One of Each

Time limit: 2 seconds

You are given a sequence of n integers $X = [x_1, x_2, \ldots, x_n]$ and an integer k. It is guaranteed that $1 \leq x_i \leq k$, and every integer from 1 to k appears in the list X at least once.

Find the lexicographically smallest subsequence of X that contains each integer from 1 to k exactly once.

Input

The first line of input contains two integers n and k ($1 \leq k \leq n \leq 2 \cdot 10^5$), where n is the size of the sequence, and the sequence consists only of integers from 1 to k.

Each of the next n lines contains a single integer x_i ($1 \leq x_i \leq k$). These are the values of the sequence X in order. It is guaranteed that every value from 1 to k will appear at least once in the sequence X.

Output

Output a sequence of integers on a single line, separated by spaces. This is the lexicographically smallest subsequence of X that contains every value from 1 to k.

Sample Input	Sample Output
6 3 3 2 1 3 1 3	2 1 3
10 5 5 4 3 2 1 4 1 1 5 5	3 2 1 4 5