Problem 812: Largest Triangle Area

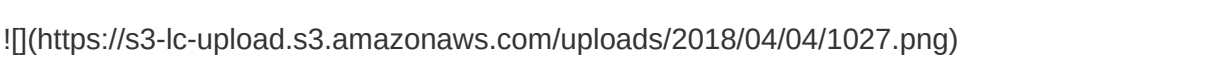
Problem Information

Difficulty: Easy
Acceptance Rate: 71.24%
Paid Only: No
Tags: Array, Math, Geometry

Problem Description

Given an array of points on the **X-Y** plane `points` where `points[i] = [xi, yi]`, return _the area of the largest triangle that can be formed by any three different points_. Answers within `10-5` of the actual answer will be accepted.

Example 1:



Input: points = [[0,0],[0,1],[1,0],[0,2],[2,0]] **Output:** 2.00000 **Explanation:** The five points are shown in the above figure. The red triangle is the largest.

Example 2:

Input: points = [[1,0],[0,0],[0,1]] **Output:** 0.50000

Constraints:

* `3 <= points.length <= 50` * `-50 <= xi, yi <= 50` * All the given points are **unique**.

Code Snippets

C++:

```
class Solution {
public:
```

```
double largestTriangleArea(vector<vector<int>>& points) {

}
};
```

Java:

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

}
}
```

Python3:

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