Bloomberg CODECON

Memory Limit: 1350 MB
Time Limit: 5 s

# Numerical Palindromes (300 points)

## Introduction

You've been asked to write a program to find the largest possible numerical palindrome that can be made from an input number. A numeric palindrome is defined as a number the reads the same both forwards and backwards. For example, 131 is a numerical palindrome.

Given a positive whole number as input, you'll need to determine the largest (in terms of numeric value) numerical palindrome that can be made from the digits present in this number.

## Input Specifications

The first (and only) line will be a positive integer, with up to 15 digits.

## Output Specifications

Print out the largest numerical palindrome that can be made from rearranging the digits in the input number. Largest refers to the greatest absolute value.

## Sample Input/Output

### Input

8989

### Output

9889

### Explanation

The given digits can create six possible palindromes: 8, 9, 898, 989, 8998, 9889. Of these palindromes, 9889 is the largest.

---

### Input

123

### Output

3

### Explanation

The given digits can only create single-digit palindromes, as there are no repeat characters. The largest of these is 3.