Problem 963: Minimum Area Rectangle II

Problem Information

Difficulty: Medium
Acceptance Rate: 55.78%
Paid Only: No
Tags: Array, Hash Table, Math, Geometry

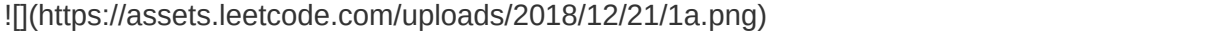
Problem Description

You are given an array of points in the **X-Y** plane `points` where `points[i] = [xi, yi]`.

Return _the minimum area of any rectangle formed from these points, with sides**not necessarily parallel** to the X and Y axes_. If there is not any such rectangle, return `0`.

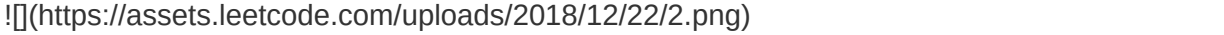
Answers within `10-5` of the actual answer will be accepted.

Example 1:



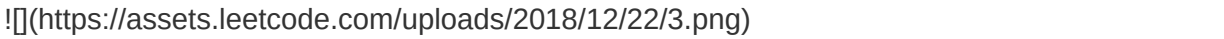
Input: points = [[1,2],[2,1],[1,0],[0,1]] **Output:** 2.00000 **Explanation:** The minimum area rectangle occurs at [1,2],[2,1],[1,0],[0,1], with an area of 2.

Example 2:



Input: points = [[0,1],[2,1],[1,1],[1,0],[2,0]] **Output:** 1.00000 **Explanation:** The minimum area rectangle occurs at [1,0],[1,1],[2,1],[2,0], with an area of 1.

Example 3:



Input: points = [[0,3],[1,2],[3,1],[1,3],[2,1]] **Output:** 0 **Explanation:** There is no possible rectangle to form from these points.

Constraints:

* `1 <= points.length <= 50` * `points[i].length == 2` * `0 <= xi, yi <= 4 * 104` * All the given points are **unique**.

Code Snippets

C++:

```
class Solution {
public:
double minAreaFreeRect(vector<vector<int>>& points) {

}
};
```

Java:

```
class Solution {
public double minAreaFreeRect(int[][] points) {

}
}
```

Python3:

```
class Solution:
def minAreaFreeRect(self, points: List[List[int]]) -> float:
```