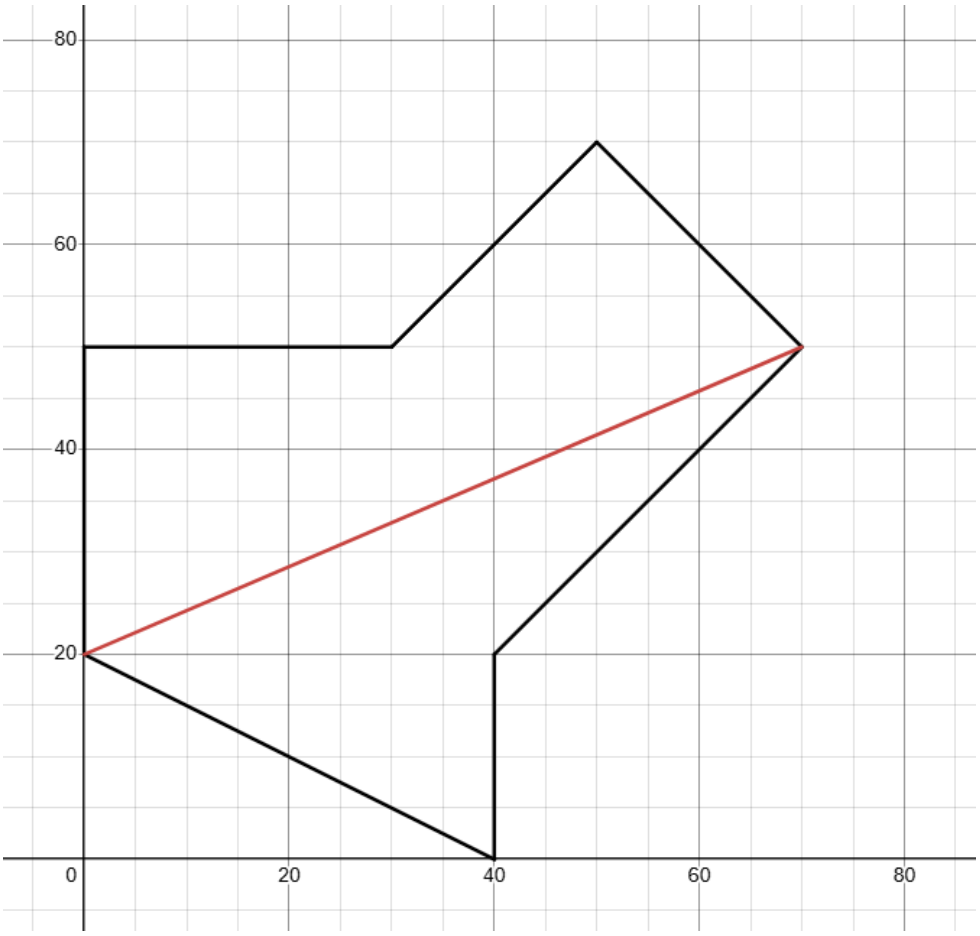
C. Diameter of Polygon

time limit per test: 1 s
memory limit per test: 256 MB

The diameter of a simple polygon is the length of the longest straight line segment that can fit in the polygon. Given a simple polygon with n vertices, try to find the diameter of the given polygon.



Sample input 1.

Input

The input starts with a line containing an integer n ($3 \le n \le 200$) specifying the number of vertices of the polygon. This is followed by n lines, each containing two integers x and y ($|x|, |y| \le 10^6$) that give the coordinates (x, y) of the vertices of the polygon in counter-clockwise order. The polygon is simple, i.e., its vertices are distinct and no two edges of the polygon intersect or touch, except that consecutive edges touch at their common vertex. In addition, no two consecutive edges are collinear.

Output

Output a single number denoting the length of the diameter of the given polygon, with an absolute or relative error of at most 10^{-6}.

Examples

UIUC CS 491 Spring 2025
Private
Participant

→ About Group
Group website

→ Group Contests

- Line Sweep - Homework (Extra Credit)
- Convex Hull - Preclass
- Number Theory I - Homework
- Line Sweep - Preclass
- Number Theory II - Homework
- Combinatorics - Homework
- Geometry - Preclass
- Geometry - Homework
- Convex Hull - Homework (Extra Credit)
- Rabin Karp - Homework
- Number Theory II - Preclass
- Combinatorics - Preclass
- DP TSP - Homework
- KMP - Homework
- DP Tree - Homework
- Number Theory I - Preclass
- KMP - Preclass
- DP Palindromes - Homework
- Rabin Karp - Preclass
- DP Edit Distance - Homework
- DP Knapsack - Homework
- DP TSP - Preclass
- DP Longest Increasing Subsequence - Homework
- DP Intro - Homework
- DP Tree - Preclass
- Greedy - Homework
- Fenwick Tree - Homework

input Copy

```
7
0 20
40 0
40 20
70 50
50 70
30 50
0 50
```

output Copy

```
76.157731059
```

- DP Knapsack - Preclass
- DP Edit Distance - Preclass
- Segment Tree - Homework
- DP Palindromes - Preclass
- Lazy Segment Tree - Homework
- LCA and Binary Lifting - Homework
- DP intro - Preclass
- Square Root Decomposition - Homework
- DP Longest Increasing Subsequence - Preclass
- Greedy - Preclass
- Fenwick Tree - Preclass
- Bit Manipulation - Homework
- Square Root Decomposition - Preclass
- Fast Exponentiation - Homework
- MST - Homework
- Lazy Segment Tree - Preclass
- LCA and Binary Lifting - Preclass
- Segment Tree - Preclass
- Bit Manipulation - Preclass
- Fast Exponentiation - Preclass
- MST - Preclass
- Graph Traversal 2 - Homework
- Graph Traversal 2 - In Class
- All Pairs Shortest Path - Homework
- All Pairs Shortest Path - In Class
- Single Source Shortest Path - Homework
- Single Source Shortest Path - In Class
- Graph Traversal 1 - Homework
- Graph Traversal 1 - In Class
- Binary Search Tree - Homework
- Binary Search Tree - In Class
- Disjoint Sets - Homework
- Disjoint Sets - In Class
- Divide and Conquer - Homework
- Divide and Conquer - In Class
- Complete Search - Homework
- Complete Search - In Class
- STL - Homework
- STL - In Class
- IO Problems - Preclass
- Test Contest

Geometry - Homework

Contest is running

06:11:06

Contestant

→ Submit?

Language: PyPy 3.10 (7.3.15, 64bit)

Choose file: Choose File no file selected

Submit