DAY 30/180

Q1-An array is given in decreasing order with Key, Find the index of key, if key is not present, print -1.

```cpp
#include<bits/stdc++.h>
using namespace std;

int binarysearch(vector<int>&arr,int key){
    int n=arr.size();
    int s=0,e=n-1;
    while(s<=e){
        int mid=(s+e)/2;
        if(arr[mid]==key){
            return mid;
            break;
        }
        else if(arr[mid]>key){
            s=mid+1;
        }
        else{
            e=mid-1;
        }
    }
    return -1;
}

int main(){
    int n;
    cin>>n;
    vector<int>arr(n);
    for(int i=0;i<n;i++){
        cin>>arr[i];
    }
    int key;
    cin>>key;
    int index=binarysearch(arr,key);
    cout<<index<<endl;
}
```

Q2- Search Insert Position (LeetCode).

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