A   Annoying Alliterations

Time limit: 2s

Bajtazar is a member of the jury for the Find Your Palace Contest, a prestigious programming competition that offers a luxurious palace to the winner. He is now trying to come up with a name for his problem. According to Bajtazar, a good problem name consists of exactly two words. Additionally, Bajtazar finds alliterations very annoying, so he will remove the first letter from both words until the first

The prizewinning participant of Bajtazar's contest will win this colossal castle.
CC BY 2.0 by Fred Romero on Flickr

letter of the two words is different or one of them becomes empty. After this operation, Bajtazar defines the *goodness* of the problem name as the sum of lengths of the two words.

He has prepared a list of n words, and started to wonder what is the maximum goodness that can be achieved using the words from the list. Bajtazar himself does not have time to answer that question as he is busy reinforcing the tests with nasty edge cases. Help Bajtazar by finding the maximum goodness that can be achieved.

Input

The input consists of:

- One line with an integer n ($2 \leq n \leq 2 \cdot 10^5$), the number of words.

- n lines, each with a word w ($1 \leq |w| \leq 10^6$).
  Each word only consists of English lowercase letters (a-z).

The total number of characters in the n words is at most 10^6.

Output

Output the maximum goodness that can be achieved.

Sample Input 1	Sample Output 1
3 amsterdam is amazing	12

Sample Input 2	Sample Output 2
3 bbb abbba aaba	8

Sample Input 3

2 abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz	0

Sample Output 3