The following function is supposed to sort the elements of a stack:

```
sortStack(stack S)
    if stack is not empty:
        temp = pop(S);
        sortStack(S);
        sortedInsert(S, temp);
```

The sortedInsert function inserts an element in order into an already sorted stack. Provide an implementation for the sortedInsert function.

Note that the stack should be sorted such that the top element is the largest.

SOLUTION:

```
sortedInsert(Stack S, element)
    if (stack is empty OR (element > top element)) //base case of sortedinsert
        push(S, elem) // correct position was found, so add data
    else
        temp = pop(S) //this and the next line are used…
        sortedInsert(S, element) //to sortedinsert the given stack until at correct position.
        push(S, temp) //this puts temporarily displaced greater elements back on top
```