

Next Greater Element

Approach :

We traverse the array backwards push elements into stack one by one comparing whether the element at top is greater than the curr
If stack becomes empty at any point then the ans array will contain -1 for such elements.

Code :

```
#include <bits/stdc++.h>

vector<int> nextGreater(vector<int> &arr, int n) {
    // Write your code here
    stack<int> s;
    vector<int> ans;
    for(int i=n-1;i>=0;i--)
    {
        while(!s.empty() && s.top()<=arr[i])
        {
            s.pop();
        }
        if(s.empty())
        {
            ans.push_back(-1);
        }
        else
        {
            ans.push_back(s.top());
        }
        s.push(arr[i]);
    }
    reverse(ans.begin(),ans.end());
    return ans;
}
```

- Time Complexity : $O(n)$
- Space Complexity : $O(1)$