

Happy Friends

Problem Statement:

Parmish has n friends, all of whom have come to his place to have some fun. All his friends have sophisticated tastes in scents, so Parmish decides to spray some room fresheners to make them all happy, but all of them don't like the same kind of scents. So, he tries to spray them in combination to make everyone happy.

He observes that each room freshener does not affect everyone's mood. Each room freshener affects the mood of some of them, but each friend's mood is affected by exactly two room fresheners. And the way it works is that spraying a room freshener toggles the mood of the friends which are affected by it. Say, he sprayed room freshener 1, which affected the mood of friends 1, 2 and 3 which were respectively unhappy, happy and happy. Then, after spraying the freshener, they become happy, unhappy and unhappy

Can Parmish make all his friends happy?

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Input Format:

The first line contains two integers n and m — the number of friends and the number of room fresheners respectively.

Next line contains n space separated integers r_1, r_2, \dots, r_n which tells the mood of his friends. The i th friend is happy if $r_i = 1$, otherwise he is unhappy.

The i th of next m lines contains an integer x_i followed by s_i distinct integers separated by space, denoting the number of friends which are affected by the i -th room freshener followed by the friends which are affected. All friends are in the range from 1 to n . Each friend is affected by exactly two fresheners.

Output Format:

Output "YES" if it is possible to make all friends happy, otherwise output "NO".

Constraints:

- $2 \leq n \leq 10^5$
- $2 \leq m \leq 10^5$
- $r_i = 0$ or 1
- $0 \leq x_i \leq n$

Sample Input:

3 3

1 0 1

3 1 2 3

1 2

2 1 3

Sample Output:

YES