Lec-32

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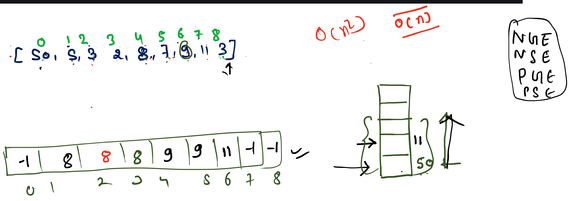
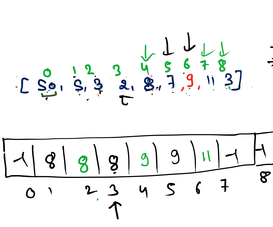
Given an array, print the Next Greater Element (NGE) for every element. The Next Greater Element for an element x is the first greater element on the right side of x in array. Elements for which no greater element exist, consider next greater element as -1.






```
public static void NGE(int[] arr) {
        Stack<Integer> st = new Stack<>();
        int[] ans = new int[arr.length];
        for (int i = 0; i < arr.length; i++) {
            while (!st.isEmpty() && arr[i] > arr[st.peek()]) {
                ans[st.pop()] = arr[i];
            }
            st.push(i);
        }
        while (!st.isEmpty()) {
            ans[st.pop()] = -1;
        }
        for (int i = 0; i < ans.length; i++) {
            System.out.println(arr[i] + " " + ans[i]);
        }
    }
```

The stock span problem is a financial problem where we have a series of N daily price quotes for a stock and we need to calculate span of stock's price for all N days. You are given an array of length N, where i^{th} element of array denotes the price of a stock on i^{th}. Find the span of stock's price on i^{th} day, for every 1<=i<=N.

A span of a stock's price on a given day, i, is the maximum number of consecutive days before the $(i+1)^{th}$ day, for which stock's price on these days is less than or equal to that on the i^{th} day.

```
5
30
35
40
38
35
```