

Problem A Garden

Time Limit: 1 second

Fresh and green! We should create a nature-friendly environment for our new city with trees and flowers. Therefore, a Marvelous Garden is going to be built in the new city.

The city is described as a convex polygon with n vertices, and the garden has a triangle shape.



Your task is to build the Marvelous Garden with the largest area in the city.

Input

The first line contains an integer n , the number of vertices of the polygon ($3 \leq n \leq 2000$).

In the next n lines, each line contains 2 integers (with absolute value not exceeding 10^7) describing the coordinates of the vertices. These vertices can be listed in either the clockwise or counter-clockwise order of the polygon.

Output

Display one number - the largest area of the garden in the city. The result has exactly one digit after the decimal place.

Sample Input

Sample Output

4 0 0 10 0 12 12 0 10	70.0
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