

1266. Minimum Time Visiting All Points

Solved

Easy

Topics

Companies

Hint

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`

Python:

```

class Solution:
    def minTimeToVisitAllPoints(self, p: List[List[int]]) -> int:
        Ans = 0
        for i in range(1, len(p)):
            Ans += max(
                abs(p[i][0] - p[i - 1][0]),
                abs(p[i][1] - p[i - 1][1])
            )
        return Ans

```

JavaScript:

```

var minTimeToVisitAllPoints = function(p) {
    let ans = 0;
    for (let i = 1; i < p.length; i++) {
        ans += Math.max(
            Math.abs(p[i][0] - p[i - 1][0]),

```

```
        Math.abs(p[i][1] - p[i - 1][1])
    );
}
return ans;
};



## Java:



```
class Solution {
 public int minTimeToVisitAllPoints(int[][] p) {
 int ans = 0;
 for (int i = 1; i < p.length; i++) {
 ans += Math.max(
 Math.abs(p[i][0] - p[i - 1][0]),
 Math.abs(p[i][1] - p[i - 1][1])
);
 }
 return ans;
 }
}
```


```