Quiz 3: While Loops

Name: _______________________

50 points

1. (25pts) Consider the following pieces of code. Which of the following pieces result in a loop which terminates? That is, which of the following are NOT infinite loops?

I. int x=20;
   
   while(x!=5){
      System.out.println("The value of x is: " + x);
      x /= 4;
   }

II. int x=20;
   
   while(x!=5){
      System.out.println("The value of x is: " + x);
      x --;
   }

III. int x=20;
   
   while(x!=5){
      System.out.println("The value of x is: " + x);
      x -= 2;
   }

IV. int x=20;
   
   while(x!=5){
      System.out.println("The value of x is: " + x);
      x ++;
   }

V. int x=20;
   
   while(x!=5){
      System.out.println("The value of x is: " + x);
      x = x - 5;
   }
Consider the following code:

import java.util.Scanner;
public class Test {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        int n, m;
        n = input.nextInt();
        m = n;

        while (n != 0) {
            n = input.nextInt();
            if (n > m) {
                m = n;
            }
        }

        System.out.println("m = "+ m);
        System.out.println("n = "+ n);
    }
}

Suppose the user types the numbers:

2 3 4 5 0 6

in sequence, hitting [Enter] between each number.

A. (20 pts) What is the output of the above code?

B. (5 pts) Write a one sentence comment to describe the function of this code.