Calculate the Area

Very simple. You are given polygon and you need to calculate his area. The polygon does not self intersect

Input

A lonely integer N (3 <= N <= 10000) - the number of nodes. On each of the next N lines you will find the coordinates of the next vertex from the polygon.

Output

A single integer - the rounded up area of the polygon.

Example

Input:
4
0 0
1 0
1 1
0 1

Output:
1