Time limit: 1.000 seconds

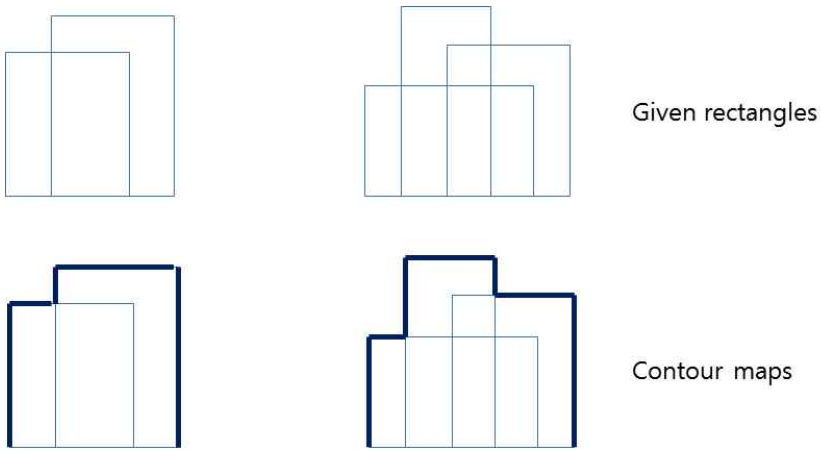
Contour Map

The Problem

Given n rectangles on the x-axis as shown below, find the contour map of the given rectangles and determine the area of each contour map.

The Input

The input consists of several test cases. Each line has three integers: x-coordinate of left boundary, height, x-coordinate of right boundary of a rectangle. A line containing 0 0 0 indicates the end of the test case, which should not be processed. End of file indicates that there is no more input.



The number of rectangles for each test case is up to 200,000. Coordinates for x-boundaries and heights are up to 1,000,000.

input file name: contour.inp

The Output

Determine the area of the contour of adjacent rectangles. For each test case, print 'Test Case : # ' and show the areas of the adjacent rectangles in a line separated by a blank as shown in the following sample.
Note: You can assume that every area can be represented using **long long** int type.

output file name: contour.out

Sample Input

```
2 7 10
4 9 12
20 8 25
23 12 24
30 5 40
0 0 0

10 5 50
20 8 30
0 0 0
```

Sample Output

```
Test Case #1 : 86 44 50
Test Case #2 : 230
```