

Problem A. Accurate Driver

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 1024 mebibytes

Mr. Doitsafe, a.k.a. Mr. D, is famous for his thoroughly safe driving. Not only does he always drive the car at exactly the maximum allowed speed, but also he immediately stops the car if a traffic light turns red from green when he just enters a crossing, and he immediately starts the car at exactly the maximum allowed speed when a traffic light just turns green from red.

Mr. D's next driving course is a straight road, L units in length, and the maximum allowed speed is 1 unit 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 units from the starting point. At time 0, all the N traffic lights just turned green from red. The i -th traffic light turns red from green after g_i seconds, then turns green from red after r_i seconds, then again turns red from green after g_i seconds, then once more turns green from red after r_i seconds, and so on.

In this situation, Mr. D will start from the starting point and run the car at the speed of 1 unit 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 will go through the crossing at the speed of 1 unit 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, given the descriptions of N traffic lights, to compute the time in seconds when Mr. D reaches point L .

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

Examples

<i>standard input</i>	<i>standard output</i>
3 10 3 3 3 6 2 2 9 3 6	19
1 101 50 900 1	101