Find Mex

6663 68% 10 ★★★½★ 9 votes , Algorithms, Brute Force, Implementation, Linear Search, Iterators Share

Problem

You are given an integer array of length N. You have to find MEX of i^{th} element for all $1 \leq i \leq N$.

MEX of the i^{th} element is the minimum element greater than or equal to 0 which is not present in array till the i^{th} index.

Input Format:

First line contains an integer N denoting the size of array.

Next line contains N integers denoting the elements of the array.

Output Format:

Print N integers. i^{th} element should be the MEX of the array prefix till i

Constraints:

$1 \leq N \leq 2 * 10^5$
$0 \leq arr[i] \leq 2 * 10^5$

Sample Input	Sample Output
5 1 0 5 5 3	0 2 2 2 2

Time Limit: 1
Memory Limit: 256
Source Limit:

Explanation

For first test case mex of first index is 0. As it is note present in array

mex of second index is 2 as 0 and 1 is present in array.

mex of 3rd, 4th and 5th index is 2.

Contributers:

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