Problem A

You are given a 2-edge-connected graph G and an assignment $w : E(G) \to \mathbb{N}$ of positive weights to its edges. Find the minimum possible $w(e_1) + w(e_2)$, where $\{e_1, e_2\}$ is an edge cut in G, or determine that G is actually 3-edge-connected.

Input and output

The first line contains two positive integers n and m ($n, m \leq 10000$), the number of vertices and edges of G. The vertices are numbered from 1 to n. Each of the following m lines contains three integers u, v, c ($1 \leq u < v \leq n$, $1 \leq c \leq 10^9$), indicating that G contains an edge between vertices u and v of weight c. You can assume there is at most one edge between any two vertices.

Output a single integer, the minimum weight of a 2-edge-cut in G. If G is 3-edge-connected, output -1 instead.

Example

Input:

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

Output:

```
2
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