Homework #1   Data Structures
Due: January 29, 2010 (Friday at 11:59 PM)

Date Class

Design a class called Date. The class should internally represent a date as three integers: month, day, year.
There should be member functions to return the date as a string in three forms:
1/20/2010
January 20, 2010
20 January, 2010

In addition to constructors (default, copy constructor, and another logical constructor) and a destructor, you should include the following overloaded operators:

=	Assignment operator to assign an Date object the value of an existing Date object.
++	Prefix and Postfix increment operators. These operators should increment a Date object to the next day's date. Incrementing a date already at the last day of the month, should become the first day of the next month. Plus, incrementing a date set to December 31 should become January 1 of the following year.
--	Prefix and Postfix decrement operators. These operators should decrement a Date object to the previous day's date. Decrementing a date already at the first day of the month, should become the last day of the previous month. Plus, decrementing a date set to January 1 should become December 31 of the previous year.
-	Subtraction operator. If one Date object is subtracted from another, the operator should give the number of days between the two dates.
<<	ostream's insertion operator. This operator should cause the date to be displayed in the form: January 20, 2010
>>	cin's extraction operator. This operator should prompt the user for a date to be stored in a Date object. It should not accept invalid dates (e.g., 12/35/2001).

Your Date class should not accept values that are invalid (e.g., month greater than 12 or less than 1, etc.)
Note: For EXTRA CREDIT, your Date class can handle leap year correctly. Otherwise, just assume that February has only 28 days.

Write a test program to thoroughly demonstrate that your Date class works correctly.

Submit your homework electronically at http://www.cs.uni.edu/~schafer/submit/which_course.cgi
The steps for the homework submission system are:

1. Write, debug, and test your program. Zip all files together in a file called Save it in a file called date.zip

2. Log on to the submission system at: http://www.cs.uni.edu/~schafer/submit/which_course.cgi

   (It is very likely that you will get some security certificate warnings when trying to use this. You may add an exception and accept the existing security certificate.) Use the same AD-ITS User name and password you use to log on the lab computers.

3. Select the course and section number of "810:052, Data Structures, Fienup". Click the "Continue" button.

4. Select the homework that you wish to submit: "HW 1 Date Class". Click the "Continue" button.

5. Specify how many extra files you want to submit. Just leave it at 0. Click the "Continue" button.

6. Upload your program by Browsing and selecting your date.zip file. Click the "Continue" button.

7. The next page reports on the status of the upload(s). You can always continue to upload a better version of the program until the deadline. The newer file will replace an older file of the same name.