

## Problem C. The Most Expensive Gift

Input file: *standard input*  
Output file: *standard output*  
Time limit: 1 second  
Memory limit: 256 mebibytes

Zenyk wants to make the best gift in the world for Marichka. He is visiting a gift shop and wants to buy the most expensive one.

But this is not a typical store, they have only string  $S$  consisting of letters 'a', 'b' and 'c'. Zenyk can choose any subsequence of this string as a gift. Subsequence  $T$  is a string that can be derived from  $S$  by deleting some (possibly none) letters without changing the order of the remaining letters. Price of subsequence  $T$  equals  $\frac{len_T^2}{c_T}$ , where  $len_T$  is the length of subsequence  $T$  and  $c_T$  is the length of the smallest cycle of  $T$ .

String  $R$  is the cycle of string  $T$  if

- $length(R)$  is a divisor of  $length(T)$ .
- $R_{i \% length(R)} = T_i$  for all  $i \in [0, length(T) - 1]$  (indexing from 0).

Help Zenyk to find the most expensive gift.

### Input

The first line of the input contains one integer  $N$ , which denotes the length of the string  $S$  ( $1 \leq N \leq 10^4$ ). Second line contains string  $S$  consisting of letters 'a', 'b' and 'c'.

### Output

Print one integer – the price of the most expensive gift.

### Example

| standard input   | standard output |
|------------------|-----------------|
| 11<br>abcbabcbac | 18              |

### Note

One of the most expensive subsequences is "ababab". It's length equals 6 and length of the smallest cycle equals 2. So price of this subsequence equals  $\frac{6^2}{2} = 18$ . There are another subsequences with the same price.