

Problem K. Two Paths

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 512 mebibytes

You are given an undirected graph with n nodes (numbered from 1 to n) and m edges. Each edge has a length. The graph contains neither multiple edges nor self-loops.

Alice and Bob are now trying to play a game. Each player has to pick a path from 1 to n (not necessary a simple path). The paths have to be different.

Alice always moves first, and she is so clever that she took one of the shortest paths from 1 to n . Now is Bob's turn. Bob wants to pick the shortest possible path from 1 to n which is different from Alice's path. Your task is to find the length of such path.

Two paths S and T are considered different if and only if they have different number of edges or there is an integer i such that the i -th edge of S differs from the i -th edge of T .

Input

The first line of input contains two integers: the number of nodes n and the number of edges m ($2 \leq n \leq 10^5$, $1 \leq m \leq 10^5$). Each of the next m lines contains three integers a , b , and w which mean that there is an edge between node a and node b , and its length is w ($1 \leq a, b \leq n$, $1 \leq w \leq 10^9$). It is guaranteed that there is at least one path from 1 to n .

Output

Print a single line with a single integer: the length of a valid shortest path for Bob.

Examples

| standard input | standard output |
|--------------------------------|-----------------|
| 3 3 1 2 1 2 3 4 1 3 3 | 5 |
| 2 1 1 2 1 | 3 |