Problem A. Stop & Go

- Time Limit: 2 sec

Problem Statement

Mr. Drive, a.k.a. Mr. D, is famous for his thorough safe driving. Not only he always drives a car at an exact legal speed, but also he immediately stops a car if a traffic light turns red from green when he just enters a crossing, and he immediately starts a car at an exact legal speed when a traffic light just turns green from red.

Mr. D's next driving course is a simple straight road with length L and the legal speed limit 1 per second. Mr.D will start his drive at time 0. The road has N traffic lights numbered 1 through N. The traffic light i is at a distance of x_i from the start point. At time 0, all the N traffic lights are green. The i-th traffic light turns red from green after g_i seconds, then turns green from red after r_i, and then turns red from green after g_i seconds, then turns green from red after r_i, and so on.

In this situation, Mr. D will start from the start point and run a car at speed 1 per second. If the i-th traffic light is green or just turns green from red (but not just turns red from green) when Mr. D reaches x_i, Mr. D won't stop and go through the crossing at speed 1 per second. If the i-th traffic light is red or just turns red from green (but not just turns green from red) when Mr. D reaches x_i, Mr. D will stop until the i-th traffic light turns green.

Your task is to compute the time in seconds when Mr. D reaches point L, for given N traffic lights.

Input

The first line of the input consists of two integers, the number N ($1 \leq N \leq 100{,}000$) of traffic lights on the road and the length L ($1 \leq L \leq 10^9$) of the road. The i-th of the following N lines has three integers x_i, g_i, and r_i, where x_i ($1 \leq x_i < L$) is the position of the i-th traffic light from the start point, g_i ($1 \leq g_i \leq 10^9$) is the duration the i-th traffic light is green, and r_i ($1 \leq r_i \leq 10^9$) is the duration the i-th traffic light is red. You can assume all the positions of the traffic lights are different. In other words, $x_i \neq x_j$ holds for all $i \neq j$.

Output

Output in a line a single integer, which is the time in seconds when Mr. D reaches point L.

Sample Input 1

```
3 10
3 2 2
6 1 1
9 2 5
```

Sample Output 1

```
15
```

Sample Input 2

```
1 100
50 1000 1
```

Sample Output 2

```
100
```

Sample Input 3

```
3 100
70 10 50
20 10 15
50 50 10
```

Sample Output 3

```
150
```