→ Submit?

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

Choose file: Choose File No file chosen

Submit

B. Multiplication 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 ones. You need to write a data structure that processes two types of queries:

- multiply all elements on the segment from l to $r - 1$ by number v,
- find the sum on the segment from l to $r - 1$.

Both operations are performed modulo $10^9 + 7$.

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: multiply all elements on the segment from l to $r - 1$ by number v ($0 \le l < r \le n$, $1 \le v < 10^9 + 7$)
- 2 l r: find the sum 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.

Examples

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
24
28
5
```

input Copy

```
2 3
1 0 1 1000000
1 0 2 1000000
2 0 2
```

output Copy

```
993000
```

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