CS1428 Lab 12h

# Name: Section:

Today we will cover what is an advanced topic called recursion. Recursion is what happens when you have a function call itself. This must be done with absolute care because if done incorrectly it will generate an infinite recurrence call and quickly use all of the available memory in your machine.

Ex:

int howFarFromTen(int x, int count)

{

if(x==10)

return count;

howFarFromTen(x+1,count++);

}

1. (25 points) Write a program that takes two number as command line arguments, (**start** and **stop**) returns the sum of all of the numbers from **start** to **stop** inclusive.
2. (75 points) Write a program that takes one number as a command line argument. This number will be the sentient value for a recursive function that will print the Fibonacci sequence from 0 to said value (include said value).

Ex: ./fib 5

fib 0 : 0

fib 1 : 1

fib 2 : 1

fib 3 : 2

fib 4 : 3

fib 5 : 5

**Hints:**

* This program has 2 terminating cases.
* A Fibonacci number is found by taking the sum of the previous two digits in the Fibonacci sequence.