# Problem 3 – Largest 3 Rectangles

We are given a sequence of rectangles in the following format:

[*a1* x *b1*] [*a2* x *b2*] … [*an* x *bn*]

where *a1*…*an* and *b1*…*bn* are the sides of the rectangles (positive integers). Our goal is to find **three consecutive rectangles** with **largest total area**. For example, in the following sequence of **6 rectangles** we have marked as bold the largest 3 rectangles, that have total area **31** (4\*3 + 1\*4 + 5\*3 = 31):

[3 x 3] [3 x 2] **[4 x 3] [1 x 4] [5 x 3]** [3 x 1]

Write a program that reads a sequence of rectangles (at least 3) in the specified above format and calculates and prints **the total area of the largest 3 rectangles**.

### Input

The input data should be read from the console. At the first line, we have the **input sequence of rectangles** in the specified format. Each rectangle is surrounded in square brackets **[** **]**. The sides of each rectangle are given as two numbers with the '**x**' sign between them. Anywhere around the numbers and around the other characters we could have **spaces** (one or more space).

The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

At the only output line print the **total area** of the largest sequence of 3 rectangles.

### Constraints

* The sides of the rectangles will be integers in the range [1…999].
* The **count** of the rectangles will be in the range [3..100].
* The input line will consist of the following characters: '**[**', '**]**', '**0**', '**1**', '**2**', '**3**', '**4**', '**5**', '**6**', '**7**', '**8**', '**9**', '**x**' and ''.
* Time limit: 0.3 sec. Memory limit: 16 MB.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| [3 x 3] [3 x 2] **[4 x 3] [1 x 4] [5 x 3]** [3 x 1] | 31 | 4\*3 + 1\*4 + 5\*3 = 31 |
| **[12x7][3x5][10x12]** [4x3][1x8] | 219 | 12\*7 + 3\*5 + 10\*12 = 219 |
| [2x2][3x3][4x4][5x5][6x6][7x7]**[8x8][9x9][10x10]** | 245 | 8\*8 + 9\*9 + 10\*10 = 245 |
| [ 300 x 200 ] [50x 50][ 30 x 20 ] | 63100 | 300\*200 + 50\*50 + 30\*20 = 63100 |