Problem A
Lawn Sprinkler

Input file: *testdata.in*
Time limit: 2 second

Problem Description

Jimmy has a large garden. He plants many kinds of flower in the garden. However, Jimmy did not make a good plan. So, the flowers are spread over the garden. Jimmy would like to set a sprinkler device to sprinkle the flowers automatically. The sprinkler can rotate to sprinkle water with a circle. He wants to set a sprinkler that can cover all the flowers. Because the water pipe under the ground is a straight line across the garden, the position of the sprinkler has to be restricted to lying on the water pipe. See the figure below. The small circles represent the flowers. The blue thick line denotes the water pipe. The red line is the sprinkler that can rotate with a circle.

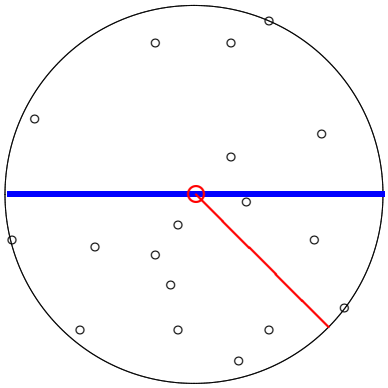

Figure 1: An example of lawn sprinkler.

Jimmy locates the flowers with a set of points in a plane with integer coordinates (x_i, y_i), $i = 1, 2, \ldots, n$. The water pipe is on the straight line

$y = y'$. Your task is to write a program to help Jimmy to find the location of the sprinkler and the radius of the circle that the sprinkler should sprinkle water.

Input Format

The input data consists of several test cases. For each case, the first line contains an integer n, $1 \leq n \leq 10000$. The second line contains a integer y', $0 \leq y' \leq 50000$. The subsequent n lines, each line contains two integers, are the coordinates x and y of the flower. Every point is unique and $0 \leq x, y \leq 50000$. A line with 0 indicates the end of input.

Output Format

For each set of test case, the output has two values. The first value is the x coordinate of the sprinkler. The second value is the radius of the circle that the sprinkler should sprinkle water. The output of each test case should be on a separate line and the values are separated by a white space. The output values are rounded to obtain integers.

Sample Input

```
4
5
0 0
10 0
0 10
10 10
6
80
10 90
130 130
80 180
0 20
90 50
170 37
0
```

Sample Output

```
5 7
80 100
```