1. (100 points) (**Date Class**) Create a class called `Date` that includes three pieces of information as data members—a `month` (type int), a `day` (type int) and a `year` (type int). Your class should have a constructor with three parameters that uses the parameters to initialize the three data members. For the purpose of this exercise, assume that the values provided for the year and day are correct, but ensure that the month value is in the range 1–12; if it isn't, set the month to 1. Provide a `set` and a `get` function for each data member. Provide a member function `displayDate` that displays the month, day and year separated by forward slashes (/). Write a test program that demonstrates class Date's capabilities.

   Read the Rectangle class we showed in class, and learn from it to do this exercise. You should have three files: one header file that contains the class declaration (only member functions' prototypes), one cpp file that contains the class definition (specific implementation of each member function), and another cpp file that contains the `main`. Your `main` should at least test the constructor, the `set` functions, and the `displayDate` function.