NOI '15 P1 - Automated Program Analyzer

Time limit: 2.0s **Memory limit:** 512M

Let $x_1, x_2, x_3, \ldots$ be variables. n constraints of form $x_i = x_j$ or $x_i \neq x_j$ are given. The task asks for whether it is possible to assign values to the variables so that all constraints can be satisfied. For example, if the constraints are $x_1 = x_2, x_2 = x_3, x_3 = x_4, x_1 \neq x_4$, then those constraints cannot be satisfied simultaneously.

Input Specification

The first line of the input is an integer t representing the number of instances to solve. The instances are independent. For each instance, the first line is an integer n representing the number of constraints to be satisfied. In the following n lines, each line has three integers i, j, e representing an equality/inequality constraint. If $e = 1$, the constraint shall be $x_i = x_j$. If $e = 0$, the constraint shall be $x_i \neq x_j$.

Output Specification

The output has t lines. The k-th line of the output is a string `YES` or `NO`. Output `YES` if the constraints in that instance can be satisfied and `NO` otherwise.

Sample Input 1

```
2
2
1 2 1
1 2 0
2
1 2 1
2 1 1
```

Sample Output 1

```
NO
YES
```

Sample Input 2

```
2
3
1 2 1
2 3 1
3 1 1
4
1 2 1
2 3 1
3 4 1
1 4 0
```

Sample Output 2

```
YES
NO
```

Constraints

Test Case	n	i, j	Additional Constraints
1	$1 \leq n \leq 10$	$1 \leq i, j \leq 10\,000$	$1 \leq t \leq 10$ $e \in \{0, 1\}$
2			
3	$1 \leq n \leq 100$		
4			
5	$1 \leq n \leq 100\,000$		
6			
7			
8	$1 \leq n \leq 100\,000$	$1 \leq i, j \leq 1\,000\,000\,000$	
9			
10			