## CS:1210 (22C:16) Quiz 1 Version (b)

You have 15 minutes to complete this quiz. Please put away your books, notes, and all electronic devices

- 1. Recall our algorithm (described below in pseudocode) for computing the binary equivalent of a given nonnegative integer.
  - (i) Read the number n given as input.
  - (ii) If n is even, output 0. Replace n by n/2.
  - (iii) If n is odd, output 1. Replace n by (n-1)/2.
  - (iv) If n is 0, STOP. Otherwise go to Line 2
  - (a) Write down the sequence of values that n takes for input 72.
  - (b) Write down the output produced by this algorithm for input 72.
- 2. *Euclid's algorithm* for computing the GCD of two nonnegative integers can be described in pseudocode as follows:
  - (i) Read the numbers m and n given as input.
  - (ii) If m = n then output m and STOP.
  - (iii) If m > n replace m by m n.
  - (iv) If n > m replace n by n m.
  - (v) Go back to Line 2.
  - (a) Write down the sequence of values that m and n take for input 42, 28.
  - (b) Write down the output produced by this algorithm for input 42, 28.