# Problem B. Somewhere Over the Rainbow

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|---|---|
| Input file: | *standard input* |
| Output file: | *standard output* |
| Time limit: | 2 seconds |
| Memory limit: | 512 mebibytes |

You want to draw a rainbow. The rainbow can be represented as a sequence of **integer** heights $a_0$, $a_1$, ..., $a_m$ and must satisfy the following constraints:

- $a_0 = a_m = 0$ (the endpoints of the rainbow are 0 meters above the horizon),

- $2a_i > a_{i-1} + a_{i+1}$ for all $0 < i < m$ (the rainbow is convex),

- $a_{x_i} \geq y_i$ for $n$ given pairs $(x_i, y_i)$.

You also want the rainbow to take as little space as possible, so please find the minimum possible value of $\sum_{i=0}^{m} a_i$. Since the answer may be very large, output it modulo $998\,244\,353$.

## Input

The first line of input contains two positive integers $n$ and $m$ ($1 \leq n \leq 2 \cdot 10^5$, $1 \leq m \leq 10^9$): the number of constraints and the length of the sequence.

Each of the next $n$ lines contains two integers $x_i$ ($1 \leq x_i \leq m - 1$) and $y_i$ ($1 \leq y_i \leq 10^{18}$), which set conditions $a_{x_i} \geq y_i$.

It is guaranteed that $x_1 < x_2 < \ldots < x_n$.

## Output

Print one integer: the minimum value of $\sum_{i=0}^{m} a_i$ modulo $998\,244\,353$.

## Example

| standard input | standard output |
|---|---|
| 3 6<br>1 100<br>4 42<br>5 22 | 310 |

## Note

In the sample case, one optimal height sequence is $(0, 100, 82, 63, 43, 22, 0)$.