

## Problem I. 3dist

Input file      `stdin`  
Output file    `stdout`

The new neighborhood in Bugur  is gaining popularity across the country. It consists of  $N$  houses available for purchase, with the  $i$ -th house located at coordinates  $(X_i, Y_i)$ . Define the Manhattan distance between two houses  $i$  and  $j$  as  $\text{dist}(i, j) = |X_i - X_j| + |Y_i - Y_j|$ . For each house  $i$ , define  $d(i) = \min_{j \neq i} \text{dist}(i, j)$ , representing the distance to its nearest neighbor.

Childhood friends  les, RANDy, and  teba wish to purchase one house each in this neighborhood. They have the following criteria for selecting their houses:

- Let  $A < R < T$  denote the indices of the houses chosen by  les, RANDy, and  teba, respectively.
- The distances between each pair of these houses must be equal:  $\text{dist}(A, R) = \text{dist}(R, T) = \text{dist}(A, T)$ .
- For each of the three houses, the distance to its nearest neighbor must be equal to the distance between the selected houses:  $d(A) = d(R) = d(T) = \text{dist}(A, R)$ .

### Task

Determine the number of distinct triplets  $(A, R, T)$  satisfying the above conditions.

### Input Data

The first line contains a single integer  $N$  — the number of houses.

Each of the next  $N$  lines contains two integers  $X_i$  and  $Y_i$  — the coordinates of the  $i$ -th house.

### Output Data

Output a single integer  $S$  — the number of valid triplets.

### Constraints

- $1 \leq N \leq 250\,000$
- $0 \leq X_i, Y_i \leq 10^9$  for all  $1 \leq i \leq N$
- No two houses share the same coordinates.

### Examples

#### Examples

Input file	Output file
5 1 1 3 1 2 2 2 6 4 4	1

**Explanation:** The only valid triplet is  $(1, 2, 3)$ . Although the triplet  $(3, 4, 5)$  satisfies the condition  $\text{dist}(3, 4) = \text{dist}(4, 5) = \text{dist}(3, 5)$ , it fails the condition  $d(3) = 2$ ,  $d(4) = 4$ , and  $d(5) = 4$ .