**ECE 3822: Engineering Computation II**

**Homework No. 8: C++ Variables and Scope**

**Goal:** The goal of this homework is to demonstrate how variable scope is managed in C++.

**Description:** The tasks are:

1. Create a main program called mytest.cc, using our standard Makefile approach. Also create mytest.h which will contain the definition of a class called MyTest, and mytest\_00.cc, which will contain ALL implementations of methods in MyTest.
2. Implement the following using the procedures discussed in class:

* a public static const called NAME that contains the string “MyTest”.
* a public method called name that returns the class name.
* a public static ENUM called debug\_level that has values “FULL”, “PARTIAL”, “BRIEF” and “NONE”.
* a public method set\_debug that sets the debug level to a specific value.
* a public method called debug that displays the values of all internal data in the class.
* a public method compute that takes an argument that is an enum called ALGORITHM and calls private methods called compute\_1, compute\_2, compute\_3 depending on the value passed to compute.
* a private method called reset that clears all internal data.

1. Your main program, mytest.cc, invokes the class MyTest, and does the following:

* mytest.exe –debug brief

and displays only the values of the data in the class.

* mytest.exe –debug full

that displays all sorts of interesting debug messages. Demonstrate all four values of debug level produce different output. You must implement this using the variables and approaches described above. You cannot hardcode this. You will be judged on the simplicity and readability of your code. Comments throughout the code are important.

Submit a tar file named “lastname\_firstname\_hw08.tar.gz” that contains all your code. It should include a Makefile, a header file (MyTest.h), a main program (mytest.cc) and an implementation file (mytest\_00.cc).