

386 · Longest Substring with At Most K Distinct Characters

Description

Given a string S , find the length of the longest substring T that contains at most k distinct characters.

Example

Example 1:

```
Input: S = "eceba" and k = 3
Output: 4
Explanation: T = "eceb"
```

Example 2:

```
Input: S = "WORLD" and k = 4
Output: 4
Explanation: T = "WORL" or "ORLD"
```

Challenge

$O(n)$ time

```
class Solution:
    """
    @param s: A string
    @param k: An integer
    @return: An integer
    """
    def lengthOfLongestSubstringKDistinct(self, s, k):
        # 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)<=k:
    ans = max(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)==k:
        break

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