

Problem 3:

Given a sequence of non-negative integers, and a number k , find the k^{th} lexicographic permutation starting from that sequence.

Input format:

n (number of elements in the sequence)

k

a_1

a_2

.. (elements of the sequence)

..

a_n

Output format:

A_1

A_2

.. (If the k^{th} lexicographic permutation starting from the given sequence is possible)

..

A_n

Input format:

n (number of elements in the sequence)

k

a_1

a_2

.. (elements of the sequence)

..

a_n

Output format:

-1 (If the k^{th} lexicographic permutation starting from the given sequence is NOT possible)

Example 1:

Input:

4
2
3
4
7
9

Output:

3
4
9
7

Example 2:

Input:

4
24
3
4
7
9

Output:

9
7
4
3

Example 3:

Input:

4
25
3
4
7
9

Output:

-1