

A. Dijkstra

time limit per test: 1 s.
memory limit per test: 64 MB

You are given a weighted, undirected graph. The graph's vertices are numbered from 1 to n . Your task is to determine the shortest path from vertex 1 to vertex n .

Input

An integer n (the number of vertices) and m (the number of edges), where ($2 \leq n \leq 10^5, 0 \leq m \leq 10^5$). Following m lines contain one edge each in form a_i, b_i and w_i ($1 \leq a_i, b_i \leq n, 1 \leq w_i \leq 10^6$), where a_i, b_i are edge endpoints and w_i is the length of the edge.

It is possible that the graph has loops and multiple edges between pair of vertices.

Output

Write the only integer -1 in case of no path. Write the shortest path in opposite case. If there are many solutions, print any of them.

Examples

input	Copy
<pre> 5 6 1 2 2 2 5 5 2 3 4 1 4 1 4 3 3 3 5 1 </pre>	
output	Copy
<pre> 1 4 3 5 </pre>	

input	Copy
<pre> 5 6 1 2 2 2 5 5 2 3 4 1 4 1 4 3 3 3 5 1 </pre>	
output	Copy
<pre> 1 4 3 5 </pre>	

CP3 Lab LAU

Private

Manager



→ Group Contests

- Greedy Lab
- Greedy Practice I
- DP Practice Problems
- Exam 1 Sample
- Graphs Lab IIII
- Graphs Lab III
- Graphs Lab II
- Graphs Lab I
- Sorting Lab III
- Implementation Practice
- Sorting Lab II
- Sorting Lab I
- Sorting Lab
- AVL Trees Lab 2
- AVL Trees Lab 1
- AVL Trees Practice
- BST Lab 2
- BST Lab 1
- BST Lab

Greedy Lab

Finished

Practice



→ Languages

The following languages are only available languages for the problems from the contest

Greedy Lab:

- GNU G++17 7.3.0
- GNU G++20 13.2 (64 bit, winlibs)
- GNU G++23 14.2 (64 bit, msys2)
- Java 21 64bit
- Java 8 32bit



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

→ Administration

Currently, manager mode is disabled. It means that you may take part in this mashup contest as regular user.

Do you want to enable manager mode?

→ Submit?

Language: GNU G++23 14.2 (64 bit, ms)

Choose file: No file chosen

→ Last submissions

Submission	Time	Verdict
295763238	Dec/09/2024 17:41	Accepted

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