Compute the Area of a Polygon

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

Input Format

The first line contains an integer, N, denoting the number of points.
The N subsequent lines each contain 2 space-separated integers denoting the respective x and y coordinates of a point.

Constraints

- No 2 points are *coincident*, and polygon P is obtained by traversing the points in a clockwise direction.
- $4 \leq N \leq 1000$
- $0 \leq x, y \leq 1000$

Output Format

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

Note: Do not add any leading/trailing spaces or units; it is assumed that your result is in square units.

Sample Input

```
4
0 0
0 1
1 1
1 0
```

Sample Output

```
1
```

Explanation

The given polygon is a square, and each of its sides are 1 unit in length.
$area(P) = length \times width = 1 \times 1 = 1$, so we print 1 on a new line.