**Programming Challenges﻿**

1. **Numbers Class**
2. Design a class Numbers that can be used to translate whole dollar amounts in the range 0 through 9999 into an English description of the number. For example, the number 713 would be translated into the string *seven hundred thirteen*, and 8203 would be translated into *eight thousand two hundred three*. The class should have a single integer member variable:

**int** number;

and a static array of string objects that specify how to translate key dollar amounts into the desired format. For example, you might use static strings such as

string lessThan20[20] = {"zero", "one", ..., "eighteen", "nineteen"};

string hundred = "hundred";

string thousand = "thousand";

The class should have a constructor that accepts a nonnegative integer and uses it to initialize the Numbers object. It should have a member function print() that prints the English description of the Numbers object. Demonstrate the class by writing a main program that asks the user to enter a number in the proper range then prints out its English description.

1. **Day of the Year**

Assuming a year has 365 days, write a class named DayOfYear that takes an integer representing a day of the year and translates it to a string consisting of the month followed by day of the month. For example,

Day 2 would be *January* *2*.

Day 32 would be *February* *1*.

Day 365 would be *December* *31*.

The constructor for the class should take as parameter an integer representing the day of the year, and the class should have a member function print() that prints the day in the month–day format. The class should have an integer member variable to represent the day, and should have static member variables holding string objects that can be used to assist in the translation from the integer format to month day format.

Test your class by inputting various integers representing days and printing out their representation in month day format.