

# Squares

**Time Limit:**3500MS**Memory Limit:**65536K**Total Submissions:**18413**Accepted:** 7079

## Description

A square is a 4-sided polygon whose sides have equal length and adjacent sides form 90-degree angles. It is also a polygon such that rotating about its centre by 90 degrees gives the same polygon. It is not the only polygon with the latter property, however, as a regular octagon also has this property.

So we all know what a square looks like, but can we find all possible squares that can be formed from a set of stars in a night sky? To make the problem easier, we will assume that the night sky is a 2-dimensional plane, and each star is specified by its x and y coordinates.

## Input

The input consists of a number of test cases. Each test case starts with the integer  $n$  ( $1 \leq n \leq 1000$ ) indicating the number of points to follow. Each of the next  $n$  lines specify the x and y coordinates (two integers) of each point. You may assume that the points are distinct and the magnitudes of the coordinates are less than 20000. The input is terminated when  $n = 0$ .

## Output

For each test case, print on a line the number of squares one can form from the given stars.

## Sample Input

```
4
1 0
0 1
1 1
0 0
9
0 0
1 0
2 0
0 2
1 2
2 2
0 1
1 1
2 1
4
-2 5
3 7
0 0
5 2
0
```

## Sample Output

```
1
6
1
```

## Source

Rocky Mountain 2004