



Yassinezeort | Logout

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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

```
5 6
1 2 2
2 5 5
2 3 4
1 4 1
4 3 3
3 5 1
```

[copy](#)
output

```
1 4 3 5
```

[copy](#)
input

```
5 6
1 2 2
2 5 5
2 3 4
1 4 1
4 3 3
3 5 1
```

[copy](#)
output

```
1 4 3 5
```

[copy](#)
CP3 Lab LAU
Private**Manager**
→ Group Contests

- Greedy Lab
- Greedy Practice I
- DP Practice Problems
- Exam 1 Sample
- Graphs Lab III
- 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.

Start 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?

Enable manager mode**→ Submit?**Language: Choose file: No file chosen**Submit****→ Last submissions**

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

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The only programming contests Web 2.0 platform

Server time: Sep/22/2025 21:19:45 (g1).

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