

Problem D. Decorative Birds

Input file: *standard input*
 Output file: *standard output*
 Time limit: 6 seconds
 Memory limit: 1024 mebibytes

There are n adorable geese in KAIST campus. To celebrate these lovely creatures, KAIST will host “KAIST Geese Show” for students. The main content of the show is simply feeding the geese and enjoying their delightful reactions.

You have the honor of being chosen as the representative feeder for the students. Your mission is to make the show as cute as possible by feeding the geese optimally. The i -th goose approaches you at time T_i and will eagerly wait for food for a duration of L . More precisely, the i -th goose is available to eat food during the time interval $T_i \leq x \leq T_i + L$. After time $T_i + L$, the goose will lose interest and leave.

The i -th goose has speed A_i and cuteness C_i . No two geese have the same speed. If you throw a piece of food to the waiting geese at any time, the fastest goose among those will take it. Then the goose will proudly display its cuteness for all to see, adding its cuteness value to the overall cuteness score of the show. Note that there are some noisy geese, so C_i can be negative. After consuming a piece of food, the goose will be satisfied and will leave.

You have the freedom to throw as many pieces of food as you desire, with no constraints on frequency or quantity. Your goal is to determine the maximum cuteness score achievable for the show.

Input

The first line of input contains two integers, n and L ($1 \leq n \leq 3 \cdot 10^5$; $1 \leq L \leq 10^9$).

Each of the following n lines contains three space-separated integers: the i -th line contains A_i , C_i , and T_i ($1 \leq A_i \leq N$; $-10^9 \leq C_i \leq 10^9$; $0 \leq T_i \leq 10^9$).

Output

Output the maximum cuteness score of the show.

Example

<i>standard input</i>	<i>standard output</i>
6 5 6 -1 7 4 -5 9 1 3 11 5 -4 13 2 4 14 3 6 7	9