Tryout

Mattox is hosting a series of tryouts this year to select teams for the upcoming ICPC Mid-Central Programming Contest. There are $3n$ ($1 \leq n \leq 1000$) students registering for the tryouts. Mattox plans to hold m ($1 \leq m \leq 5$) tryouts, and each student can choose to participate in any number of tryouts as long as they attend at least one of them. After all tryouts have ended, Mattox is going to calculate an overall ranking for all students based on their rankings in the tryouts. The calculation is quite straightforward: if student x gets a higher ranking than student y in any tryout, student x should have a higher overall ranking than student y. Since Mattox is quite busy, he asks you to help him to do the calculation. Specifically, you need to find out if it is possible to create an overall ranking given the above constraint (otherwise Mattox has to find a different metric to rank students). If it is possible, you also need to find out how to form teams of three. Given a valid overall ranking, the i-th team should contain students with ranks $3i - 2, 3i - 1, 3i$. If there are multiple valid overall rankings, you can output any valid team formations.

Input

The first line contains two integers n and m ($1 \leq n \leq 1000$, $1 \leq m \leq 5$), as described in the problem statement.

The next m lines describe the results of the tryouts. Each line starts with an integer k ($1 \leq k \leq 3n$) - number of students attending the tryout, followed by k integers $a_1, \ldots, a_k$ ($1 \leq a_i \leq 3n$), where a_i is the student of rank i. It is guaranteed that each student attends at least one tryout.

Output

In the first line, output `YES` if the students can be divided into teams of three given the constraints, and `NO` otherwise.

If the students can be divided into teams of three, output n lines. The i-th line should contain three integers denoting the members of the i-th team.

Sample Inputs

```
5 2
12 1 2 3 4 5 6 9 10 12 13 14 15
8 7 4 9 12 8 14 15 11
```

Sample Outputs

```
YES
1 2 7
3 4 5
6 9 10
8 12 13
11 14 15
```

Note

A valid overall ranking is: 1, 7, 2, 3, 4, 5, 6, 9, 10, 12, 8, 13, 14, 15, 11.