Task B1. SQUARES

We are given N squares in the plane, defined as their center and one of their vertices. Write a program **squares** to calculate the area covered by these squares.
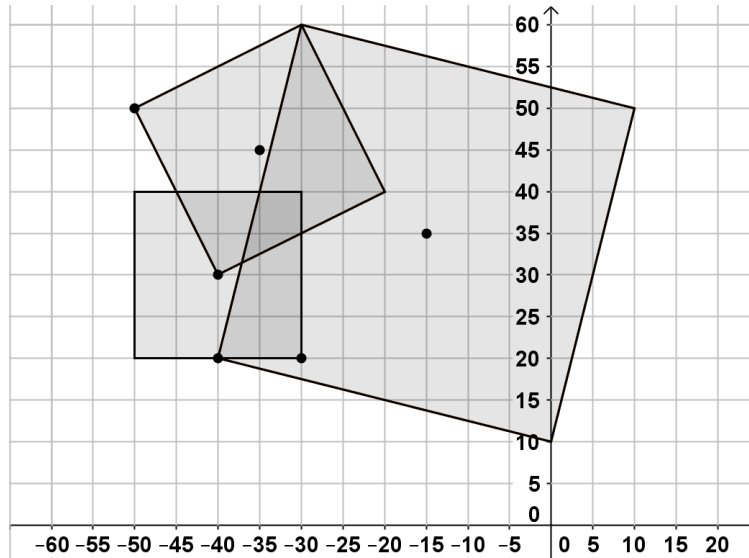
Input

The first line at the standard input holds the integer N – the number of squares ($0 < N < 10$). Each of the next N lines holds 4 integers, separated by a space, each describing one of the squares. Each square is described by the coordinates of its center and the coordinates of one of its vertices. All coordinates are integers in the range [-50, 50].

Output

The program should print at the standard output a single line holding the result: the area covered by the squares, rounded to the nearest integer number.

Example

Input

```
3
−35 45 −50 50
−15 35 −40 20
−40 30 −30 20
```

Output

```
2175
```

Restrictions

20% of the test cases will hold squares which sides are parallel of the coordinate axes.
40% of the test cases will hold squares with coordinates in the range [-10, 10].