

# All Possible Barns

Farmer John is going to build a new rectangular barn. But the 4 corners of the barn mustn't be on soft soil. He examined the ground and found that there are only  $N$  ( $4 \leq N \leq 1,000$ ) appropriate points for the corners. He wants to know the number of possible ways to build the new barn.

Given the points, help him find the answer.

INPUT FORMAT:

Input exactly contains 10 test cases each of them as follows:

\* Line 1: A single integer,  $N$ .

\* Lines 2.. $N+1$ : Each line has two space-separated integers  $x, y$  which are the coordinates of a point. The magnitude of the coordinates is not more than 16,000. All points will be distinct.

SAMPLE INPUT :

```
8
1 2
1 -2
2 1
2 -1
-1 2
-1 -2
-2 1
-2 -1
```

[and 9 more Test cases ....]

OUTPUT FORMAT:

For each Test case print one line contains:

\* The number of possible ways to build the new barn.

SAMPLE OUTPUT :

```
6
```

[and 9 more Test cases ....]

## OUTPUT DETAILS:

the answers are: {1,2,6,5}, {1,3,6,8}, {1,4,6,7}, {2,3,5,8}, {2,4,5,7},  
{3,4,8,7}