

You are in an infinite 2D grid where you can move in any of the 8 directions :

```
(x,y) to
(x+1, y),
(x - 1, y),
(x, y+1),
(x, y-1),
(x-1, y-1),
(x+1,y+1),
(x-1,y+1),
(x+1,y-1)
```

You are given a sequence of points and **the order in which you need to cover the points**. Give the minimum number of steps in which you can achieve it. You start from the first point.

Example :

```
Input : [(0, 0), (1, 1), (1, 2)]
Output : 2
```

It takes 1 step to move from (0, 0) to (1, 1). It takes one more step to move from (1, 1) to (1, 2).