COP2334

Design a class called Date that has integer data members to store month, day, and year. The class should have a three-parameter default constructor that allows the date to be set at the time a new Date object is created. If the user creates a Date object without passing any arguments, or if any of the values passed are invalid, the default values of 1, 1, 2001 (i.e., January 1, 2001) should be used. The class should have member functions to print the date in the following formats:

```
3/15/13
March 15, 2013
15 March 2013
```

Demonstrate the class by writing a program that uses it. Be sure your program only accepts reasonable values for month and day. The month should be between 1 and 12. The day should be between 1 and the number of days in the selected month.

Consider the following data:

```
class Date
{
  private:
      int month;          // Holds the month number
      int day;            // Holds the day
      int year;           // Holds the 4 digit year
      string name;        // Holds the month name

      void setName();     // Private mutator sets month name

  public:
      // Constructors
      Date();
      Date(int, int, int);

      // Mutators that set member data values
      void setMonth(int m);
      void setDay(int d);
      void setYear(int y);

      // Accessors that use member data to display dates
      void showDate1();
      void showDate2();
      void showDate3();
};
```