

Problem 2

Due Nov. 12

Part 1

Determine the number of integers n that satisfy *all* the conditions below:

- each digit of n is either 1 or 0
- n is divisible by 6
- $0 < n < 10^7$

Part 2 Tie-breaker

Determine the number of integers n that satisfy *all* the conditions below:

- each digit of n is 0, 1 or 2
- n is divisible by 6
- $0 < n \leq 10^7$

(A correct solution to Part 1 is a correct solution; the tie-breaker will be used to select the monthly winner.)