CIS 1.5 Fall 2009 Lab III.4

1. Using **value** parameters

Write a program that has one integer function called `diff1()` which takes two integer value parameters, `A` and `L`, and returns an integer value equal to the positive difference between the two parameters. The "positive difference" means that the return value should always be ≥ 0. In other words, if $A > L$, the function should return $A - L$; if $A < L$, the function should return $L - A$; and if $A == L$, the function should return 0.
The `main()` function should:

a. prompt the user to enter two integer values,

b. echo the user's input,

c. invoke `diff1()` to compute the positive difference between them, and

d. print out the result.

2. Using **reference** parameters

Write a program that has one void function called `diff2()` which takes two integer value parameters, `A` and `L`, and one integer reference parameter, `N`. The function should set the value of `N` equal to the positive difference between the first two parameters. In other words, if $A > L$, then $N = A - L$; if $A < L$, then $N = L - A$; and if $A == L$, then $N = 0$.
The `main()` function should:

a. prompt the user to enter two integer values,

b. echo the user's input,

c. invoke `diff2()` to compute the positive difference between them, and

d. print out the result.

3. Using the `cout` formatting functions

Write a program that has one void function called `diff3()` which takes two double value parameters, `A` and `L`, one double reference parameter, `N`, and one double boolean parameter, `loss`. The function should set the value of `N` equal to the positive difference between the first two parameters. In other words, if $A > L$, then $N = A - L$; if $A < L$, then $N = L - A$; and if $A == L$, then $N = 0$. The function should set the value of `loss` to `true` if $L > A$ or +false+ otherwise.
The `main()` function should:

a. prompt the user to enter two double values which represent money, *assets* (A) and *liabilities* (L);

b. use `cout` formatting functions to echo the user's input as currency using dollars and cents (`$` followed by two decimal places);

c. invoke `diff3()` to compute the positive net difference between the assets and liabilities, and

d. print out the result, as a currency value in dollars and cents. If the result (net difference) is a loss, then the output should be printed inside parenthesis, e.g., `($12.99)`.