Cowculus (Hard Version)

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Farmer John recently enrolled Bessie in an elite college prep academy. Unfortunately, Bessie is now expected to take N classes each day and she can't keep up! As a result, when she receives her report card it is no surprise that she receives a wide variety of grades.

Bessie, knowing that receiving anything lower than a 93 will result in exactly one of her friends being butchered, wants to hide the bad grades from FJ. Luckily, each time she receives a grade ≥ 93 FJ's eyes will fill with tears of joy, preventing him from seeing the next K grades on the list.

Please print the **lexicographically minimal** valid permutation of her report card which results in a minimal number of dead friends(Bessie cares very deeply for her friends).

typical day on the farm with FJ and Bessie.

A permutation is a different ordering of the same set of numbers, for example: 1, 3, 2 is a permutation of 1, 2, 3, while 1, 2, 2 is not

Permutation A is lexicographically smaller than permutation B if there exists an i such that the first i-1 elements of A and B are equal, and A_i is less than B_i. For example: given a set 2, 5, 2, the lexicographically minimal permutation of this set is 2, 2, 5 because the other permutations 5, 2, 2 and 2, 5, 2 have larger elements at indexes 1 and 2 respectively.

Input

The first line contains two integers N and K ($1 \leq N \leq 10^5$, $0 \leq K \leq N$), the number of classes she is enrolled in and the number of grades FJ will skip respectively.

The next line contains N numbers G_i ($0 \leq G_i \leq 100$), representing her grade in her i'th class.

Output

The first line should contain N numbers G_i ($0 \leq G_i \leq 100$), representing the order in which she presents her grades.

Examples

standard input	standard output
5 1 93 93 93 93 93	93 93 93 93 93
5 2 93 93 92 92 92	93 92 92 93 92
5 1 94 91 93 90 92	90 93 91 94 92