CMPSC125 in-class Lab Assignment 2

Due date: Jan. 30, 2:50pm

Total Points: 15 points

**Problem 1** [5 points]

Note: please highlight in different color for your answers.

1. (2 points) Write a program that outputs “Hello, World!” n times (where n is a nonnegative integer that the user will input) with:

* for loop
* while loop
* do .. while loop

**For Loop**

#include <iostream>;

using namespace std;

void main()

{

int userLoop;

cout << "Please enter a positive number"<< endl;

cin >> userLoop;

for (int loopCount = 0; loopCount < userLoop; loopCount++)

{

cout << "Hello World" << endl;

}

system("pause");

}

**While Loop**

#include <iostream>;

using namespace std;

void main()

{

int userLoop;

cout << "Please enter a positive number"<< endl;

cin >> userLoop;

int loopCount = 0;

while (loopCount < userLoop)

{

cout << "Hello World" << endl;

loopCount++;

}

system("pause");

}

**Do While Loop**

#include <iostream>;

using namespace std;

void main()

{

int userLoop;

cout << "Please enter a positive number"<< endl;

cin >> userLoop;

int loopCount = 0;

do

{

cout << "Hello World" << endl;

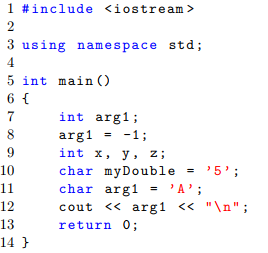
loopCount++;

} while (loopCount < userLoop);

system("pause");

}

1. (1 point) Write the following code and answer the questions.



* What happens if you declare the same name twice within a block?

An error is thrown.

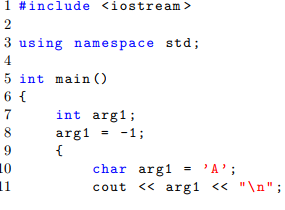
* After updating, compile your code. What does it print? If no, what error message do you get?

After changing the second “arg1” to “arg2”, the output is -1.

1. (1 point) Write the following code. Use it to answer the following question:

* What happens if we declare an identifier in a block, and then redeclare that same identifier in a block nested within that block?

No error is thrown; it simply displays the “arg1” variable from inside the nested block.





1. (0.25 each) Assume the variables a = 2, b = 4, and c = 6. Indicate true or false if each of the following conditions is true of false:

* a == 4 || b > 2 True
* 6 <= c && a > 3 False
* 1 != b && c != 3 True
* !(a > 2) True

**Problem 2** [5 points]

The while loop logical expression is number > 0 which indicates the loop should be executed as long as the value of number is greater than zero.

int number; // number to be read

int sum; // the sum of the numbers read

sum = 0; // initialize the sum

cin >> number; // read first number

while ( number > 0 ) // loop while number read > 0

{

sum = sum + number; // sum the positive number

cin >> number; // read next number

}

Re-write the above so as to find the average of input data items (integers) between 0 and 100 inclusive. Stop the loop when an input data item is not between 0 and 100 inclusive. Display the average.

Rewritten Program

#include <iostream>;

using namespace std;

void main()

{

int userNumber = 0;

int loopCount = 0;

int sum = 0;

cout << "Please enter a number between 0 and 100 to be added" << endl;

cin >> userNumber;

while (userNumber >= 0 && userNumber <= 100) {

sum = sum + userNumber;

loopCount++;

cout << endl << "Current Average: " << (sum / loopCount) << endl;

cout << "Please enter another number between 0 and 100." << endl;

cin >> userNumber;

}

cout << endl << "That number is not between 0 and 100" << endl;

cout << "The end average is " << (sum / loopCount) << "." << endl;

system("pause");

}

**Problem 3** [5 points]: save the code as “lab2\_firstnames\_timerCalculator.cpp"

Write a program that asks the user to enter a number of seconds.

* Threre are 60 seconds in a minute, if the number of seconds entered by the user is greater than or equal to 60, the program should display the number of minutes in that many seconds.
* There are 3600 seconds in an hour, if the number of seconds entered by the user is greater than or equal to 3600, the program should display the numner of hours in that many seconds
* There are 86400 seconds in a day, if the number of seconds entered by the user is greater than or equal to 86400, the program should display the numner of days in that many seconds

**Grading Rublic for each problem**

Problem 3:

1. Turnin - 1 point

Yes/No - Did you turnin file called by specified names?

1. Style – 1 point

* Yes/No - Are good variable names used?
* Yes/No - Is the code easy to read and properly indented?
* Yes/No - Is there top comment describing the program?
* Yes/No – Did you follow the naming convention rules?

1. Correctness - 2 points

Yes/Partial/No - are the formula correctly computed?

1. Output - 1 points

Yes/No – is the outputs correct?