**Chapter 4 Exercise Pseudocode**

**Exercise 4.1**

Potential Variables: num (user input), total, numPositives, numNegatives, counter, average (double)

while the user's input isn't zero

{

get another user input;

use condition statements to increment numPositives or numNegatives;

add this user input to total

increase counter by 1, as long as the input isn't 0

}

calculate average

output

**Exercise 4.3**

for loop from 1 to 199

{

output your looping variable, then that variable converted to pounds.

}

You can use \t in your SOP to create an even column in your program, though LiveLab will not mark you down if it isn't lined up perfectly.

**Exercise 4.7**

variables: tuition(double), fourYearsTuition (double)

for loop from 1 to 13

{

increase tuition by 5%

if it's the tenth year, output tuition

if the year is at least year 10, add the tuition to fourYearsTuition

}

Output tuition and fourYearsTuition

**Exercise 4.13**

variables: n (int)

while n3 is less than 12000

{

increment n by 1

}

output n-1;

**Exercise 4.15**

for loop from 33 to 126

{

output the integer value of looping variable casted as a char, followed by a space

after every tenth number, end the line

}

**Exercise 4.17**

variables: num(int)

get number of lines from user(num)

for loop 1 to num

{

output 2 spaces for every missing number less than num - These are your leading spaces

output the numbers from num to 1 with a space following each number

output the numbers from 2 to num with a space following

end the line

}

**Exercise 4.33**

variables num, factors, factorSum (int)

for loop from 1 to 10000 (num)

{

reset factorSum to 0

for loop from 1 to num-1 (factors) - to check for all factors of each number from 1 to 10000

{

if factors is a factor of num, add it to factorSum

}

if factorSum equals num, it is a perfect number and should be outputted.

}