Problem 1266: Minimum Time Visiting All Points

Problem Information

Difficulty: Easy
Acceptance Rate: 82.63%
Paid Only: No
Tags: Array, Math, Geometry

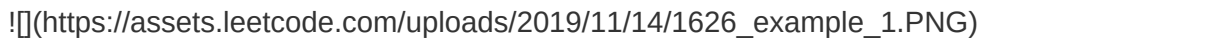
Problem Description

On a 2D plane, there are `n` points with integer coordinates `points[i] = [xi, yi]`. Return _the**minimum time** in seconds to visit all the points in the order given by _`points`.

You can move according to these rules:

* In `1` second, you can either: * move vertically by one unit, * move horizontally by one unit, or * move diagonally `sqrt(2)` units (in other words, move one unit vertically then one unit horizontally in `1` second). * You have to visit the points in the same order as they appear in the array. * You are allowed to pass through points that appear later in the order, but these do not count as visits.

Example 1:



Input: points = [[1,1],[3,4],[-1,0]] **Output:** 7 **Explanation:** One optimal path is **[1,1]** -> [2,2] -> [3,3] -> **[3,4]** -> [2,3] -> [1,2] -> [0,1] -> **[-1,0]** Time from [1,1] to [3,4] = 3 seconds Time from [3,4] to [-1,0] = 4 seconds Total time = 7 seconds

Example 2:

Input: points = [[3,2],[-2,2]] **Output:** 5

Constraints:

* `points.length == n` * `1 <= n <= 100` * `points[i].length == 2` * `-1000 <= points[i][0], points[i][1] <= 1000`

Code Snippets

C++:

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

}
};
```

Java:

```
class Solution {
public int minTimeToVisitAllPoints(int[][] points) {

}
}
```

Python3:

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