High-Speed Railroad

Input file:	`standard input`
Output file:	`standard output`
Time limit:	0.7 seconds
Memory limit:	64 megabytes

There are N cities and M bidirectional railways connecting cities a_i and b_i with a travel time of c_i minutes. There is also a train that connects city 0 with city $N-1$, this train will always take the **only** shortest path between the two cities.

However, the train only passes through some cities and the mayors of the cities it doesn't pass through are angry.

To please the mayors, you can upgrade a **single** railway to high-speed railway, which will reduce the travel time by 1 minute for each euro spent. Of course, the travel time must be **strictly positive** after the upgrade.

You want to upgrade a railway so that the new shortest path between city 0 and city $N-1$ **always** passes to at least a city that wasn't passed by the train before. In the new railway network there may be many shortest paths, however the original one must not be one of them.

What is the minimum amount of money you need to spend to achieve this?

Input

The first line contains the integers N ($2 \leq N \leq 10^5$) and M ($1 \leq M \leq 3 * 10^5$), the number of cities and the number of railways.

The following M lines contains three integers a_i, b_i and c_i representing a bidirectional railway between a_i and b_i with a travel time of c_i minutes. ($0 \leq a_i, b_i \leq N-1$), ($1 \leq c_i \leq 10^9$).

It is guaranteed that the shortest path between 0 and $N-1$ is unique.

For tests worth 35 points, ($N \leq 1000$, $M \leq 2000$).

For tests worth 30 more points, $N = M$, and each city has exactly two railways.

Output

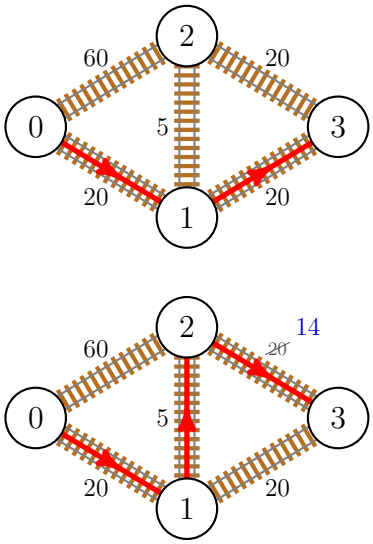
You need to write a single line with an integer: the minimum amount of money you need to spend so that the new shortest path between city 0 and city $N-1$ always passes through a new city. If it is not possible to achieve this, you need to write -1.

Examples

standard input	standard output
4 5 0 1 20 0 2 60 1 2 5 2 3 20 1 3 20	6
4 5 0 1 5 0 2 10 1 2 10 2 3 10 1 3 5	-1

Note

In the **first sample case**, it is possible to upgrade the railway between cities 2 and 3 so that the new shortest path passes through city 2.



In the **second sample case**, it is not possible to upgrade a railway so that the new shortest path passes through a new city.