

Nokotan's Arcade

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1 Problem Statement



New song in KALEIDXSCOPE *Phase #???: ERROR*, released Jul 2025.

Maimai is an arcade rhythm game developed by SEGA, where players tap and slide notes to the beat on a circular touchscreen and surrounding buttons. The game features fast-paced, timing-based gameplay with tracks from genres such as Jpop, Anime, and Vocaloid. *Maimai* cabinet has two screens, supporting up to two players per game.

Deep in the heart of Hino City, Nokotan hosts an arcade that still houses a functioning *Maimai* cab. However, there is only one working screen as the other is broken. At any given time, only one player can use the cab, and each *Maimai* game takes exactly t continuous minutes to complete.

Suppose that the arcade opens n minutes a day and there are m people who want to play *Maimai*. Player i stays in the arcade from l_i to r_i (inclusive), during which they can play freely. For each game completed by player i , it generates p_i **popularity value** for the arcade. Note that a game is always continuous, and can only be played if **the t -minute duration is entirely contained within $[l_i, r_i]$** .

Nokotan wants to know the maximum popularity value she can earn from *Maimai*.

2 Input

The first line contains three integers $1 \leq n, m, t \leq 10^5$ —total opening time, number of players, and time for one Maimai game.

The next m lines each contain three integers l_i, r_i, p_i —the stay interval and popularity value for player i .

It is guaranteed that $1 \leq l_i \leq r_i \leq n$ and $0 \leq p_i \leq 10^9$ for all $1 \leq i \leq m$.

3 Output

An integer representing the maximum total popularity value.

4 Samples

Sample Input 1	Sample Output 1
7 3 2 1 7 1 2 5 4 2 6 2	9

5 Explanation

In the test case, the arcade opens from minute 1 to 7. There are 3 players and each game takes 2 minutes.

We can let player 2 complete 2 games, during minutes 2-3 and 4-5 respectively. Player 1 can complete 1 game during minutes 6-7. The total popularity value is $4 + 4 + 1 = 9$. Minute 1 is idle, and player 3 does not complete any game.

It can be shown no higher popularity value exists.