

[All Tracks](#) > [Algorithms](#) > [Searching](#) > [Linear Search](#) > Problem

## Find Mex

 6663 68% 10 9 votes , Algorithms, Brute Force, Implementation, Linear Search, Iterators [Share](#)

## Details

## Submissions

## Discussion

## Similar Problems

## Editorial

## 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 not 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.

## Contributors:

Deepu Kumar

Geetarth Kaustav

Enter your code or [Upload](#)

Save

Python 3 (python 3.10)

[your code](#) as file.

```
1 name = input() # Reading input from STDIN
2 print('Hi, %s.' % name) # Writing output to STDOUT
```

Test against custom  
input

Compile &amp; Test code

Submit code

1:1 vscode

