**NextGreaterElement**

**Q:** 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.

**Test Cases:**

**Input:** [3, 6, 8, 5, 12, 4, 9]

**Output:** 3-->6

6-->8

5-->12

8-->12

4-->9

9-->-1

12-->-1

**Input:** [4, 5, 2, 25]

**Output:** 4-->5

5-->25

2-->25

25-->-1

**Algorithm:**

Step-1: Push the first element in the stack

Step-2: Iterate for the rest of the elements of the array

Step-3: **If** the top of the stack is greater than the incoming element of the array or

the stack is empty than:

i) break the loop

ii) push the array element onto the stack

**else,**

i) keep popping the element till the top of the stack is smaller than the

incoming element of the stack

Step-4: After the end of the loop, pop all the remaining elements of the stack and print -1 for them

**Example:**

Input array=[4, 5, 2, 25]

* Push 4 to the stack.
* 5 is greater than s.peek() so pop 4 and print it.
* In the next iteration exit from the while loop and push 5 to the stack.
* Push 2 the stack (s.peek()>2)
* 25 is greater than both the elements of the stack so pop both the elements and the next greater element will be 25 for both these elements.
* Push 25 to the stack.
* No more numbers to read, pop 25 and its next greater element is -1.