**CS 202 – Computer Science II**

**Week 8: Beginning C++ Classes**

**Overview**

In this lab you will create a complete C++ class, which will include:

1. Create new objects from a provided class.
2. Modify and access the objects with provided methods.

In addition, you will write a program that uses the new class.

# Complete the Program

Your assignment is to learn how to use the Dog class. Download the files Dog.cpp and Dog.h from WebCampus and examine the code. Pay special attention to the interface file (Dog.h) since that is where all the class functions are defined.

You will modify the file lab8.cpp containing main() function to use the Dog class in the following ways:

* Create at least two different dogs. You do this by simply declaring two variables of type Dog.
* Use the "Get" methods (accessors) to fetch the member values for one of the instances, and print them out.
* Give each Dog to a new owner using the appropriate class methods to set the owner for each to something interesting, then retrieve the owner and print it out to verify that it was changed successfully.
* Interact with your dogs to affect their happiness ratings. There is no direct way to set the happiness: you must modify it indirectly through the Scold() and Reward() methods.
* Get the dogs to talk to you.

As you go through these actions, use the appropriate accessors to fetch and output information about the dog to show that it changes. You should not have to modify the Dog class.

Use the lab8.cpp source file as the starting skeleton for your program. You will need to replace all of the blanks with code.

**Building the Program**

Build your program with the following sequence of commands:

g++ -c Dog.cpp

g++ -c lab8.cpp

g++ Dog.o lab8.o -o lab8

There are two distinct steps in the program build:

1. Lab8.cpp and Dog.cpp are compiled to produce the object files lab8.o and Dog.o.
2. The objects files are *linked* to produce the executable lab8.

The build steps for this program are a bit different than previous examples. Here is a line-by-line explanation:

1. On the first line, the -c option causes Dog.cpp to be compiled but *not linked*. The output of this step is a file named Dog.o
2. Similarly, the second line compiles, but *does not link*, the program lab8.cpp and produces the file lab8.o.
3. The third line links the files Dog.o and lab8.o and adds additional code needed to produce the executable program lab8. Linking is the step in which the calls to class methods in lab8.cpp are bound to actual functions in the Dog class.

**In Lab Programming Assignment Submission**

Name your code file lab8.cpp

Submit your code by 10/26 via WebCampus