大视野在线测评

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Notice: 1:由于本OJ建立在Linux平台下,而许多题的数据在Windows下制作,请注意输入、输出语句及数据类型及范围,避免无谓的RE出现。 2:本站即将推出针对初学者的试题系统(与目前OJ是分开的,互不影响),内容覆盖从语法入门到NOI的所有知识点,敬请关注。

4090: [Neerc2013]Easy Geometry

Time Limit: 10 Sec Memory Limit: 128 MB
Submit: 3 Solved: 0
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Description

在二维世界中,有片地方的地形是折线形的,并且顶点的横坐标严格单调上升,顶点不超过 10 000 个。在这么一片地方要修建不超过 10 000 座太阳能塔。每座塔的塔高均已确定。阳光的角度是众。太阳能塔和地形之间会相互遮盖。求一个建设方案,使得每座塔被阳光照射到的长度总和最大。

Input

The first line contains a single integer n — the number of sides of the polygon ($3 \le n \le 100\,000$).

The following n lines contain Cartesian coordinates of the polygon's vertices — two integers x_i and y_i $(-10^9 \le x_i, y_i \le 10^9)$ per line. Vertices are given in the clockwise order.

The polygon is convex.

Output

Output four real numbers x_{min} , y_{min} , x_{max} and y_{max} — the coordinates of two rectangle's corners $(x_{min} < x_{max}, y_{min} < y_{max})$. The rectangle must fit into the polygon and have the maximum possible area.

The absolute precision of the coordinates should be at least 10^{-5} .

The absolute or relative precision of the rectangle area should be at least 10^{-5} . That is, if A' is the actual maximum possible area, the following must hold: $\min(|A - A'|, \frac{|A - A'|}{A'}) \le 10^{-5}$.

Sample Input

4

5 1

2 4

3 7

Sample Output

2.527257343310017 3.472742656689983

4.527257275481722 5.472742724518278

HINT

请不要提交,尚无SPJ

Source

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