**Task 4.** There are N lines on a two-dimensional plane, represented in the form y = kx + b, where k and b are integers and k > 0. All lines are stored in the form of k and b, and there are no overlapping lines. There may be one intersection point between two straight lines, with a maximum of n\*(n-1)/2 intersections. We want to cover all these intersection points with a rectangle parallel to the coordinate axes. What is the minimum area of this rectangle? Return 0 if there are no intersection points, only one intersection point, or all intersection points lie on the same line parallel to the coordinate axes.

**Input data:** The data is located in the **input.txt** file. The first line of the file contains respectively sizes m, and each of the next m lines contains the values of the elements of k and b.

**Output data:** The response (one integer) must be written to the **output.txt** file.

**Program execution time:** no more than 1 second.

**Note:** The return value should be a floating-point number. Results within an absolute or relative error of 10-4 from the standard answer are considered correct.

1 <= lines.length <= 105 and lines[i].length == 2

1 <= lines[0] <= 10000

-10000 <= lines[1] <= 10000

**Examples:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test1:** | **Answer1:** | **Test2:** | **Answer2:** |
| **3**  **2 3**  **3 0**  **4 1** | **48.00000** | **2**  **8 8**  **3 4** | **0.00000** |