CODEFORCES
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ITMO Academy: pilot course » Segment Tree, part 2 » Step 2 » Practice

D. Addition and Sum

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 sum on the segment from l to $r - 1$.

Input

The first line contains two numbers n and m ($1 \leq n, m \leq 100000$), 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 $r - 1$ ($0 \leq l < r \leq n, 0 \leq v \leq 10^5$).
- 2 l r: find the sum on the segment from l to $r - 1$ ($0 \leq l < r \leq n$).

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
14
18
4
```

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Language: GNU G++20 13.2 (64 bit, win ▾)

Choose file: [Choose File] No file chosen

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