
8. Petite Pals

Program Name: PetitePals.java

Input File: petitepals.dat

There are many words that are palindromes, that is, the word reads the same when the letters are reversed. The word RADAR is an example of a palindrome.

Some words are what we will call Petite Palindromes or Petite Pals for short. Petite Pals are substrings of a given word that are palindromes that are no longer than the length of the original word -1. For instance, for RADAR, the Petite Pals are ADA, R, A and D.

You are to write a program to determine how many distinct Petite Pals there are in a given word.

Input

The first line of input will contain a single integer n that indicates the number of words to follow. Each of the following n lines will contain a single word consisting of at least two uppercase letters.

Output

For each word input, you will print the number of Petite Pals contained in that word.

Example Input File

```
3
RADAR
STATEROOM
ATOYOTA
```

Example Output to Screen

```
4
9
6
```