Problem:

Given M,N for the size of a paper(M x N), calculate the number of sections that are divided, and the size of the sections in ascending order.

Input:

First line: M (natural number <= 100) N (natural number <= 100) K (natural number <= 100)

Next K lines:

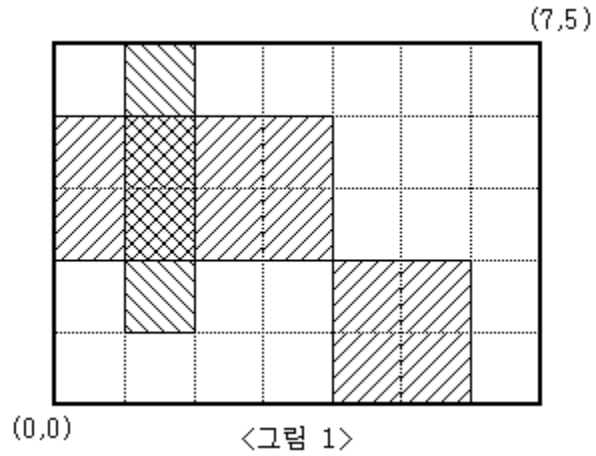
- For each k line: position of left-bottom vertex of rectangle, position of right-top vertex of rectangle (x and y)
- Ex) 0 2 4 4 → (0,2) for left-bottom vertex and (4,4) for right-top vertex

Output:

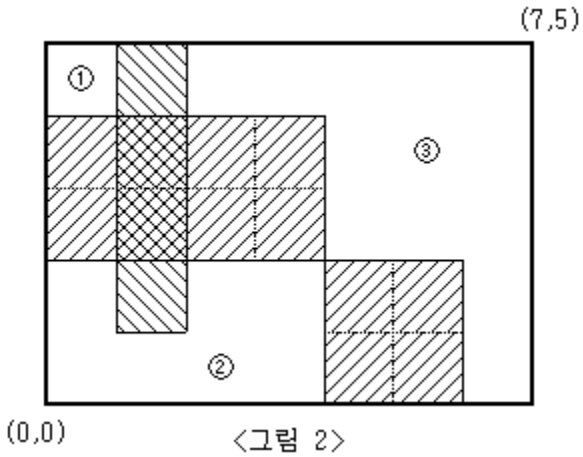
First line: number of sections

Second line: size of sections in ascending order

Ex)



<그림 1>



<그림 2>

From the image above, the input and output should be:

Input:

5 7 3

0 2 4 4

1 1 2 5

4 0 6 2

Output:

3

1 7 13