Problem G - Giving Gift Balloons

David wants to give Lucca a balloon for his help with one of the lectures.

David knows that Lucca goes for a walk around UBC every evening from his home to ICICS. UBC can be though of a graph with n intersections and m roads. David knows that for every road Lucca only ever walks in one direction along the road.

Lucca's home is located at intersection 0 and ICICS is located at intersection $n-1$. A walk is a path that can possibly visit a vertices or an edge multiple times.

David can ask a members of the ACM team to stand on a few of the roads in order to give Lucca a balloon, but David plans on paying them adequate compensation depending on the road they stand on.

David doesn't want to give Lucca two balloons though, so he wants to have people stand on specific roads so that no matter what walk Lucca takes, he will get exactly one balloon.

Help David figure out the cheapest way to give Lucca a single balloon!

Input

The first line contains a single integer T the number of test cases.

A test case begins with two integers n ($2 \leq n \leq 100$), and m ($1 \leq m \leq 2500$) denoting the number of intersections and roads respectively. Following this will be m lines with three numbers a, b, c ($0 \leq a, b \leq n-1$) representing a road from a to b and it takes cost c ($1 \leq c \leq 10^4$) for David to get somebody to stand on this road. Lucca will always take this road from a to b.

Output

For each test case, output an integer representing the minimum cost of giving Lucca exactly one balloon, or `-1` if the constraints can't all be satisfied.

Sample Input

```
1
6 7
0 1 5
0 2 5
1 3 1
2 4 1
4 1 1
3 5 5
4 5 5
```

Sample Output

```
6
```

Sample Explanation

David can send somebody to stand on the road between 1 and 3 as well as 4 and 5 for a total of 6 cost.