Advertisements

Statement

Fluffy the Hamster wishes to increase the sales of his store. Unfortunately, Fluffy does not have enough budget to do a "9.9 Super Shopping Day", so he has turned to a more traditional method: advertisements.

There are N different types of advertisements that Fluffy can choose from. The ith type of advertisement costs $\$C_i$ and can generate $\$R_i$ worth of revenue according to Fluffy's market research. Fluffy would like to select 4 distinct types of advertisements to use, such that the selected advertisements are *overall profitable*. In other words, Fluffy would like to select 4 distinct types of advertisements i, j, k, l such that

$$C_i + C_j + C_k + C_l < R_i + R_j + R_k + R_l$$

Help Fluffy compute how many different ways he can select 4 types of advertisements such that the 4 selected types of advertisements are overall profitable.

Constraints

- $4 \leq N \leq 1000$
- $0 \leq C_i, R_i \leq 10^8$

Input

The first line of the input contains a single integer N.

Each of the next N lines contains two space separated integers, C_i and R_i.

Output

Print a single integer, the total number of ways Fluffy can select 4 advertisements.

Examples

Sample Input	Expected Output
5 3 4 2 1 1 2 5 3 4 5	2

In the example above, there are 5 different ways to choose 4 advertisements. Only two of them are overall profitable: [1, 2, 3, 5] and [1, 3, 4, 5].

Notes

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided.

Skeleton File

You are given the skeleton file `Adverts.java`. You should see the following contents when you open the file:

```
/**
 * Name          :
 * Matric. No    :
*/

import java.util.*;

public class Adverts {
    private void run() {
        // implement your "main" method here
    }

    public static void main(String args[]) {
        Adverts runner = new Adverts();
        runner.run();
    }
}
```