Problem of the Month
Problem 0: September 2022

Hint

(b) What are the remainders when 100 and 10 are divided by 7?

(d) Try to find a condition on six-digit integers that detects divisibility by 7. There is a well-known general test for divisibility by 7, but it will be useful to find another one that is specific to six-digit integers and similar to the condition for three-digit integers implied by (b) and (c).