

## CMPUT 274 - Tangible Computing

### Morning Problem: Palindromes

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#### Description

A palindrome is a string that reads the same forward or backwards. Putting it another way, it equals its reversal. So **ogopogo** and **racecar** are palindromes yet **banana** and **emma** are not.

Your task is simple. Find the length of the longest **odd-length palindrome** that is a substring of a given string. We do not care about palindromes of even length today.

#### Input

Input consists of a single line with a single string. This string will contain only lowercase letters and will have length between 1 and 1000.

#### Output

Output a single integer  $k$  on a single line. This should be the length of the longest odd-length palindrome that appears as a substring of the input string.

#### Sample Input 1

```
banana
```

#### Sample Output 1

```
5
```

#### Explanation for Sample 1

The string **anana** is a palindrome with length 5, and there are no longer odd-length palindromes.

#### Sample Input 2

```
aababbbabba
```

#### Sample Output 2

```
7
```

#### Explanation for Sample 2

The substring **babbbab** is a palindrome with length 7, and there are no longer odd-length palindromes.

#### Sample Input 3

```
deed
```

### Sample Output 3

1
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### Explanation for Sample 3

Though **deed** is a palindrome, it has even length. The only odd-length palindromes that are a substring of this string are strings of length 1, namely **d** or **e**.