

# Rikka with New Year's Party

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            3 seconds  
Memory limit:         512 megabytes

Rikka is now organizing a new year's party for the algorithm association. She has invited  $n$  actors from 26 different groups, represented by lowercase letters. Rikka wants to select some actors among them for the opening show.

Now, the  $n$  actors are in a row. The  $i$ -th actor is from the  $s_i$ -th group. Rikka decides to choose a non-empty range  $[l, r]$  ( $1 \leq l \leq r \leq n$ ) and lets all actors in this range join in the opening show.

Rikka has prepared 26 different actions. Suppose the range  $[l, r]$  has been determined, the opening show will proceed in the following way:

- The actors will play in order. The  $l$ -th actor will play at first and the  $r$ -th will play at last;
- Suppose now the  $i$ -th player is going to play. He/she will decide his/her action in the following way: If there is a player  $j$  which plays before him/her and is also from group  $s_i$ , the  $i$ -th player will choose the same action as the player  $j$ . Otherwise, he/she will choose the first action (the action with the smallest index) which has not been chosen by anyone before.

For example, if 5 players from groups "abacb" are selected, they will chose actions 1, 2, 1, 3, 2 respectively.

Rikka finds that different ranges may sometimes result in the same show. For example, if there are 6 players and they are from "abacbc" respectively, range  $[1, 3]$  and  $[4, 6]$  will result in the same show.

Given string  $s$ , Rikka wants you to calculate the number of different possible shows.

- Two shows are different if and only if they contain different numbers of actions or there exists an index  $i$  such that the  $i$ -th actions of these two shows are different;
- A show is possible if and only if it can be produced by some range  $[l, r]$  of  $s$ .

## Input

The first line contains a single integer  $n$  ( $1 \leq n \leq 10^5$ ), the number of actors.

The second line contains a lowercase string  $s$  of length  $n$ .  $s_i$  represents the group of the  $i$ -th actor.

## Output

Output a single line with a single integer, the number of different possible shows.

## Examples

standard input	standard output
5 ababc	7
6 abacbc	10
11 ababcdcefef	33

## Note

For the first sample, there are 7 different possible shows:

1. Action 1, corresponding to range  $[1, 1]$ ,  $[2, 2]$ ,  $[3, 3]$ ,  $[4, 4]$ ,  $[5, 5]$ ;
2. Actions 1, 2, corresponding to range  $[1, 2]$ ,  $[2, 3]$ ,  $[3, 4]$ ,  $[4, 5]$ ;
3. Actions 1, 2, 1, corresponding to range  $[1, 3]$ ,  $[2, 4]$ ;
4. Actions 1, 2, 3, corresponding to range  $[3, 5]$ ;
5. Actions 1, 2, 1, 2, corresponding to range  $[1, 4]$ ;
6. Actions 1, 2, 1, 3, corresponding to range  $[2, 5]$ ;
7. Actions 1, 2, 1, 2, 3, corresponding to range  $[1, 5]$ .