(Adv.) Competitive Programming

Submit until end of contest, via the judge interface

Problem: cheating (1 second timelimit)

In Competitive Programming, just like in every course we have very strict anti cheating procedures in place, because it is important to us that you can solve the problems alone. For example for this contest it is important to us that none of you sit to close together, so that nobody can copy code from someone else's screen. To check this as accurate as possible, we even created a coordinate system for the room, so that each of you can have their own 2D coordinates. Now we want to figure out what the distance of the two of you sitting closest to each other is, so that we can know if our anti cheating procedures were violated. We're quite lazy however, so can you please compute that for us?

Input First, there is a line with $2 \leq n \leq 10^5$, the number of students participating in the contest. For each of you, follows one line, with the coordinates $0 \leq x, y \leq 10^6$. Of course, no two students will have the same coordinates, because luckily we have enough space that we don't need to stack.

Output To prevent rounding errors, print the ***SQUARE*** of the distance between the closest two students.

Sample input

```
4
0 0
5 4
2 2
4 1
```

Sample output

```
5
```