

Problem 5—Pesky Palindromes

A palindrome is a sequence of one or more characters that reads the same from the left as it does from the right. For example, Z, TOT and MADAM are palindromes, but ADAM is not. Your job, should you choose to accept it, is to write a program that reads a sequence of strings and for each string determines the number of UNIQUE palindromes that are substrings.

INPUT SPECIFICATION. The input file consists of a number of strings (one per line), of at most 80 characters each. Each string contains nothing but lower-case letters and is terminated by <EOLN>. Each line is a specific case for this problem; the file is terminated by <EOF>.

OUTPUT SPECIFICATION. For each non-empty input line, the output consists of one line containing the message:

The string "*input string*" contains *n* palindromes.

where *input string* is replaced by the actual input string and *n* is replaced by the number of UNIQUE palindromes that are substrings. In other words, if a palindromic substring appears more than once, only count it once.

SAMPLE INPUT.

```
boy<EOLN>
madam<EOLN>
adam<EOLN>
tot<EOLN>
<EOF>
```

SAMPLE OUTPUT.

```
The string "boy" contains 3 palindromes.<EOLN>
The string "madam" contains 5 palindromes.<EOLN>
The string "adam" contains 4 palindromes.<EOLN>
The string "tot" contains 3 palindromes.<EOLN>
<EOF>
```