HackerRank

Compute the Perimeter of a Polygon

You are given the cartesian coordinates of a set of points in a 2D plane. When traversed sequentially, these points form a Polygon, P, which is not self-intersecting in nature. Can you compute the perimeter of polygon P?

Input Format

The first line contains an integer, N, denoting the number of points.

The N subsequent lines each contain ${f 2}$ space-separated integers denoting the respective ${f x}$ and ${f y}$ coordinates of a point.

Constraints

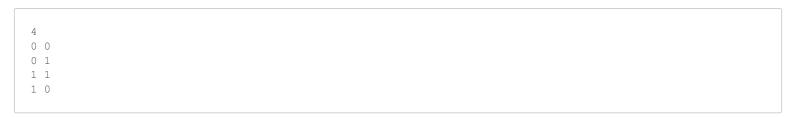
- ullet No $oldsymbol{2}$ points are *coincident*, and polygon $oldsymbol{P}$ is obtained by traversing the points in a clockwise direction.
- $3 \le N \le 1000$
- $0 \le x, y \le 1000$

Output Format

For each test case, print the perimeter of P (correct to a scale of one decimal place).

Note: Do not add any leading/trailing spaces or units.

Sample Input



Sample Output

4

Explanation

The given polygon is a square, and each of its sides are 1 unit in length. perimeter(P) = 1 + 1 + 1 + 1 = 4, so we print 4 on a new line.