Hide and Seek

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Eva is playing a special game of "hide and seek" with Colin. Unlike the traditional game, Eva chooses a hidden positive integer x for Colin to guess.

First, Eva tells Colin a positive integer a and guarantees that $x \leq a$.

Then Eva gives Colin m constraints. Constraint j consists of two non-negative integers b_j and c_j and requires

$$b_j \bmod x = c_j.$$

Colin wants to enumerate every possible value of x, but he does not know how many there are. Determine the number of positive integers $x \leq a$ that satisfy all the constraints.

It is guaranteed that at least one such integer exists.

Input

The first line contains two integers m and a ($1 \leq m \leq 2 \times 10^5$, $1 \leq a \leq 10^9$), the number of constraints and the upper bound on x, respectively.

Each of the next m lines contains two integers b_j and c_j ($0 \leq c_j \leq b_j \leq 10^9$), describing the constraint $b_j \bmod x = c_j$.

Output

Output one integer: the number of positive integers that satisfy all the given constraints.

Example

standard input	standard output
2 10 7 1 8 2	2