



TRAINING COMPETITION OF THE BULGARIAN EXTENDED NATIONAL TEAM

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group G

Problem GT2. DEFENSE

 0.4 sec.  256 MB

You are the queen of a soon to be attacked country. To defend your queendom you will build a wall, consisting of n sectors. Every sector's construction costs s Euro, but you can use m special offers, the i -th of which lets you construct the sectors in the interval $[a_i, b_i]$ at the cost of p_i Euro.

Find the minimal cost, which you need to pay to build the whole wall. Notice that constructing the same sector more than once is not an issue and may be part of an optimal solution.

Input

The first line of the standard input consists of n , m and s – the number of sectors, the number of special offers and the cost of building a singular sector. The next m lines consist of triples – a_i , b_i and p_i , describing the i -th special offer.

Output

Print only the minimal cost to succesfully build all n sectors.

Constraints

- $1 \leq n, m \leq 2 \times 10^5$
- $1 \leq s, p_i \leq 10^6$
- $1 \leq a_i \leq b_i \leq n$

Subtasks

Subtask	Points	Necessary subtasks	n	m	Additional constraints
0	0	—	—	—	Examples.
1	18	—	≤ 200	≤ 16	—
2	22	1	≤ 200	≤ 200	—
3	17	2	≤ 2000	≤ 2000	—
4	18	—	$\leq 2 \times 10^5$	$\leq 2 \times 10^5$	$p_i = s$
5	25	3, 4	$\leq 2 \times 10^5$	$\leq 2 \times 10^5$	—

Points for a given subtask are only awarded if all tests provided for it are successfully passed.

Examples

Input	Output	Explanation
5 3 3 1 2 2 4 5 1 2 4 10	6	In this instance you use the first and second offer. This way you construct sectors 1, 2, 4 and 5. Sector 3 is paid for seperately. Summing up the costs we get $2 + 1 + 3 = 6$.
5 3 3 1 2 2 4 5 1 2 4 2	5	Again, using the first two offers you construct sectors 1, 2, 4 and 5. In order to build sector 3, this time it is more optimal to pay for the last offer, regardless that this way sectors 2 and 4 will be built twice. The minimal cost is $2 + 1 + 2 = 5$.