Task: KON
Shipping containers

Byteasar is a civil engineer in charge of a wharf. The wharf is rather elongated, and can be thought of as a segment of n successive positions, numbered from 1 to n. Any number of shipping containers can be stacked by a crane at a given position, so that one sits on top of another.

All kinds of goods are stored in the containers. In particular, containers holding either hazardous materials or extremely valuable cargo are spaced apart for security.

Byteasar has received a list of k operations that the crane is going to perform: the i-th operations is encoded as (a_i, ℓ_i, d_i), which means that the crane will distribute ℓ_i containers, starting at position a_i, at every d_i-th position, i.e., at positions $a_i, a_i + d_i, a_i + 2d_i, a_i + (\ell_i - 1)d_i$. Byteasar wonders what the final numbers of containers at each position will be once all listed operations are performed.

Input

The first line of the standard input contains two positive integers n and k, specifying the number of positions along the wharf and the number of crane operations, respectively. The k lines that follow describe those operations: the i-th line contains three positive integers a_i, ℓ_i, and d_i such that $a_i + (\ell_i - 1)d_i \le n$. You may assume that $d_i = 1$ whenever $\ell_i = 1$.
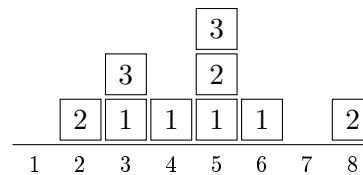
Output

A sequence of n integers $c_1, c_2, \ldots, c_n$ should be written to the standard output, where c_i should equal the number of containers at position i after all crane operations are performed.

Example

For the following input data:
```
8 3
3 4 1
2 3 3
3 2 2
```

the correct result is:
```
0 1 2 1 3 1 0 1
```


The number on a container corresponds to the number of the operation that placed it on the wharf.

Sample grading tests:

    1ocen: $n = 10$, $k = 10$, a random test;

    2ocen: $n = 11\,000$, $k = 999$, $a_i = \ell_i = i + 1$ and $d_i = 10$ for $i = 1, 2, \ldots, k$;

    3ocen: $n = 100\,000$, $k = 100\,000$, $\ell_1 = \ell_2 = \ldots = \ell_k = 1$.

Grading

The set of tests consists of the following subsets. Within each subset, there may be several test groups.

Subset	Property	Score
1	$n \le 1000$, $k \le 2000$	21
2	$n, k \le 100\,000$, $d_1 = d_2 = \ldots = d_k$	33
3	$n, k \le 100\,000$	46