

Racecar

Nane has finally retired from competitive programming for good. After spending quite a while thinking about what to do next, he decided to become a Formula 1 driver.

His first race takes place on a very boring circular track of length d meters, and there are n racers on the track, including himself. The race will last t seconds.

But, the race is quite unfair. Every racecar starts at some position on the circle and every racecar moves at a constant speed, measured in meters per second, where no two racecars have the same speed.

Formally, racecar i starts at position p_i with speed s_i , where for any two racecars $i \neq j$, $s_i \neq s_j$.

This track is quite narrow, so it's quite hard to deal with racecars inevitably overtaking each other. Nane wants to know how many times will it happen that two racecars overtake each other, but since he retired from informatics, he needs your help in calculating this!

We define an overtake between 2 cars as them occupying the same position at some continuous (real number) point in time. Also, it is possible for a racecar to overtake multiple racecars at the same time and if a car catches another car at the end it still counts as an overtake.

Input

The input consists of $n + 1$ lines.

The first line contains the integers n, d, t in order.

The $i + 1$ -th line for $1 \leq i \leq n$ contains the integers p_i and s_i .

Output

Output one number: how many times a racecar overtakes some other racecar. Note: the answer may not fit into a 32-bit integer.

Constraints

- $2 \leq n \leq 2 \cdot 10^5$

- $3 \leq d \leq 5 \cdot 10^5$
- $1 \leq t \leq 10^9$
- $1 \leq p_i, s_i < d$
- For every $1 \leq i < j \leq n$, it holds that $s_i \neq s_j$.

Subtasks

Subtask 1: $n = 2$ (7 points)

Subtask 2: $t \leq 100, n \leq 10$, for all $1 \leq i \leq n, s_i \leq 10$ (9 points)

Subtask 3: $n \leq 2000$ (40 points)

Subtask 4: For all $1 \leq i < n, p_i < p_{i+1}, s_i < s_{i+1}$ (20 points)

Subtask 5: No additional constraints. (24 points)

Examples

Input 1

```
2 5 5
1 1
1 2
```

Output 1

```
2
```

Explanation

Car 2 overtakes Car 1 at the beginning of the race and they also meet at the very end of the race.

Input 2

```
10 50 16
4 5
1 3
1 2
2 8
49 10
22 13
13 4
16 11
37 7
49 12
```

Output 2

```
70
```