

## Week 13

### Topic: Stack

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#### 1209. Remove All Adjacent Duplicates in String II

- Difficulty: Medium
- Problem URL: <https://leetcode.com/problems/remove-all-adjacent-duplicates-in-string-ii/>
- Description:  
給定一個字串  $s$  和一個整數  $k$ ，每次移除  $k$  個相鄰且相同的字母，直到無法再移除為。最後把剩下的字串重新接在一起。

##### Example1:

Input:  $s = "abcd"$ ,  $k = 2$

Output:  $"abcd"$

Explanation: There's nothing to delete.

##### Example2:

Input:  $s = "deeedbbcccbdaa"$ ,  $k = 3$

Output:  $"aa"$

Explanation:

First delete  $"eee"$  and  $"ccc"$ , get  $"ddbbbdaa"$

Then delete  $"bbb"$ , get  $"dddaa"$

Finally delete  $"ddd"$ , get  $"aa"$

##### Example3:

Input:  $s = "pbbcggttciiippooaais"$ ,  $k = 2$

Output:  $"ps"$

詳細說明與約束條件請參考 *Leetcode* 網站。

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### 316. remove-duplicate-letters

- Difficulty: Medium
- Problem URL: <https://leetcode.com/problems/remove-duplicate-letters/>
- Description:  
給定一個字串  $s$ ，請移除重複字母，以達到每個字母只出現一次，並在所有符合條件的組合中，回傳字典序 (Lexicographical Order) 最小的那個字串作為答案，同時不能打亂原來字母的順序。

Example1:

Input:  $s = \text{"bcabc"}$

Output:  $\text{"abc"}$

Example2:

Input:  $s = \text{"cbacdcbc"}$

Output:  $\text{"acdb"}$

詳細說明與約束條件請參考 *Leetcode* 網站。

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## 895. maximum-frequency-stack

- Difficulty: Hard
- Problem URL: <https://leetcode.com/problems/maximum-frequency-stack/>
- Description:  
設計一個特殊的 Stack，除了 push(val) 以外，pop() 時要根據「元素出現的頻率」來決定要移除哪個元素，若有多個頻率一樣，則回傳「最接近 stack 頂端的那個元素」。

Example1:

Input:

```
["FreqStack", "push", "push", "push", "push", "push", "push", "pop", "pop",  
"pop", "pop"]
```

```
[[], [5], [7], [5], [7], [4], [5], [], [], [], []]
```

Output:

```
[null, null, null, null, null, null, null, 5, 7, 5, 4]
```

Explanation:

FreqStack freqStack = new FreqStack();	
freqStack.push(5);	// The stack is [5]
freqStack.push(7);	// The stack is [5,7]
freqStack.push(5);	// The stack is [5,7,5]
freqStack.push(7);	// The stack is [5,7,5,7]
freqStack.push(4);	// The stack is [5,7,5,7,4]
freqStack.push(5);	// The stack is [5,7,5,7,4,5]
freqStack.pop();	// return 5, as 5 is the most frequent. The stack becomes [5,7,5,7,4].
freqStack.pop();	// return 7, as 5 and 7 is the most frequent, but 7 is closest to the top. The stack becomes [5,7,5,4].
freqStack.pop();	// return 5, as 5 is the most frequent. The stack becomes [5,7,4].
freqStack.pop();	// return 4, as 4, 5 and 7 is the most frequent, but 4 is closest to the top. The stack becomes [5,7].

詳細說明與約束條件請參考 *Leetcode* 網站。

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