**Level 1: LED Trailing Effects**

1. Implement the lesson titled “LED Trailing Effects”.
2. Locate on-line documentation that describes the C language “for” loop.
   1. What is the index and how is it used?

The index is the point in a series of numbers or strings that a loop is at, it is commonly used in loops to keep them going until it has looped a certain amount of specified times.

* 1. When does the for loop end?

When the condition is false the loop would end, in this case, when the number has reached the specified number (3).

* 1. How is a “for” loop different from a “while” and a “do” loop?

The “for” loop repeats for a certain amount of time which is often determined by the programmer. They are different from “do” loops because “do” loops will loop a minimum of one time whereas a “for” goes on until the program tells it to stop. The “while” loop will loop for an infinite number of times until the statement is false.

1. Research the “<” Comparitor.
   1. List all the other comparitors defined for the C language.

Comparison Operators:

x == y (x is equal to y)

x != y (x is not equal to y)

x< y (x is less than y)

x > y (x is greater than y)

x <= y (x is less than or equal to y)

x >= y (x is greater than or equal to y)

* 1. Modify the “for” loop to use the “<=” comparator

The program does the same operation as the statement with “<”, but it would also check if the value id equal to or less than.

1. Research the “++” incrementor operator.
   1. Explain how this is different from the “=+ 1” assignment

The “++” operator repeatedly adds 1 to the to the given value, and =+1 makes the program do ans = ans + 1.

* 1. Modify the “for” loop to use the “=+” assignment