Due Wednesday, March 2nd at 10AM.

(1) Prove the correctness of the following algorithm.
   # m and n are positive natural numbers
   a = m
   b = n
   while a != b:
       if a < b:
           a += m
       else:
           b += n
   # a is the smallest multiple of m and n
   # that is at least as large as m and n

(2) Prove the correctness of the following algorithm.
   # bit is a non-empty sequence of 0s and/or 1s
   r = 0
   t = 1
   for i in range(len(bit)):
       r += t * bit[i]
       t *= -1
   # r is divisible by 3 iff the number with binary representation
   # is divisible by 3.