C201 Homework #6 Due 3/26/14

This homework requires you to enhance the MyFloat class that you started in homework #5. The following changes and additional member functions need to be added.

1) Replace the Write function with an overloaded "<<" operator that supports "cascading" such as "cout << "X = " << X << ";" where X is of type MyFloat. See string2.cpp for an example of over loading the "<<" operator. The Test program will assume that this is working correctly, so follow guide lines from homework #5.

2) Replace the Read function with an overloaded ">>" operator.

3) Add the following two additional member functions:

- `>` comparison operator used on MyFloats

- `=` Converts a string representing a float between 0 and 1 to a MyFloat. For example, if X is an instance of MyFloat, a programmer could use X = "0.3482"; to store 0.3482 in X. Make sure this works for cascading assignment operators, i.e. X = Y = Z;

4) Be sure to check the efficiency of your addition routine by choosing menu selection 6) when running the driver program. This selection adds two floats, "0.1234567899" and "0.111111111111111" one million times, then adds the corresponding MyFloats the same number of times. The relative speeds are then displayed. Your MyFloat addition will probably be 100 to 200 times slower than ordinary float addition.

Copy the driver program off my website called "TestMyF2.cpp"; this will display the following menu:

```
Testing Member Functions of MyFloat Class
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
     1)  Test >> operator
     2)  Test = operator
     3)  Test MaxDigits and Digits
     4)  Test == and  > operators
     5)  Test + operator
     6)  Test + execution speed
     Q)  Quit program
Choice?
```

-As much as possible, write the new member functions one at a time. Recall that one trademark of a poor programming student is their insistence on writing and debugging an entire program at once, rather than one function at a time.

-Note that function stubs will be needed in your class to get the driver program compile.

-Do not enter illegal MyFloats when selecting options 4) or 5). Don't turn in output for choice #3.

-Note, your file should now be called "MyFloat2.cpp".