Tips for preparation

Please prepare on Advance Algorithm Topics like:

1. Recursion
2. Problem related to Selection and permutation
3. DFS and BFS
4. Mathematical concepts such as Line Cross
5. Shortest distance and path finding

Question will be from any of the above topics.

Sample problems (For practice only)

Sample Problem 1

All living beings on this extra-ordinary planet have some goodness value that tells their worth. Rajat and Shreya are a couple on this planet who love each other. Both of them have a goodness value **A** and **B** respectively. One day Rajat found an astonishing way of finding whether a couple is a lovely couple or not. A couple is defined as lovely if the lowest common multiple of their goodness values has prime number of distinct prime factors. As the values could be large and Rajat is not that good in mathematics, he turns out to you. Help him to decide whether the couple is lovely or not.

Input

First line of the input contains an integer **T** denoting the number of test cases.
Each of the next **T** lines contain two integers **A** and **B** as mentioned above in the statement.

Output

Print **T** lines, each containing the string "Yes" or "No" (both without quotes) whether the couple is a lovely couple or not.

Constraints:

- $1 \leq T \leq 10^5$
- $1 \leq A,B \leq 10^3$

Sample Input
3
2 3
2 4
4 33

Sample Output

Yes

No

Yes

Explanation

- Sample Case 1: LCM(2,3) turns out to be 6 which has two distinct prime factors. Since, 2 itself is prime, answer is "Yes".

- Sample Case 2: LCM(2,4) returns 4 which has only one distinct prime factor i.e 2. Since, 1 is not prime, answer is "No"

Sample Problem 2

Byteland has NN cities (numbered from 11 to NN) and $N-1N-1$ bidirectional roads. It is guaranteed that there is a route from any city to any other city.

Jeanie is a postal worker who must deliver KK letters to various cities in Byteland. She can start and end her delivery route in any city. Given the destination cities for KK letters and the definition of each road in Byteland, find and print the minimum distance Jeanie must travel to deliver all KK letters.

Note: The letters can be delivered in any order.

Input Format

The first line contains two space-separated integers, NN (the number of cities) and KK (the number of letters), respectively.
The second line contains KK space-separated integers describing the delivery city for each letter.
Each line ii of the $N-1N-1$ subsequent lines contains 33 space-separated integers describing a road as $ui\ vi\ diui\ vi\ di$, where $didi$ is the distance (length) of the bidirectional road between cities $uiui$and $vivi$.

Constraints

- $2 \leq K \leq N \leq 1052 \leq K \leq N \leq 105$
- $1 \leq di \leq 1031 \leq di \leq 103$
- Byteland is a weighted undirected acyclic graph.Byteland is a weighted undirected acyclic graph.

Output Format

Print the minimum distance Jeanie must travel to deliver all KK letters.
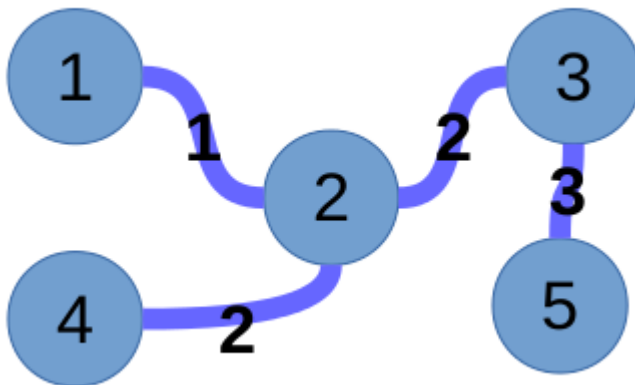
Sample Input

5 3

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

Sample Output

```
6
```

Explanation

Jeanie has 33 letters she must deliver to cities 11, 33, and 44 in the following map of Byteland:

One of Jeanie's optimal routes is 32→21→11→22→432→21→11→22→4, for a total distanced traveled of 2+1+1+2=62+1+1+2=6. Thus, we print 66 on a new line.

Sample Problem 3

Chris Gayle has a legacy of hitting sixes in his innings. He loves to hit sixes. Now in a particular match, he already know that he will face total of $(N + 1)$ balls which means that he will get out on $(N + 1)$th ball. So he has decided to hit sixes in each of the initial N balls. He will require some power P_i to hit a six on ith ball. He can only hit a six on any ball if he has power greater than the required power. He has M amount of power initially. He can play

initial **N** balls in any order and by hitting six on **i**th ball, he will gain **G**i power but he will not loose that **P**i power.

Now you are required to output "YES" or "NO" to answer that if he can hit **N** sixes or not.

Input

- First line will contain **T** (No. of test cases).
- First line of each test case will contain two space separated integers : **N** and **M**
- Next each **N** lines will contain two space separated integers denoting G_i and P_i

Output

- For every test case, print the required answer in a new line.

Constraints

- $1 \le T \le 10$
- $1 \le N \le 10^4$
- $1 \le M$, G_i and $P_i \le 10^9$

Sample Input

1
2 7
3 6
2 4

Sample Output

YES