

**DWITE Online Computer Programming Contest
December 2006**

Problem 3

Circular Primes

Circular Primes are primes with a special property. They can be found by repeatedly chopping away the leftmost digit and appending them to the other end of the number. This process is repeated until you come back to the starting number. If all the intermediate formed numbers are prime then the starting number can be called 'circular'.

An example with the circular prime number 1193

1193 is prime
1931 is prime
9311 is prime
3119 is prime
1193 back to starting position

The input file (**DATA31.txt** for the first submission and **DATA32.txt** for the second submission) will contain five lines of data. Each line will contain an integer, N. $10 \leq N \leq 900\,000$.

The output file (**OUT31.txt** for the first submission and **OUT32.txt** for the second submission) will contain five lines of data, corresponding to each line of the input file. Each line will display the next circular prime greater than or equal to N.

<u>Sample Input</u>	<u>Sample Output</u>
10	11
11	11
20	37
30	37
100	113

Learn more about circular primes at: <http://www.worldofnumbers.com/circular.htm>