Problem C: Valentine's Day

Time Limit: 1 Sec Memory Limit: 128 MB
Submit: 0 Solved: 0
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Description

Today is Valentine’s day, and Pisces is going to date with the beautiful princess in the neighboring kingdom. There are n cities numbered from 1 to n on the mainland, with Pisces in city 1 and the princess in city n. There are m unidirectional roads among these n cities. Usually, it takes Pisces 1 unit of time to travel from one city to another, but due to the probable existence of thorns, rivers or even robbers, some of the roads will take 2 units of time to travel. In other words, the cost of traveling from one city to another is either 1 unit or 2 units of time. Pisces wants to know the minimum time that he can meet the princess.

Input

The first line contains 2 integers n ($2 \le n \le 2 * 10^5$) and m ($1 \le m \le 4 * 10^5$).

In each of the next m lines, there are 3 integers u, v ($1 \le u, v \le n$) and w ($1 \le w \le 2$), which means there is a road from u to v, and it takes w unit(s) of time for Pisces to go through.

Output

Print the minimum time in one line. Or, if he cannot reach the destination, print "-1" (without quotes).

Sample Input

```
4 5
1 2 1
2 4 1
2 3 2
3 4 1
1 3 1
```

Sample Output

```
2
```

HINT

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