

Ice-cream Obsession

Time Limit	Memory Limit
1 second	256 MB

Statement

Tommy is a hard-working ice-cream maker. After months of tireless dedication to the craft, he manages to receive an invitation to the prestigious Australian Ice-cream Obsession Club's School of Excellence, held in the majestic land of Burgmanistan (unfortunately coinciding with those pesky informaticians). Here, students spend many hours meticulously honing their skills in the intricate art of making the perfect ice-cream.

Sadly, things take a turn for the worse as he miserably fails the first trial exam (strangely held before any of the lectures). Realising that he has a severe skill issue, Tommy makes it his mission to prove himself to everyone else and improve as much as he can before the final trial exam.

In order to get better, Tommy must attend lectures to increase his skill level in certain topics in ice-cream making (skill level in ice-cream making is denoted by a numerical score). There are N different topics that are taught at camp and a total of L optional lectures across various topics. The i th lecture lasts h_i hours and improves Tommy's skill level in topic t_i by s_i points. However, Tommy is only human and so, he is only able to attend a total of H hours of lectures before getting burnt out.

Additionally, in order to attend a lecture that covers a certain topic, he must have attended all previous lectures covering that topic to ensure that he understands the content of the lecture. For example, Tommy may only attend Double Scoops (DS) III if he has attended DS I and II. His total improvement at the end is the sum of his improvements in each individual topic.

Despite disliking informatics, Tommy is desperate and decides that it is best to ask you, an informatics student, to write a program to determine the greatest possible improvement he can make.

Input

The first line of input contains three integers: N , L and H .

The next L lines of input describe the L lectures, **listed in chronological order**. Each line contains three space-separated integers, t_i , h_i and s_i .

Output

Your output should be a single line consisting of one integer, the maximum possible improvement you can make.

Note that as the answer may be quite large, users are advised to use 64-bit integers.

Sample Input 1

```
3 5 7
2 1 4
1 3 3
2 2 3
1 4 8
3 1 2
```

Sample Input 2

```
5 3 11
2 3 4
4 4 2
4 2 2
```

Sample Output 1

12

Sample Output 2

8

Explanation

For Sample Input 1, the optimal choice of lectures is to attend the first lecture for topic 1, both lectures for topic 2 and the only lecture for topic 3, resulting in an improvement of 12 points for Tommy and using exactly 7 hours.

For Sample Input 2, the optimal choice of lectures is to simply attend all lectures, resulting in an improvement of 8 points for Tommy and using 8 hours.

Constraints

For all subtasks:

- $1 \leq N, L, H \leq 1000$
- $1 \leq t_i \leq N$ for all i
- $1 \leq h_i \leq H$ for all i
- $1 \leq s_i \leq 10^9$ for all i

Subtasks

Number	Points	Other constraints
1	10	$N = 1$
2	15	$L = N$ and there is exactly 1 lecture for each topic.
3	15	$L = 2N$ and there are exactly 2 lectures for each topic.
4	30	$N, L, H \leq 100$
5	30	No further constraints.