

Greedy King in The North

Time Limit per test file: 1 second

Memory Limit per test file: 256 megabytes

Abdul is currently the **King in the North**. This kingdom contains **N** cities, with **M** one way roads. Since Abdul is very greedy, he has started a system of taxation on the roads. How it works is, first every road is assigned a particular cost. When you use the roads to travel from city **U** to city **V** along some path **P**, you have to pay the King a value equal to the maximum of costs of all roads in the path **P**.

You are currently at city **S** and you want to go to city **D**, find what is the minimum tax you have to pay to do so.

Input:

The first line of input contains a single integer **T**, indicating the number of test cases.

The first line of each test case contains two integers, **N** and **M** where **N** denotes the number of cities and **M** the number of roads.

This is followed by **M** lines where each line contains three space separated integers, **u**, **v** and **w**. This denotes that exists a one way road from **u** to **v** with cost **w**.

The next line contains two integers **S** and **D**.

Output:

A single integer for each test case (on a new line) which is the minimum tax you have to pay. If there is no path from **S** to **D**, print "**NO PATH**".

Constraints:

$1 \leq T \leq 10$

$1 \leq N \leq 10^5$

$0 \leq M \leq 10^6$

$1 \leq u, v, S, D \leq N$

$1 \leq w \leq 10^9$

$S \neq D$

Time Limit : 3 seconds

Sample

Input:

2

2 0
1 2
6 6
1 2 2
2 3 2
3 4 2
4 6 2
1 5 3
5 6 3
1 6

Sample Output:

NO PATH
2