NOI '01 P5 - Equation Solutions

Time limit: 1.0s **Memory limit:** 64M

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Given an n-th order equation:

$$k_1 x_1^{p_1} + k_2 x_2^{p_2} + \cdots + k_n x_n^{p_n} = 0$$

where: $x_1, x_2, \ldots, x_n$ are the unknowns, $k_1, k_2, \ldots, k_n$ are the coefficients, and $p_1, p_2, \ldots, p_n$ are the exponents. Additionally, each value in the equation is an integer.

Assume that the unknowns will satisfy $1 \le x_i \le M$ for $i = 1 \ldots n$. Find the number of integer solutions.

Input Specification

The first line of input contains the integer n.
The second line of input contains the integer M.
Lines 3 to $n+2$ will each contain two space-separated integers, the values of k_i and p_i respectively. Line 3 corresponds to when $i = 1$, and line $n+2$ corresponds to when $i = n$.

Output Specification

Output one integer - the number of integer solutions that solve the equation.

Sample Input

```
3
150
1 2
-1 2
1 2
```

Sample Output

```
178
```

Constraints

- $1 \le n \le 6$

- $1 \leq M \leq 150$
- $|k_1 M^{p_1}| + |k_2 M^{p_2}| + \cdots + |k_n M^{p_n}| < 2^{31}$
- The number of solutions will be less than 2^{31}.
- The exponents P_i $(i = 1, 2, \ldots, n)$ in this problem will each be a positive integer.

Problem translated to English by **Alex**.