

Lineville

time limit per test: 1 second
memory limit per test: 976.6 megabytes
input: standard input
output: standard output
points: 100 · problem code: dijk · author: inj

Lineville is a city in which n houses are arranged in a line. To travel from 1 house to an adjacent house, it takes 1 minute. Fortunately, there are m transport services which take you from one house to another, taking a particular amount of time. These services exist in one direction, but not necessarily the other. What is the shortest time it takes to travel from house 1 to house n ?

Input

The first line contains the integer n and m .

The following m lines contains 3 integers: a, b, c . There exists a transport service from house a to b which takes c minutes.

Output

Output the time in minutes to travel from house 1 to house n .

Constraints

- $1 \leq a, b \leq n \leq 10000$
- $1 \leq m \leq 1000$
- $1 \leq c \leq 10^9$

Example 1

Input

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

Output

```
2
```

Example 2

Input

```
10 10
9 8 2
5 6 5
8 10 4
9 1 4
4 10 1
8 5 2
6 4 5
3 3 2
6 10 5
6 1 5
```

Output

```
4
```