

ACSL ASCENDING  
INTERMEDIATE DIVISION

**PROBLEM:** This program requires you to take a string of digits and form a sequence of numbers from that string. The numbers in the sequence are in increasing order and they are formed as follows: The first digit of the input string, called it  $d$ , indicates that the first number in the sequence is  $d$  digits long and comes from the following  $d$  digits in the input string. Each of the subsequent numbers in the output sequence must have the least value possible while still being greater than the number before it. These digits will come from the end of the input string, taking digits from right to left in the order that they appear.

Consider the input string 1314159265. The first digit, a 1, indicates that the first integer in the sequence will be one digit in length; it always come from the left side of the string. Thus, the 3 is the first number in the sequence. The next numbers in the sequence come from the right side of the input string (i.e., consider the digits 5, 6, 2, 9, 5, 1, 4, and 1, in that order. The 5 is added because it is larger than the 3. Next, the 6 is added. The next digit is a 2 but it is not larger than 6, so it is combined with the next digit, a 9, to form the number 29. The number 29 is larger than 6, so 29 is added to the output sequence. Next, 51 is added to the output sequence. The remaining digits combine to form 41, but it is not added to the output sequence because it is not larger than 51. Thus, the output sequence from 1314159265 is 3, 5, 6, 29, and 51, in that order.

**INPUT:** There will be 5 lines of input. Each will contain a string of digits. Its length will be at least 2 and no more than 20.

**OUTPUT:** The numbers in the sequence formed as described above, separated by a single space. A number can't start with a leading 0.

**SAMPLE INPUT:**

1. 1314159265
2. 11223344
3. 225897257
4. 412342987656784352
5. 33984567176534321

**SAMPLE OUTPUT:**

1. 3 5 6 29 51
2. 1 4 43 322
3. 25 75 279
4. 1234 2534 8765 67892
5. 398 1234 3567 17654

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COPY, PASTE AND EDIT THE FOLLOWING AT THE TOP OF YOUR SOURCE CODE

```
/*
  YourName Grade
  Doral Academy #7098 INTERMEDIATE-5 Division
  2016-2017 American Computer Science League
  Contest #2 "ACSL Ascending Strings" DUE DATE 02/03/17
  PROJECT NAME:  "Ascending Strings Project"
  CLASS NAME:    "AscendingStrings"
  INPUT FILENAME: "ASTRINGS.IN"

  On my honor I have neither given nor received help,
  nor will I give help on this program
*/
```