C++ LAB: STRINGS – REPETITION FREE NUMBERS

C++ Lab: Strings - Repetition Free Numbers

User Requirements

Create a program that determines the next repetition free number base on a whole number user entry. A repetition-free number is one in which each digit {1,2,3,…,9} appears at most once and the digit 0 does not appear. A repetition-free number can have at most nine digits, but may also have fewer than nine digits. Some examples of repetition-free numbers are 9, 32, 489, 98761 and 983245.

You will be given an integer *N* with at most nine digits. Your task is to print out the smallest repetition-free number bigger than *N*. For example, for 99 the answer is 123, for 881 the answer is 891, and for 133 the answer is 134.

Input format

- A single line with a single integer with at most 9 digits.

Output format

- A single line containing the smallest repetition-free number bigger than the given number. If there is no repetition-free number bigger than the given number, print 0.

```
Enter a whole number: 99
The next repetition free number is 123
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```
Enter a whole number: 881
The next repetition free number is 891
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Software Requirements

Create a flowchart and/or pseudo code to establish an algorithm of how to solve this

problem. Your program must declare the following variables.

- userNum as a whole number
- counter as a whole number output as a string.