CS:1210 (22C:16) Quiz 1 Version (c)

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

1. Given below is `intToBinary1.py`, our first attempt at writing a program for computing the binary equivalent of a given nonnegative integer.

```
n = int(input("Type a nonnegative integer: "))

while n > 0:
    print(n % 2)
    n = n // 2
```

   Write down the output produced by this program if the input is 39.

2. Given below is slightly modified version of the above program.

```
n = int(input("Type a nonnegative integer: "))

while n > 0:
    n = n // 2
    print(n)
```

   Write down the output produced by this program if the input is 57.

3. *Euclid's algorithm* for computing the GCD of two non-negative 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 36, 48 (i.e., initially m is 36 and n is 48).

   (b) Write down the output produced by this algorithm for input 36, 48.