## **EECE.2160: ECE Application Programming**

Spring 2019

Lecture 11: Key Questions February 19, 2019

## **QUESTIONS:**

- 1. Explain how while loops can be used:
- a. When number of iterations is dependent on a variable (flexible limit)
- b. When you want to repeat an operation until a given value (sentinel) is entered (while3.c)
- 2. What is the difference between a while loop and a do-while loop?
- 3. Show the difference between the outputs of the loops below

```
x = 7;
do {
    printf("%d",x);
    x = x + 1;
} while ( x < 3 );

x = 7;
while ( x < 3 )

{
    printf("%d",x);
    x = x + 1;
}</pre>
```

4. Recall the example for using a while loop with a sentinel value in the grade average program and show that loop written as a do-while loop.

## **EXAMPLES:**

- 1. Write a while or do-while loop for each of the following tasks:
- a. Print all multiples of 3 between 0 and 100 (including 0)

b. Given two variables, x and y, repeatedly increment x by 1 and decrement y by 1 until x is greater than y. Print the initial values of x and y before the loop starts. Also, count the number of iterations this loop takes and print that number when the loop is done

c. Repeatedly prompt for and read a single non-space character into a variable, cmd, until the user enters either 'X' or 'x'.