Next Problems of the week are as follows:

LEVEL-1:

Tom and jerry were playing a cup game .The cup game was simple it was swapping of coins from once cup to another. The problem here is jerry is so smart that he used many logics for swapping of coins i.e. numbers. Your job is writing a code to swap numbers with all the available logic out there and help out TOM.

:: **Constraints** :: 1<x<10000000, 1<y<10000000 (x,y are inputs)

:: **Sample** :: i/p 1000000 256

o/p 256 1000000

LEVEL-2: (A must to solve)

As we are familiar with data structures and the most easy one being stack. This week the problem is to create any conversion problem of the stack i.e. Infix to postfix, infix to prefix etc.

LEVEL-3:

PROBLEM LEVEL: Medium

Doremon and Sin Chan had a battle in computers. Ninja hathodi was chosen an arbitrator. He came up this problem. The problem is as follows:

An integer is said to be a palindrome if it is equal to its reverse. For example, 79197and 324423 are palindromes. In this task you will be given an integer N, 1 ≤ N ≤ 4*10^4. You must find the smallest integer M ≥ N such that M is a prime number and M is a palindrome.

The paper setter was not convinced by the problem mentioned above so he edited the Output with an encryption technique using simple operators to give one more output to above mentioned output of the problem.

Choose the side and use the brain to solve the problem.

Input

A single integer N (1 ≤ N ≤ 15000), on a single line.

Output

Your output must consist of a single integer, the smallest prime palindrome greater than or equal to N and second line with other output of encryption technique!!

Example

I/p: 5	**O/p:** 5, 0
I/p: 31	**O/p:** 101, 3
I/p: 120	**O/p:** 131, 4
I/p: 200	**O/p:** 313, 9