Germania

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1.3 seconds
Memory limit:	1024 megabytes

I'm famous just like Ronaldo and Messi And I'm fast in everything, like van Persie in attack.

Nicolae Guță feat Dani Mocanu - "Champions League"

On July 15, 1475, on the eve of a great battle, **Daniel Mârlanu'** – the fearless tactician from the song "Germany" — is preparing his army. The soldiers are organized into n units, numbered from 1 to n. Initially, every soldier in each unit has experience level 0.

The *power* of unit i ($1 \leq i \leq n$), denoted P_i, is defined as the smallest positive integer experience level that is *missing* from that unit. Thus, at the start, every unit's power is 1.

To gain a decisive tactical advantage, the ruler issues a list of two types of commands to his trusted hatman, Jean Carapace.

`Command`	`Effect`
`1 i`	Determine and print the power of unit i ($1 \leq i \leq n$).
`2 st dr val`	For each unit i with $st \leq i \leq dr$, add one soldier whose experience is $val + (i - st)$.

Task. Write a program that executes the commands from the list received by hatman Jean Carapace.

- $1 \leq n, q, val \leq 200\ 000$

Input

The first line contains two integers n and q, separated by a space, where n is the number of units and q is the number of orders. Each of the following q lines describes one order in the format above.

Output

For each order, output on each line the result of all queries of type 1, in the order they appear.

Example

standard input	standard output
6 10 2 1 4 1 1 1 2 3 6 1 1 2 2 2 4 1 1 2 2 4 5 1 2 3 6 4 1 3 1 4	2 1 3 5 6