

Problem of the Week

Problem C

No Lemons, No Melon

The title, “No Lemons, No Melon”, is an example of a palindrome, a phrase that is the same when read forwards or backwards. Single words like MOM and BOB are palindromes. Numbers like 7, 414 and 12321 are also palindromes.

Next week, on October 8, 2018, you should greet everyone by saying, “Happy Palindrome Day”. When the date is written in the form d-mm-yyyy, October 8, 2018 is 8102018, a palindrome.

In honour of Palindrome Day, we pose a palindrome problem. Determine the smallest and largest seven-digit palindromic numbers which are divisible by 15.

It may be helpful to note that a number is divisible by 3 if the sum of its digits is divisible by 3. For example, 15972 is divisible by 3 since $1 + 5 + 9 + 7 + 2 = 24$ and 24 is divisible by 3.

