# 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 1584356 5

Output:

21

## **Explanation:**

5 is appearing twice and its first appearance is at index 2 which is less than 3 whose first occurring index is 3. ( + or who) ( awiniem of returned which is

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<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>

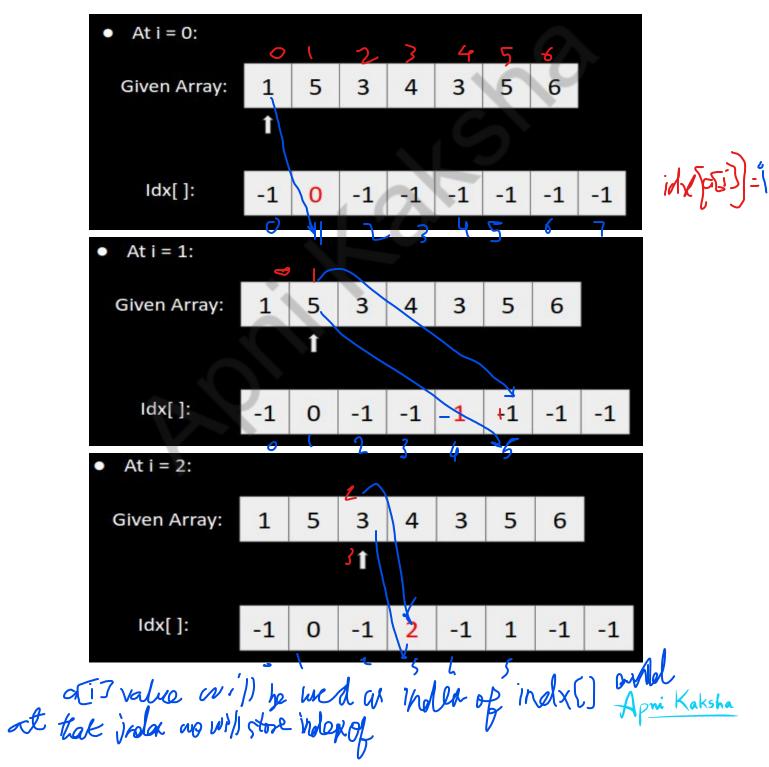
1. Initialise the idx[] with -1, and minidx with INT\_MAX.

-1	-1	-1	-1	-1	-1	-1	-1

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

Given Array:	1	5	3	4	3	5	6

#### **Iterations**



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 3 5 6 4 Î Idx[]: -1 -1 1 -1 0 -1 2 3 4 5

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