Instructions

1. You must return your solution within 4 hours after you receive these instructions. Your solution is disqualified if it arrives late. Partial solutions will be considered, but a complete solution is expected.
2. You can use any programming language you want. You must submit your code for review, zipped.
3. Your program must read an ASCII text file as input and print its output to standard out.
4. Include instructions for running your program. If you use a compiled language, please include compilation instructions as well.

Problem

Approximately 23 light-years from planet Earth there exists planet Bitso. Planet Bitso's surface is covered by a great ocean dotted by many small islands.

For this question, Bitso's surface will be modeled as a 2D plane. There exist **N** islands scattered on this 2D plane. The ith island is located at at (X_i, Y_i).

On this plane, line segments are defined in terms of islands. A line segment is bounded by two islands.

A Bitso archipelago consists of two distinct but equal-length line segments which have one shared island endpoint and two distinct island endpoints. Bitso archipelagos are considered distinct if they're not made up of the same three islands.

Your goal is to find out how many distinct Bitso archipelagos exist.

Input

Input begins with an integer **T**, the number of test cases in the file.

For each test case there is an integer **N**. The following **N** lines contain the space-separated integers X_i and Y_i.

Output

Print a line containing the number of Bitso archipelagos in the ocean.

Constraints

$1 \le T \le 50$ $1 \le N \le 2{,}000$ $-10{,}000 \le X_i, Y_i \le 10{,}000$

Sample Input and Outputs

```
Sample Input:       Sample Output:
1                   0
3
0 0
0 1
0 3
```

```
Sample Input:       Sample Output:

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