1180. Count Substrings with Only One Distinct Letter

My Submissions (/contest/biweekly-contest-8/problems/count-substrings-with-only-one-distinct-letter/submissions/)

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Given a string `s`, return the number of substrings that have only **one distinct** letter.

User Accepted:	927
User Tried:	964
Total Accepted:	945
Total Submissions:	1203
Difficulty:	Easy

Example 1:

```
Input: S = "aaaba"
Output: 8
Explanation: The substrings with one distinct letter are "aaa"
"aaa" occurs 1 time.
"aa" occurs 2 times.
"a" occurs 4 times.
"b" occurs 1 time.
So the answer is 1 + 2 + 4 + 1 = 8.
```

Example 2:

```
Input: S = "aaaaaaaaaa"
Output: 55
```

Constraints:

- `1 <= S.length <= 1000`
- `S[i]` consists of only lowercase English letters.

Discuss (https://leetcode.com/problems/count-substrings-with-only-one-distinct-letter/discuss)

? Python3 ▼		<⊞>	⟳	⚙

```python
 1 ▾ class Solution:
 2
 3       # Revised, 28 ms
 4 ▾     def countLetters2(self, S: str) -> int:
 5           import itertools
 6           total = 0
 7 ▾         for k, g in itertools.groupby(S):
 8               ln = len(list(g))
 9               total += (ln + 1)*ln/2
10           return int(total)
11
12       # Done in contest, 36 ms
13 ▾     def countLetters(self, S: str) -> int:
14           S += "-"
15           start = total =0
```

```
16 ▾          for i in range(len(S)-1):
17 ▾              if S[i] != S[i+1]:
18                    sub = S[start : i+1]
19                    total += (len(sub) + 1)*len(sub)/2
20                    start = i+1
21            return int(total)
22
23        #dynamic programming
24 ▾      def countLetters1(self, S: str) -> int:
25            n = len(S)
26            res = 1
27            cur = 1
28 ▾          for i in range(1, n):
29 ▾              if S[i] == S[i - 1]:
30                    cur += 1
31 ▾              else:
32                    cur = 1
33                res += cur
34            return res
```

☐ **Custom Testcase**   ❓   ⏵ Run Code   ☁ Submit