A. Addition and Minimum

time limit per test: 1 second
memory limit per test: 1024 megabytes
input: standard input
output: standard output

There is an array of n elements, initially filled with zeros. You need to write a data structure that processes two types of queries:

- add v to the segment from l to $r-1$,
- find the minimum on the segment from l to $r-1$.

Input

The first line contains two numbers n and m ($1 \le n, m \le 100000$), the size of the array and the number of operations. The following lines contain the description of the operations. The description of each operation is as follows:

- 1 l r v: add v to the segment from l to $r-1$ ($0 \le l < r \le n, 0 \le v \le 10^9$).
- 2 l r: find the minimum on the segment from l to $r-1$ ($0 \le l < r \le n$).

Output

For each operation of the second type, print the corresponding value.

Example

input Copy

```
5 6
1 0 3 3
2 1 2
1 1 4 4
2 1 3
2 1 4
2 3 5
```

output Copy

```
3
7
4
0
```