Problem of the Week

Problem D

Just Like Kayak 2

A palindrome is a word, phrase, or positive integer that reads the same forwards and backwards. For example, "kayak" is a palindrome. The integers 292, 11, and 6 357 536 are also palindromes.

Determine the number of six-digit palindromic integers that are divisible by 15.

NOTE: An integer is divisible by 3 exactly when the sum of its digits is divisible by 3. For example, 15 972 is divisible by 3 since $1 + 5 + 9 + 7 + 2 = 24$ and 24 is divisible by 3. But 14 923 is not divisible by 3 since $1 + 4 + 9 + 2 + 3 = 19$ and 19 is not divisible by 3.