SUBSTRING PALINDROME

Jojo and Bibi are learning about palindromes. A palindrome is a word, number, phrase, or other sequence of characters which reads the same backward as forward, such as madam or racecar. Jojo and Bibi already understood whether a word is a palindrome or not. Now, they wanted to learn how to count number of unique palindromes that are substrings. As Jojo and Bibi friends, your job is to write a program that reads a sequence of strings and for each string determines the number of unique palindromes that are substrings.

Format Input:
Input consists of 1 sentence S in one line. The sentence only contains lowercase alphanumeric character and no whitespace.

Format Output:
Output one line, print N where N is the number of unique palindromes that are substring

Constraints:

$$1 \leq |S| \leq 1000$$

Sample Input 1

madam

Sample Output 1

5

Sample Input 2

midterm

Sample Output 2

6

Sample Input 3

jojobibi

Sample Output 3

8

Explanation:

- ‘madam’ has 5 unique palindromes which are ‘m’, ’a’, ‘d’, ‘ada’ and ‘madam’
- ‘midterm’ has 6 unique palindromes which are ‘m’, ‘i’, ‘d’, ‘t’, ‘e’, ‘r’, and ‘m’
- ‘jojobibi’ has 8 unique palindromes which are ‘j’, ‘o’, ‘b’, ‘i’, ‘joj’, ‘ojo’, ‘bib’ and ‘ibi’