Bob's Road Upgrade

Time Limit: 1.0s   **Memory Limit:** 512M

In Bobland, there are N villages, numbered from 1 to N, and M bidirectional roads, numbered from 1 to M. The i-th road connects villages u_i and v_i with a length of w_i. There is one path between any two villages.

Bob wants to upgrade these roads. First of all, Bob will choose a non-negative integer X ($X \geq 0$), and then select a set of villages S, where the village j is in S if the shortest path from the village 1 to the village j is **not greater than** X. Bob will build a highway between any two villages in the set S. The total cost for building all highways is $C \times X$, where C is a given integer. After that, Bob will remove the original roads connecting any two villages in set S. For the rest original roads which have not been removed, the upgrade cost is the sum of length of those roads, i.e. the cost to upgrade a road with length of d is d. The total upgrade cost includes the cost to build highways and the upgrade cost for the remaining roads.

Bob wants to find out the minimal total upgrading cost. Can you write a program to help him?

Input Specification:

The first line of input three integers N, M, C, ($2 \leq N \leq 10^5$, $1 \leq M \leq 2 \times 10^5$, $1 \leq C \leq 10^5$), indicating the number of villages, the number of roads, and the constant integer, respectively.

Each of the following M lines contains three integers, u_i, v_i, and w_i, ($1 \leq u_i, v_i \leq N$, $1 \leq w_i \leq 10^5$), indicating a road between two villages. There is no self loop and at most one road between a same pair of villages.

Output Specification:

Output one integer, the minimal total upgrading cost.

Constraints

Subtask	Points	Additional constraints
1	15	$N \leq 100, M \leq 200, C \leq 100,$ $w_i \leq 10.$
2	45	$N \leq 100, M \leq 4000$
3	40	No additional constraints.

Sample Input 1:

```
5 5 2
2 3 1
3 1 2
2 4 3
1 2 4
2 5 5
```

Sample Output 1:

```
14
```

Explanation:

If Bob chooses $X = 3$, he will build highways among villages 1, 2 and 3, and the remaining roads are $< 2, 4 >$ and $< 2, 5 >$. The total cost is $2 \times 3 + 3 + 5 = 14$.

Sample Input 2:

```
5 4 10
1 2 3
2 3 4
3 4 3
4 5 5
```

Sample Output 2:

```
15
```

Explanation:

Bob can choose $X = 0$.

Sample Input 3:

```
6 5 2
1 2 2
1 3 4
1 4 3
1 5 1
1 6 5
```

Sample Output 3:

```
10
```

Explanation:

Bob can choose $X = 5$ and the total cost is $2 \times 5 = 10$.