**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.

}