540. Single Element in a Sorted Array

APPRACH BINARY SEARCH;

EDGE ACSE=> AT EVEN INDEX DO NO DO E=MID-1 COZ IT MAY BE THAT MID IS THE ANSWER SO IF YOU DO MID-1 YOU WILL 1 STEP BACKWORD FROM THE ORIGINAL VALUE;

```cpp
class Solution {
public:
    int singleNonDuplicate(vector<int>& nums) {
        if (nums.size() == 1) {
            return nums[0];
        }

        int s = 0;
        int e = nums.size() - 1;
        int mid;

        while (s <= e) {
            mid = s + (e - s) / 2;

            if (mid % 2 == 0) {
                if (nums[mid] == nums[mid + 1]) {
                    s = mid + 2;
                } else {
                    e = mid - 1;
                }
            } else {
                if (nums[mid] == nums[mid - 1]) {
                    s = mid + 1;
                } else {
                    e = mid - 1;
                }
            }
        }

        return nums[s];
```

```cpp
class Solution {
public:
    int singleNonDuplicate(vector<int>& nums) {
        int s=0;
        int e=nums.size()-1;
        int mid=s+(e-s)/2;
        while(s<=e){
            if(s==e){
                return nums[s];
            }
            if(mid%2==0){
                if(nums[mid]!=nums[mid+1] && nums[mid]!=nums[mid-1] && mid+1<nums.size() && mid-1 >=0){
                    return nums[mid];
                }else if(mid+1<nums.size() && nums[mid]==nums[mid+1]){
                    s=mid+1;
                }else{
                    e=mid;
                }



            }else{
                if(nums[mid]!=nums[mid+1] && mid+1<nums.size()){
                    s=mid+1;
                }else{
                    e=mid-1;
                }

            }
            mid=s+(e-s)/2;
        }
        return -1;


    }
};
```