Problem 356: Line Reflection

Problem Information

Difficulty: Medium
Acceptance Rate: 36.15%
Paid Only: Yes
Tags: Array, Hash Table, Math

Problem Description

Given `n` points on a 2D plane, find if there is such a line parallel to the y-axis that reflects the given points symmetrically.

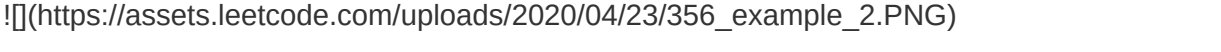
In other words, answer whether or not if there exists a line that after reflecting all points over the given line, the original points' set is the same as the reflected ones.

Note that there can be repeated points.

Example 1:

Input: points = [[1,1],[-1,1]] **Output:** true **Explanation:** We can choose the line x = 0.

Example 2:



Input: points = [[1,1],[-1,-1]] **Output:** false **Explanation:** We can't choose a line.

Constraints:

* `n == points.length` * `1 <= n <= 104` * `-108 <= points[i][j] <= 108`

Follow up: Could you do better than `O(n2)`?

Code Snippets

C++:

```
class Solution {
public:
bool isReflected(vector<vector<int>>& points) {

}
};
```

Java:

```
class Solution {
public boolean isReflected(int[][] points) {

}
}
```

Python3:

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