

Next Greater Element

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

arr[i] \rightarrow immediately greater

i \rightarrow right

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

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

otherwise

① right element

② greater than current element

③ immediately

Pseudocode

stack < int> s

vector < int> ans;

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

while (s.size > 0 & s.top() <= arr[i])
 s.pop();

}

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

else \rightarrow s.top() }

s.push(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;
```

```
}
```