ .

## Input Format

First line contains 2 spaced separated integers,  $N$  and  $M$ .

Each of the next  $N$  lines describes the cards.

On each line, the first number  $K_i$ , denotes the count of numbers written on the top of the card. Next  $K_i$  space-separated unique integers represent the numbers written on the top of that card, each between  $1$  and  $M$ .

## Constraints

$1 \leq N \leq 2000$

$1 \leq M \leq 2000$

$1 \leq K_i \leq M$

## Output Format

Print "YES" if you can flip some of those  $N$  cards to see all numbers from  $1$  to  $M$ , and "NO" otherwise.

## Sample Input 0

```
1 3
3 1 2 3
```

## Sample Output 0

```
YES
```

Medium

Submitted 11 times  
Max Score 10