Task: LIN
railroad line

ASD lab, credit assignment 2 Available memory: 128 MB. *07.01.2024, 23:59:59*

Due to changes at the top of government, Byteasar recently became director of the Byteotian Railroad (BKL). Currently, Byteotia is in ruins and there are no railroads there. Byteasar would like to build the first line, used to transport goods. A first proposal for the route has been made, and in order to assess its quality, Byteasar has decided to conduct some simulation. Byteotian companies have been asked to declare from where, to where and at what time they would like to send goods by the proposed railroad line. Each such request is a triple of natural numbers (*a, b, t*). In addition, Byteasar has determined a certain number *k*, used to determine whether two time points are close to each other. We say that two requests (a_1 , b_1 , t_1) and (a_2 , b_2 , t_2) collide when the intervals [a_1 , b_1] and [a_2 , b_2] have *a* non-empty intersection, and when $|t_1 - t_2| \leq k$.

Given a list of requests and a number *k*, Byteasar would like to know how many pairs of requests collide with each other. Help Byteasar and write a program that accomplishes this task.

Input

The first line of input gives two integers: *n*, *k* ($1 \leq n \leq 2 \cdot 10^5$, $1 \leq k \leq 10^9$), where *n* is the number of requests.

In each of the next *n* lines, there are three natural numbers of the form a_i , b_i , t_i separated by spaces, denoting *the* i-th request ($1 \leq a_i , b_i , t_i \leq 10^9$, $a_i < b_i$). It may happen that there are many identical requests.

Output

Your program should output one integer equal to the number of pairs of requests that collide with each other.

Example

For input:

```
4 2
1 5 1
4 8 3
10 15 6
3 7 4
```

The correct result is:

```
2
```