

## Problem: Free Guitars

You are a guitar player and because you are really good, several music stores are giving you guitars for free! Unfortunately, you will have to travel to all the music stores to pick up your guitars. Because you don't have a driver's license and it's too far to go by bike, you decide to travel by train. But before you go, you first write a program to determine the minimum amount of money you have to spend to get to all the music stores by train.

### Input

First line of the input contains  $T$  the number of test cases. Each test case consists of 2 integers  $N$  ( $2 \leq N \leq 50$ ) the number of stores and  $M$  ( $1 \leq M \leq 100$ ) routes. Next  $M$  line contains the description of each individual route in the form of

"*STORE1 STORE2 TICKET*" (quotes for clarity only)

*STORE1* and *STORE2* will be integers between 1 and  $N$ , inclusive, and *TICKET* will be the price for a round trip ticket from *STORE1* to *STORE2* and back. There will no more than 1 train route between each pair of stores, and there will not be a train route from a store to itself. A round trip ticket is a ticket that allows you to travel the route in both directions exactly once. So buying a ticket between 3 and 5 means that you can travel from 3 to 5 one time, and from 5 to 3 one time. The 2 trips do not necessarily have to be in that order or directly after each other, and you're not required to take both directions of a round trip ticket you purchase.

### Output

For each test case output the minimum amount of money you will need to spend on train tickets to pick up all your free guitars. If it is not possible to pick up all  $N$  guitars, output -1. Initially, you are at store 1, and you want to return there after you picked up all guitars.

Sample Input	Sample Output
3	95
5 10	5
1 2 88	-1
1 3 37	
1 4 73	
1 5 58	
2 3 59	
2 4 0	
2 5 98	
3 4 0	
3 5 85	
4 5 82	
3 3	
1 2 6	
1 3 4	
2 3 1	
3 1	
1 3 56	

