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BETA Can't read the text? Switch theme

ALL

1

2

3

1. Mex Transformation

The MEX of a set of integers is defined as the smallest positive integer that does not belong to the array. For example, the MEX of {1, 3, 4, 3, 4} is 2 and that of {1, 2, 3, 4} is 5.

Given an array *arr* of *n* integers and an integer *k,* run the array through the following algorithm exactly *k* times:

1. Create an array *temp* of size *n*
2. Set *temp[i]* = MEX(*arr[0], arr[1], arr[2] ... arr[i]*) for all *i* from 0 to *n - 1*
3. Set arr*[i] = temp[i]* for all *i* from 0 to *n - 1*

Optimize the algorithm and find the final array.

Example

Suppose *n* = 4, *arr* = [4, 1, 2, 3] and *k* = 2

- After the 1st iteration *arr* = [1, 2, 3, 5].
- After the 2nd iteration *arr* = [2, 3, 4, 4].

The answer is [2, 3, 4, 4].

Function Description

Complete the function *getFinalArray* in the editor below.

getFinalArray has the following parameters:

int arr[n]: an array of integers

int k: the number of iterations to perform

Returns

int[]: the final array

Constraints

- $1 \le n \le 10^5$
- $1 \le k \le 10^5$
- $1 \le arr[i] \le 10^5$

▶ **Input Format For Custom Testing**

▼ **Sample Case 0**