

Triangle on the Axis

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

You are given a set of points on a plane with integer coordinates. Find a triangle with the largest area whose vertices belong to this set of points, with one of its sides lying on the Ox axis.

Input

The first line contains an integer n : the number of points ($1 \leq n \leq 1000$). Each of the following n lines contains two integers x and y : the coordinates of the points. All coordinates do not exceed 1000 by absolute value.

Output

Output a single real number: the maximum area of the triangle that satisfies the problem's conditions. If there is no such triangle or it is degenerate, output 0.

Your answer will be considered correct if it differs from the exact value by no more than 10^{-9} .

Examples

| <i>standard input</i> | <i>standard output</i> |
|-------------------------|------------------------|
| 3 0 0 1 0 2 -3 | 1.5 |
| 3 1 0 2 1 3 3 | 0 |

Note

Pictures for the examples:

