

## HW\_Find Element in Rotated Array

Problem

Submissions

Leaderboard

Discussions

Given a sorted and rotated array `arr[]` of size `N` and a key, the task is to find the key in the array and return the index of the key.

**NOTE:-** After answering the question, attempt the related question in the linked resource to improve your understanding of the question . Question Link -> <https://leetcode.com/problems/search-in-rotated-sorted-array>

**Input Format**

- An integer number `n` representing size of array.
- `N` number representing elements of array.
- An integer number representing key value.

**Constraints**

- $1 \leq n \leq 100000$
- $1 \leq arr[i] \leq 10^9$
- $1 \leq key \leq 10^9$

**Output Format**

An integer value.

**Sample Input 0**

8  
5 6 7 8 9 10 1 2  
1

**Sample Output 0**

6

**Explanation 0**

key 1 is present at index 6

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner sc = new Scanner(System.in);
8         int n = sc.nextInt();
9         int arr[] = new int[n];
10        for(int i =0;i<n;i++)arr[i]=sc.nextInt();
11        int target = sc.nextInt();
12
13        System.out.print(rotatedArray(arr,target));
14    }
15    public static int rotatedArray(int [] arr , int target){
16        int s= 0;
17        int e = arr.length-1;
18
19        while(s<=e){
20            int mid = s +(e-s)/2;
21
22            if(arr[mid]==target){
23                return mid;
24            }else if ( arr[s]<=arr[mid]){
25                if(arr[s]<=target && target<=arr[mid]){
26                    e=mid-1;
27                }else{
28                    s= mid+1;
29                }
30            }else{
31                if(arr[mid]<=target && target<=arr[e]){
32                    s=mid+1;
33                }else{
34                    e= mid-1;
35                }
36            }
37        }
38        return -1;
39    }
40 }
41 }
```

