2774 - FLOWERS

Description

Imagine Betsy's surprise as she rounded the barn and discovered that Farmer John had built a secret greenhouse that was now brimming with gorgeous flowers. Her mind ran wild as visions of a gorgeous colorful garden swirled through her little bovine brain.

"I think I'll make a long row of F (7 <= F <= 10,000) flowers against the far fence," she thought. "I'll plant roses in every 3rd slot, begonias in every 7th slot that is still open, and daisies in every 4th slot that is still open." Betsy wondered how many open slots would remain. She realized that the number would depend on which slot she started planting when she intended to fill every Nth slot with a kind of flower.

Help Betsy know how many open slots will remain. Read a set of K (1 <= K <= 100) planting descriptors, each of which tells a starting location L (1 <= L <= F) -- L=1 is the first flower -- and an interval I (1 <= I <= F) for planting flowers. Deduce the number of empty slots that remain after planting the entire set.

If Betsy followed through on her initial vision, she might specify the planting as:

     30 3   [30 slots total; 3 kinds of flowers]
     1 3   [start at slot 1 and plant roses every 3rd slot]
     3 7   [start at slot 3 and plant begonias every 7rd slot]
     1 4   [start at slot 1 and plant daisies in every 4th slot]

Thus, the empty garden looks like this:

     . . . .
Then, after the rose planting:

     R . . R . . R . . R . . R . . R . . R . . R . . R . . R . .
Then, after the begonia planting:

     R . B R . . R . . R . . R B . R . . R . B R . . R . .
Then, after the daisy planting:

     R . B R D . R . D R . . R . . R B . R . D R . B R . . R D .

13 empty slots remain after all the planting.

Input specification

Line 1: Two space-separated integers: F and K
Lines 2..K+1: Line j contains two space-separated integers that specify the planting of one kind of

flower: L_j and l_j

Output specification

Line 1: A single line with a single integer that is the number of empty flower slots that remain after the planting is complete

Sample input

```
30 3
1 3
3 7
1 4
```

Sample output

```
13
```

Hint(s)

Source	USACO[Rob Kolstad]
Added by	**jbpineiro**
Addition date	2014-03-25
Time limit (ms)	10000
Test limit (ms)	1000
Memory limit (kb)	130000
Output limit (mb)	64
Size limit (bytes)	15000
Enabled languages	Bash C C# C++ Java Pascal Perl PHP Python Ruby Text