

556. Next Greater Element III

Given a positive integer n , find *the smallest integer which has exactly the same digits existing in the integer n and is greater in value than n* . If no such positive integer exists, return -1 .

Note that the returned integer should fit in **32-bit integer**, if there is a valid answer but it does not fit in **32-bit integer**, return -1 .

Example 1:

Input: $n = 12$
Output: 21

Example 2:

Input: $n = 21$
Output: -1

Constraints:

- $1 \leq n \leq 2^{31} - 1$

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class Solution:
    def nextGreaterElement(self, n: int) -> int:
        i = len(str(n))-2
        string = list(str(n))
        while i>=0 and int(string[i])>=int(string[i+1]):
            i=i-1
        if i==-1:
            return -1
        j = len(string)-1
        while int(string[i])>=int(string[j]):
            j = j-1
        string[i],string[j] = string[j],string[i]
        string = string[:i+1]+string[i+1:][::-1]
        ans = int(''.join(string))
        return ans if ans<= 2**31 - 1 else -1
```