Next Greater Element

arr = [6, 8, 0, 1, 3]

→ [8, -1, 1, 3, -1]

arr[i] → immediately greater

i → right

checked coming back [reverse order]

```
stack<int> s
vector<int> ans NG;
for(i=n-1; i>0 ii++){
while(s.size()>0 && s.top() <= arr[i]){
    s.pop();
}
if(s.empty()) -1
else
    s.push() arr[i]
```

TC = O(n)

SC = O(n)

Next Greater Element I

nums1 = [4, 1, 2]

nums2 = [1, 3, 4, 2]

subset of

Check their greater element in nums2

[-1, 3, -1]

Steps

① Find NG elements for all elements of nums2

② Find the GN elements for nums1 in nums2.

→ Use of map

key	val
1	3
3	4
4	-1
2	-1

```
unordered_map<int,int> m
stack<int> s
for(int i=nums2.size()-1; i>=0; i--){
  while(s.size()>0 && s.top()<=nums2[i]){
        s.pop()
  }
if(s.empty()){
m[nums2[i]] = -1;
}
else{
m[nums2[i]] = s.top()}
   s.push(num2[i])
}}
vector<int> ans
for(int i=0; i<num1.size(); i++){
   ans.push_back(m[num1[i]]);
}
```