

Practice





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# **Geometric Trick**





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Submissions will no longer be placed on the leaderboard. You may still attempt this problem for practice.

Consider a string, s, of length n consisting of characters in the set  $\{a,b,c\}$ . We want to know the number of different (i,j,k) triples (where  $0 \le i, j, k < n$ ) satisfying the following two conditions:

• 
$$s[i] =$$
 "a",  $s[j] =$  "b" and  $s[k] =$  "c"

• 
$$(j+1)^2 = (i+1)(k+1)$$

We consider two triples, (i,j,k) and (x,y,z), to be different if and only if  $i \neq x$  or  $j \neq y$ , or  $k \neq z$ .

Given n and s, find and print the number of different (i, j, k) triples.

#### **Input Format**

The first line contains an integer denoting n (the length of string s).

The second line contains a string of n characters denoting s.

#### **Constraints**

- $1 \le n \le 5 \times 10^5$
- Each character in s is in the set {a, b, c}.

#### **Output Format**

Print an integer denoting the number of triples in string s.

### Sample Input 0

ccaccbbbaccccca

## Sample Output 0

#### **Explanation 0**

String s ="ccaccbbbacccca" has two triples:

1. {2,5,11} satisfies both our constraints:

$$ullet s[2] = { t "a"}, s[5] = { t "b"}, { t and} s[11] = { t "c"}$$

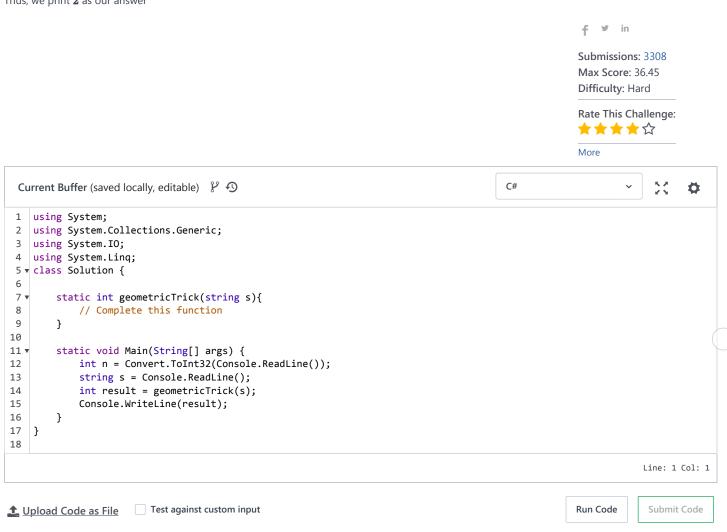
• 
$$(5+1)^2 = (2+1) \times (11+1)$$

2.  $\{8,5,3\}$  satisfies both our constraints:

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• s[8] = "a", s[5] = "b", and s[3] = "c"
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• 
$$(5+1)^2 = (8+1) \times (3+1)$$

Thus, we print 2 as our answer



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