Samet Cagri Aktepe – 21.11.2022

https://www.spoj.com/problems/PALIN/

PALIN - The Next Palindrome

#ad-hoc-1

A positive integer is called a *palindrome* if its representation in the decimal system is the same when read from left to right and from right to left. For a given positive integer *K* of not more than 1000000 *digits*, write the value of the smallest palindrome larger than *K* to output. Numbers are always displayed without leading zeros.

Input

The first line contains integer *t*, the number of test cases. Integers *K* are given in the next *t* lines.

Output

For each *K*, output the smallest palindrome larger than *K*.

Example

Input:

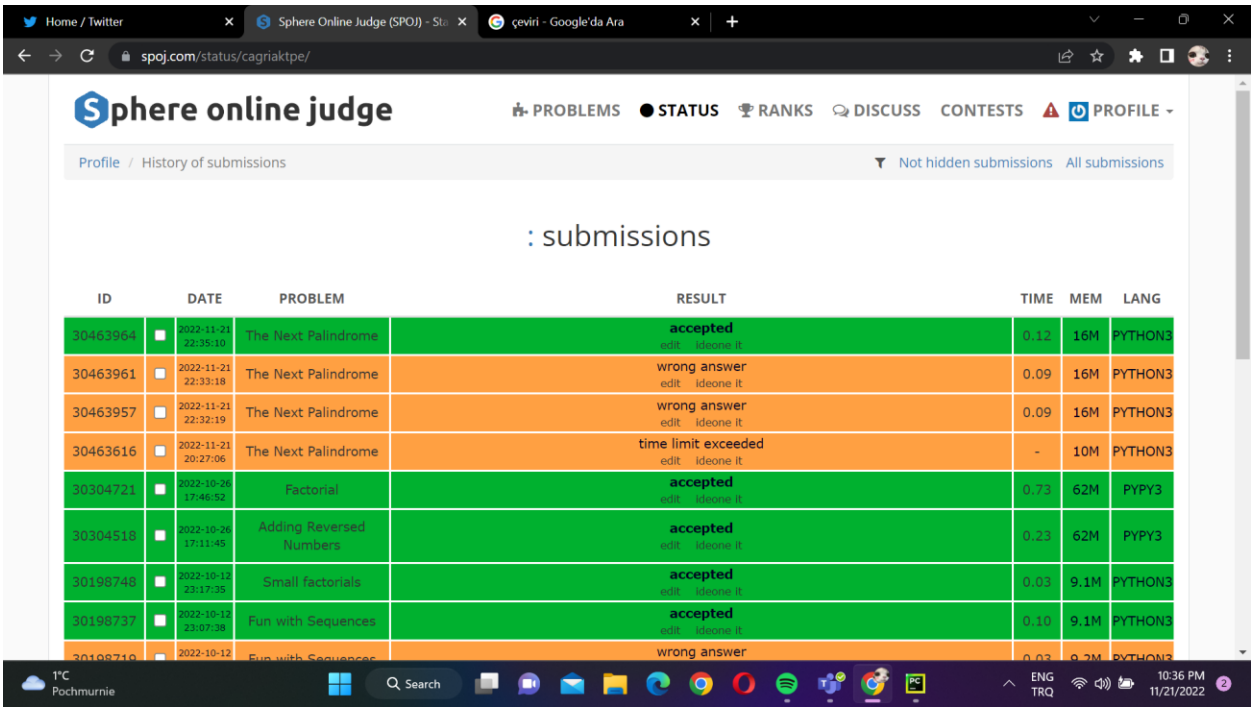
```
2

808

2133
```

Output:

```
818

2222
```

```
"""
approaches

24 --> 22 (it is less than original number that's bad) --> 33
2432 --> 2442 (it is bigger than original number that's good)
24956 --> 24942 (it is less than orj number that's bad) --> 25052
9999 --> just making 10001 ('1' + ('0' * length - 1) + '1')
1111 --> 1111 (it is less than original number that's bad) -->  1221
```

```
"""

def increase(leftPart):
    leftList = list(leftPart)
    last = len(leftList) - 1
    while (leftList[last] == '9'):
        leftList[last] = '0'
        last -= 1

    leftList[last] = str(int(leftList[last]) + 1)

    return "".join(leftList)

def findNextPalindrome(number):
    size = len(number)
    odd = size % 2

    if (odd):
        center = number[size//2]
    else:
        center = ''

    leftPart = number[:size//2]
    rightPart = leftPart[::-1]

    palindrome = leftPart + center + rightPart

    if (palindrome > number):
        return palindrome
    else:
        if center:
            if center < '9':
                center = str(int(center) + 1)
                return leftPart + center + rightPart
            else:
                center = '0'
        if (leftPart == len(leftPart) * '9'):
            return ('1' + (len(number)-1) * '0' + '1') # 99 --> 101, 9999 -->
10001
        else:
            leftPart = increase(leftPart)
            return (leftPart + center + leftPart[::-1])

time = int(input())
for i in range(time):
    number = input()
    print(findNextPalindrome(number))
```


Home / Twitter
Sphere Online Judge (SPOJ) - Sta
çeviri - Google'da Ara
spoj.com/status/cagriaktpe/
Sphere online judge
PROBLEMS
STATUS
RANKS
DISCUSS
CONTESTS
PROFILE
Profile / History of submissions
Not hidden submissions
All submissions
: submissions
ID
DATE
PROBLEM
RESULT
TIME
MEM
LANG
30463964
2022-11-21 22:35:10
The Next Palindrome
accepted
edit ideone it
0.12
16M
PYTHON3
30463961
2022-11-21 22:33:18
The Next Palindrome
wrong answer
edit ideone it
0.09
16M
PYTHON3
30463957
2022-11-21 22:32:19
The Next Palindrome
wrong answer
edit ideone it
0.09
16M
PYTHON3
30463616
2022-11-21 20:27:06
The Next Palindrome
time limit exceeded
edit ideone it
-
10M
PYTHON3
30304721
2022-10-26 17:46:52
Factorial
accepted
edit ideone it
0.73
62M
PYPY3
30304518
2022-10-26 17:11:45
Adding Reversed Numbers
accepted
edit ideone it
0.23
62M
PYPY3
30198748
2022-10-12 23:17:35
Small factorials
accepted
edit ideone it
0.03
9.1M
PYTHON3
30198737
2022-10-12 23:07:38
Fun with Sequences
accepted
edit ideone it
0.10
9.1M
PYTHON3
2022-10-12
wrong answer
1°C
Pochmurnie
Search
ENG
TRQ
10:36 PM
11/21/2022