Problem E
Smart Farm
Time Limit: 1 second

A smart farm is an irregular n-sided polygon M without self-intersections. To better manage the robots operating in this farm, we need to split the farm into convex regions by building several magnetic walls along some diagonals of M so that robots will not go across area boundaries. Magnetic walls do not cross each other, except at their ends.

Please determine the minimum number of magnetic walls to be deployed.

Input

The first line of input contains a positive number n, the number of verices in the n-sided polygon M ($3 \leq n \leq 200$). Each of the next n lines contain two integers numbers, the coordinates of a vertices in M. The absolute value of a coordinate does not exceed 32,000. All vertices are in clockwise order and no three vertices are collinear.

Output

Print a non-negative number, the minimum number of magnetic walls to be deployed.

Sample Input

```
14
1 0
9 0
10 1
8 2
7 3
8 4
10 5
9 6
1 6
0 5
2 4
3 3
2 2
0 1
```

Sample Output

```
3
```