LCC '24 Contest 3 J1 - Icebergs

Time limit: 2.0s   **Memory limit:** 256M

Bob the penguin is part of a special species of penguins that can fly! He has recently discovered a peculiar fact: all the icebergs (even the floating ones!!) that he and his fellow flying penguin inhabit can be modelled as rectangles! In particular, Bob the penguin is examining a single iceberg with coordinates $(x_1, y_1), (x_2, y_2), (x_3, y_3), (x_4, y_4)$, in **clockwise order of vertices, starting from the top left**. He would like to know the area of the iceberg that is located **above** the x-axis, or in other words, the area of the region above the line $y = 0$. However, since Bob the penguin isn't able to program this problem with his flippers, he asks you to help code this problem!

Input Specification

There will be 4 lines of input, with the ith line containing two space-separated integers x_i, y_i.

Output Specification

Output one integer, representing the total area of the iceberg that is located above the x-axis.

Constraints

For all subtasks, $-10^3 \le x_i \le 10^3$

Subtask 1 [50%]

All coordinates have a non-negative y value, where $0 \le y_i \le 10^3$.

Subtask 2 [50%]

$-10^3 \le y_i \le 10^3$

Sample Input

```
-3 2
7 2
7 -6
-3 -6
```

Sample Output

```
20
```

Sample Explanation

As observed in the graph, the portion above the x-axis has width 10 and height 2.