

## C. Find Pair

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

You've got another problem dealing with arrays. Let's consider an arbitrary sequence containing  $n$  (not necessarily different) integers  $a_1, a_2, \dots, a_n$ . We are interested in all possible pairs of numbers  $(a_i, a_j)$ ,  $(1 \leq i, j \leq n)$ . In other words, let's consider all  $n^2$  pairs of numbers, picked from the given array.

For example, in sequence  $a = \{3, 1, 5\}$  are 9 pairs of numbers:

$(3, 3), (3, 1), (3, 5), (1, 3), (1, 1), (1, 5), (5, 3), (5, 1), (5, 5)$ .

Let's sort all resulting pairs lexicographically by non-decreasing. Let us remind you that pair  $(p_1, q_1)$  is lexicographically less than pair  $(p_2, q_2)$  only if either  $p_1 < p_2$ , or  $p_1 = p_2$  and  $q_1 < q_2$ .

Then the sequence, mentioned above, will be sorted like that:

$(1, 1), (1, 3), (1, 5), (3, 1), (3, 3), (3, 5), (5, 1), (5, 3), (5, 5)$

Let's number all the pair in the sorted list from 1 to  $n^2$ . Your task is formulated like this: you should find the  $k$ -th pair in the ordered list of all possible pairs of the array you've been given.

### Input

The first line contains two integers  $n$  and  $k$  ( $1 \leq n \leq 10^5$ ,  $1 \leq k \leq n^2$ ). The second line contains the array containing  $n$  integers  $a_1, a_2, \dots, a_n$  ( $-10^9 \leq a_i \leq 10^9$ ). The numbers in the array can coincide. All numbers are separated with spaces.

Please do not use the `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use `cin`, `cout`, streams or the `%I64d` specifier instead.

### Output

In the single line print two numbers — the sought  $k$ -th pair.

### Examples

input
2 4 2 1
output
2 2

  

input
3 2 3 1 5
output
1 3

### Note

In the first sample the sorted sequence for the given array looks as:  $(1, 1), (1, 2), (2, 1), (2, 2)$ . The 4-th of them is pair  $(2, 2)$ .

The sorted sequence for the array from the second sample is given in the statement. The 2-nd pair there is  $(1, 3)$ .