Arrays Challenge-First Repeating Element (Amazon, Oracle)

Problem

Given an array **arr**[] of size **N**. The task is to find the first repeating element in an array of integers, i.e., an element that occurs more than once and whose index of first occurrence is smallest.

Constraints

 $1 \le N \le 10^6$ $0 \le Ai \le 10^6$

Example

Input:

7

1534356

Output:

2

Explanation:

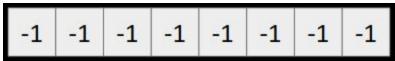
5 is appearing twice and its first appearance is at index 2 which is less than 3 whose first occurring index is 3.

Solution

<u>Base idea</u>: To check if an element is repeating, we maintain an array idx[], which stores the first occurrence (index) of a particular element a[i].

<u>Steps</u>

1. Initialise the idx[] with -1, and minidx with INT_MAX.



2. Keep updating idx[], while traversing the given array.

Given Array:	1	5	3	4	3	5	6	
							7	

<u>Iterations</u>

• At i = 0:								
Given Array:	1	5	3	4	3	5	6	
	1				C			
ldx[]:	-1	0	-1	-1	-1	-1	-1	-1
• At i = 1:				×				
Given Array:	1	5	3	4	3	5	6	
		1						
Idx[]:	-1	0	-1	-1	1	-1	-1	-1
• At i = 2:			\;*					
Given Array:	1	5	3	4	3	5	6	
			1					
Idx[]:	-1	0	-1	2	-1	1	-1	-1

At i = 3: 5 6 Given Array: 1 3 4 3 5 Î Idx[]: -1 0 -1 2 3 1 -1 -1 At i = 4: 6 5 Given Array: 5 3 3 1 4 Î -1 2 3 Idx[]: -1 0 1 -1 -1 At i = 5: 5 Given Array: 1 3 4 3 5 6 Ì Idx[]: -1 -1 1 -1 0 -1 2 3

At i = 6: Given Array: 1 5 3 4 3 5 6 Î Idx[]: -1 6 2 3 1 -1 0 -1