
Exercise

Input file: **standard input**
Output file: **standard output**
Time limit: 6 seconds
Memory limit: 512 megabytes

Gassa gave a new, interesting problem for the students in his class!

In this problem, he independently uniformly generated n random points $(x_1; y_1), (x_2; y_2), \dots, (x_n; y_n)$, each from the square $[0; 10^9] \times [0; 10^9]$.

After that, he independently uniformly generated two indices i, j , ($1 \leq i, j \leq n$), and set $k = x_i \cdot x_j + y_i \cdot y_j$.

And the goal is to find some pair of indices i, j , such that $x_i \cdot x_j + y_i \cdot y_j = k$.

Can you solve this problem?

Input

The first line of input contains two integers n and k — the number of points, and the scalar multiplication value ($1 \leq n \leq 200\,000, 0 \leq k \leq 2 \cdot 10^{18}$).

Each of the next n lines contains two integers x_i, y_i — the i -th point ($0 \leq x_i, y_i \leq 10^9$).

It is guaranteed that each of x_i and y_i is chosen randomly from the segment $[0; 10^9]$.

Also, it is guaranteed that k is equal to $x_i \cdot x_j + y_i \cdot y_j$ for some two random indices i, j .

Output

Output two integers i and j , such that ($1 \leq i, j \leq n$) and $x_i \cdot x_j + y_i \cdot y_j = k$.

If there are multiple possible answers, you can print any.

Scoring

Subtask	Points	Constraints
1	50	$n \leq 50\,000$
2	50	$n \leq 200\,000$

Examples

standard input	standard output
1 1476978419092933556 901418150 815121916	1 1
10 95652677520045149 805513144 38998401 16228409 266085559 293487744 471510400 138613792 649258082 904651590 244678415 443174087 503924246 579288498 219903162 179297759 762760972 92837851 728185679 983905980 299473031	10 2