Multiple shortest routes

(Time Limit: 3 seconds)

Problem Description

There are n buildings, numbered from 0 to $n-1$, and m unidirectional roads. Without passing through any intermediate building, each road starts at one building and ends at another. Alice, who wants to go from building 0 to a destination building, knows the exact amount of time needed to go through each road. Please help her determine whether she has two or more quickest routes to choose from. Unless she has no routes at all to her destination, please also find the time needed to go along one of her quickest route(s). You may assume that Alice's destination building is not building 0.

Input Format

The first line is the number of test cases. Each test case is specified as follows: The first three lines are the number n of buildings, Alice's destination (which is a building) and the number m of edges. Each of the next m lines specifies a road by its starting building, its ending building and the amount of time (which is a positive integer) to go through it, in that order. Consecutive numbers in a line are separated by a space.

Output Format

For each test case, please output two lines. The first line is "yes" if there are two or more shortest routes to go from building 0 to Alice's destination, and it is "no" otherwise. If there is at least one route from building 0 to Alice's destination, then the second line is the minimum amount of time needed to go from building 0 to Alice's destination. Otherwise, it is "x".

Technical Specification

- The number of test cases is at most 15.
- $n \leq 100$ is an integer.
- The amount of time needed to go through any road is a positive integer less than or equal to 100.

Example

Sample Input:	**Sample Output:**
3 4 2 5 0 1 7 1 2 1 3 1 1 0 3 5 3 2 3 3 2 2 0 1 7 2 1 1 3 2 3 0 1 1 0 2 2 1 2 1	no 7 no x yes 2