Problem D. Nomad Camp

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2.5 seconds
Memory limit:	256 mebibytes

On summer vacation, Amir stayed at his grandmother's house, where she told him stories about how nomadic people in ancient times chose pastures for themselves:

There are only n pastures, numbered from 1 to n, and m roads available. Each pasture belongs to one of the four types: қыстау (winter), көктеу (spring), жайлау (summer), and күзеу (autumn).

Each pasture is initially inhabited by people, regardless of the season. When the season changes, from each pasture, people move to the nearest pasture corresponding to the new season. If there are multiple nearest pastures, they choose the pasture with the smallest number. If there is no pasture for the new season, people become sad and stop moving at all.

Now Amir wonders if it would be possible to gather all the people in one place if people could change the season of the year to any other season, as many times as they like.

Input

The first line contains a single integer T ($1 \le T \le 10^4$): the number of test cases. For each test case:

The first line contains two integers n and m ($1 \le n \le 200$, $1 \le m \le \frac{n \cdot (n-1)}{2}$): the number of pastures and the number of roads between them.

The second line contains n integers $c_1, c_2, \ldots, c_n$ ($1 \le c_i \le 4$): the types of pastures.

Each of the next m lines contains three integers, u_i, v_i, and w_i ($1 \le u_i, v_i \le n$, $1 \le w_i \le 10^5$), which mean there is a bidirectional road between pastures u_i and v_i that has length w_i.

It is guaranteed that the sum of n for all test cases does not exceed 10^5.

It is guaranteed that the sum of m for all test cases does not exceed 10^6.

Output

Output T lines, each of which is the answer to the corresponding test case. As the answer, output "`YES`" if it is possible to gather everyone in one place, and "`NO`" otherwise.

You can output the answer in any case (for example, the strings "`yEs`", "`yes`", "`Yes`", and "`YES`" will be recognized as a positive answer).

Example

standard input	*standard output*
2 4 4 1 2 2 4 1 2 5 2 3 100 3 4 8 1 3 11 7 9 3 1 3 2 4 1 2 3 5 7 7 1 1 1 2 7 1 5 1 4 7 10 4 5 10 5 2 11 2 7 3 3 4 10	YES NO