

# Play with words



Shaka and his brother have created a boring game which is played like this:

They take a word composed of lowercase English letters and try to get the maximum possible score by building exactly 2 **palindromic subsequences**. The score obtained is the product of the length of these 2 **subsequences**.

Let's say  $A$  and  $B$  are two subsequences from the initial string. If  $A_i$  &  $A_j$  are the smallest and the largest positions (from the initial word) respectively in  $A$ ; and  $B_i$  &  $B_j$  are the smallest and the largest positions (from the initial word) respectively in  $B$ , then the following statements hold true:

$$A_i \leq A_j,$$

$$B_i \leq B_j, \text{ \& }$$

$$A_j < B_i.$$

i.e., the positions of the subsequences should not cross over each other.

Hence the score obtained is the product of lengths of subsequences  $A$  &  $B$ . Such subsequences can be numerous for a larger initial word, and hence it becomes harder to find out the maximum possible score. Can you help Shaka and his brother find this out?

## Input Format

Input contains a word  $S$  composed of lowercase English letters in a single line.

## Constraints

$$1 < |S| \leq 3000$$

each character will be a lower case english alphabet.

## Output Format

Output the maximum score the boys can get from  $S$ .

## Sample Input

```
eeegeeksforskeeggeeks
```

## Sample Output

```
50
```

## Explanation

A possible optimal solution is **eee-g-ee-ksfor-skeeggeeks** being **eeeee** the one subsequence and **skeeggeeks** the other one. We can also select **eegee** in place of **eeeee**, as both have the same length.