Team Rocket's Capture Caper

Team Rocket is at it again! There's a large field filled to the brim with Pokémon! Team Rocket wants to capture them all in their quest to... hmm... take over the world? Or something like that? That's beside the point; their ultimate plan will fail unless they capture every single Pokémon in the field! They will fly a plane over the field and drop a huge net over the Pokémon to capture them! Muahahahah.

But netting is pretty expensive. And when you are taking over the world (or something) you have to be efficient with your Pokédollars. So Team Rocket wants to make sure they don't buy any more netting than they absolutely need.

Team Rocket's Pokéradar has returned a list of X,Y coordinates of each Pokémon in the field. Can you write a program that will return the number of square meters of netting that Team Rocket needs to purchase? The netting can be purchased at any specified size, so the total area is all that is needed.

Input Format

The first line contains a single integer N, the number of Pokémon in the field. The next N lines each contain two integers separated by a space.

x_i y_i

Where x_i and y_i are the x and y coordinates of the i'th Pokémon in the field (x and y are given in meters, so you don't need to worry about units).

Constraints

$3 \leq N \leq 2^{19}$

$-25000 \leq x_i, y_i \leq 25000$

Output Format

A single number A, which is the minimum area of netting that Team Rocket needs to buy.

Note: $A \leq 2^{32}$ and $2 \cdot A \in \mathbb{Z}$. Your output should always contain exactly one decimal place. Coupled with the second condition in this note, this means that your output will always end in either `.0` or `.5`, e.g. `42.5` or `149597900.0`.

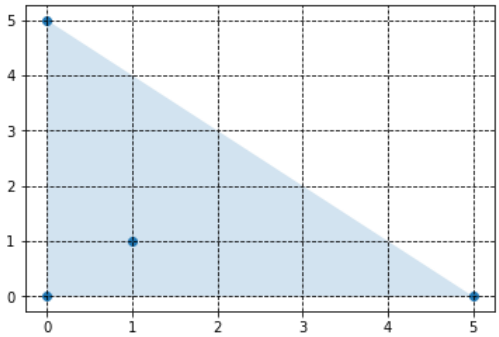
Sample Input 0

```
4
0 0
0 5
5 0
1 1
```

Sample Output 0

```
12.5
```

Explanation 0



The shaded area above is the space that the net needs to cover. Using your favorite area calcuation technique, you can see this area is exactly `12.5` meters.

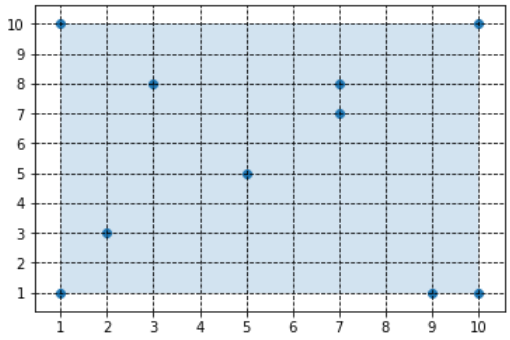
Sample Input 1

```
10
1 1
10 10
1 10
10 1
5 5
2 3
7 8
9 1
3 8
7 7
```

Sample Output 1

```
81.0
```

Explanation 1



It is easy to see that a 9×9 meter net will cover all the Pokémon, so the answer is `81.0`.