

# 384 · Longest Substring Without Repeating Characters

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## Description

Given a string, find the length of the longest substring without repeating characters.

## Example

### Example 1:

```
Input: "abcabcbb"
Output: 3
Explanation: The longest substring is "abc".
```

### Example 2:

```
Input: "bbbbbb"
Output: 1
Explanation: The longest substring is "b".
```

## Challenge

time complexity  $O(n)$

```
def lengthOfLongestSubstring(self, s):
    # write your code here
    ans = 0
    i=-1
    j=-1
    subString = ""
    freq = {}
    while True:
        f1,f2=False,False
        while i<len(s)-1:
            f1 = True
            i =i+1
            ch = s[i]
            freq[ch]= freq.get(ch,0)+1
            if len(freq)==(i-j):
                if ans==0 or ans<(i-j):
```

```
        ans = i-j
    else:
        break

    while j<i:
        f2 = True
        j=j+1
        ch = s[j]
        if freq[ch]==1:
            del freq[ch]
        else:
            freq[ch] = freq[ch]-1
        if len(freq)==(i-j):
            break

    if f1 is False and f2 is False:
        break
return ans
```