

Next Greater Element

$\text{arr} = [6, 8, 0, 1, 3]$

$\text{arr}[i] \rightarrow$ immediately greater
 $i \rightarrow$ right

$[6, 8, 0, 1, 3] \rightarrow$ (no greater)
 $\Rightarrow 8, -1, 1, 3, 72$

when no greater element is present, $\Rightarrow -1$.

Otherwise

① right element

② greater than curr element

③ immediately

Pseudo code:

Stack s (int) is

vector s (int)

for ($i = n - 1$; $i >= 0$; $i--$)

while ($s.size() > 0$ & $s.top() \leq \text{arr}[i]$) {

$s.pop();$

}

if ($s.empty()$) { $\rightarrow -1$ }

else { $\rightarrow s.top()$ }

$s.push(\text{arr}[i])$

}

Leetcode - 496 Next Greater Element - I

```
vector<int> nextGreaterElement(vector<int>& nums1,  
                           vector<int>& nums2) {  
    unordered_map<int, int> m; // nums2[i], NG.  
    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(nums2[i]);  
    }  
}
```

```
vector<int> ans;
```

```
for (int i = 0; i < nums1.size(); i++) {  
    ans.push_back(m[nums1[i]]);  
}
```

```
return ans;
```

```
}
```