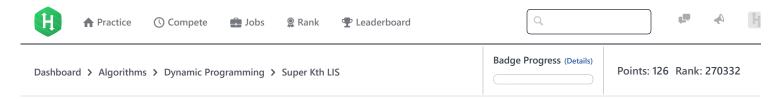
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Super Kth LIS **■**



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Given an array of N integers ($a_0, a_1, \ldots, a_{N-1}$), find all possible increasing subsequences of maximum length, L. Then print the lexicographically K^{th} longest increasing subsequence as a single line of space-separated integers; if there are less than K subsequences of length L, print -1.

Two subsequences $[a_{p_0}, a_{p_1}, \dots, a_{p_{L-2}}, a_{p_{L-1}}]$ and $[a_{q_0}, a_{q_1}, a_{q_2}, \dots, a_{q_{L-2}}, a_{q_{L-1}}]$ are considered to be different if there exists at least one i such that $p_i \neq q_i$.

Input Format

The first line contains **2** space-separated integers, N and K, respectively. The second line consists of N space-separated integers denoting $a_0, a_1, \ldots, a_{N-1}$ respectively.

Constraints

- $1 \le N \le 10^5$
- $1 \le K \le 10^{18}$
- $1 \leq a_i \leq N$

Scoring

- $1 \le N \le 10^3$ for 30% of the test data.
- $1 \le N \le 10^5$ for 100% of the test data.

Output Format

Print a single line of L space-separated integers denoting the lexicographically K^{th} longest increasing subsequence; if there are less than K subsequences of length L, print -1.

Note: L is the length of longest increasing subsequence in the array.

Sample Input 0

5 3 1 3 1 2 5

Sample Output 0

1 3 5

Sample Input 1

5 2 1 3 2 4 5

Sample Output 1

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1 3 4 5

Explanation

Sample Case 0:

The longest possible increasing subsequences in lexicographical order are:

- 1. [1, 2, 5]
- 2. [1, 2, 5]
- 3. **[1, 3, 5]**

Notice that the first and second subsequences appear the same; they are actually both different because the $\bf 1$ in the first subsequence comes from array element a_0 , and the $\bf 1$ in the second subsequence comes from array element a_0 . Because $\bf K=3$, we print the $\bf 3^{rd}$ one ([1,3,5]) as a single line of space-separated integers.

Sample Case 1:

The longest possible increasing subsequences in lexicographical order are:

- 1. [1, 2, 4, 5]
- 2. [1, 3, 4, 5]

Because K=2, we print the 2^{nd} one ([1,3,4,5]) as a single line of space-separated integers.

f in Submissions:<u>74</u> Max Score:90 Difficulty: Advanced Rate This Challenge: ☆ ☆ ☆ ☆ ☆

```
Current Buffer (saved locally, editable) & • •
                                                                                             Java 7
 1 ▼ import java.io.*;
   import java.util.*;
    import java.text.*;
    import java.math.*;
    import java.util.regex.*;
 6
 7 ▼ public class Solution {
 8
 9 ▼
         public static void main(String[] args) {
             /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
10 ▼
11
12
    }
                                                                                                                      Line: 1 Col: 1
                       Test against custom input
                                                                                                          Run Code
                                                                                                                       Submit Code
1 Upload Code as File
```

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