



Code-Hunters 2.0! LIVE



[Problems](#) [My Submissions](#) [Hall of Fame](#) [Analytics](#) [Judge](#) Time left : **00:59:30**

[← Problems](#) / Two Monks

Two Monks

Max. Marks: 100

A unique forest consisted **two** monks and many wounded deers residing in it. Both the monks can heal the wounded deers by their spiritual healing spell. The healing spell emitted by monks would spread in the circular arena(whose centre is the monk itself who emitted that spell) and all the deers in that circular arena would be healed. You are given with the location of the two monks and the location of the wounded deer's. You need to minimize the sum ($r_1^2 + r_2^2$) where r_1 and r_2 are the radius of the circular arena created by each monk respectively such that **all** the deers are healed.

Input: The first line of the input contains integers n, x_1, y_1, x_2, y_2 ($1 \leq n \leq 2000, -10^7 \leq x_1, y_1, x_2, y_2 \leq 10^7$) — the number of wounded deers, the coordinates of the first and the second monk. Next follow n lines. The i -th of these lines contains integers x_i and y_i ($-10^7 \leq x_i, y_i \leq 10^7$) — the coordinates of the i -th deer. **Note that both monks and deers cannot move and all the coordinates given here are unique.**

Output: Print the minimum possible value $r_1^2 + r_2^2$. Note, that in this problem optimal answer is always integer.

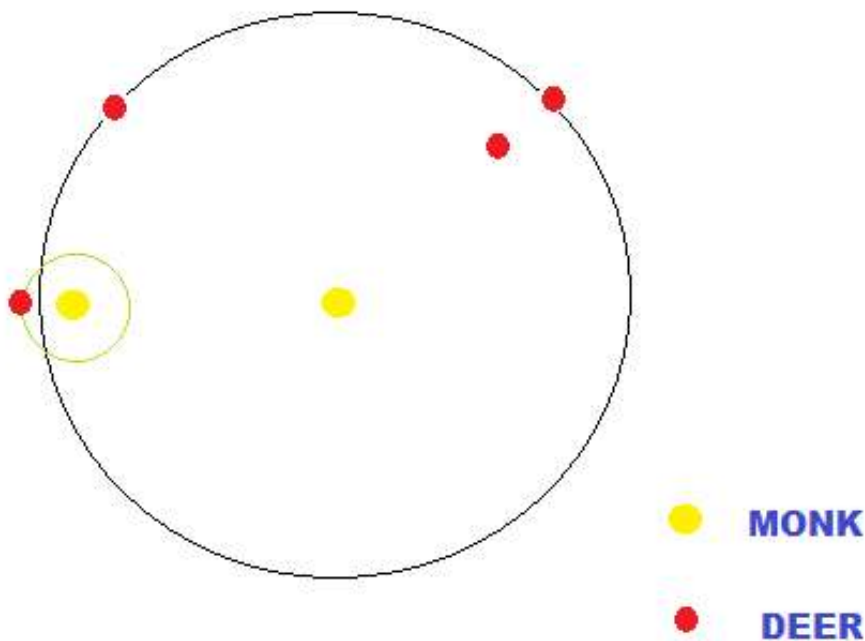
Sample Input [\(Plaintext Link\)](#)

```
4 0 0 5 0
9 4
8 3
-1 0
1 4
```

Sample Output [\(Plaintext Link\)](#)

33

Explanation



= 32

$r1^2 = 1, r2^2$

Time Limit: 2.0 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded when all the testcases pass.

Allowed languages: C, CPP, CLOJURE, CSHARP, GO, HASKELL, JAVA, JAVASCRIPT, JAVASCRIPT_NODE, LISP, OBJECTIVEC, PASCAL, PERL, PHP, PYTHON, RUBY, R, RUST, SCALA

Problem Author: [Raj patel](#)

Load Code Editor

You can submit code after loading editor.

Your Rating:

RECENT SUBMISSIONS



