Square Class

Objectives

- To use C++ classes.

Problem

Copy the program **`lab_x1.cpp`** from Dr. Andy Anda's website to your home directory:
http://web.stcloudstate.edu/aanda/cs201.02.html

Task 1*:* This program asks you to fill in the class declaration and client code based on the implementation of the member functions. Fill in the code so that the following input and output will be generated:

```
Please input the length of the side of the square
8
The area of the square is 64
The perimeter of the square is 32
```

Task 2: Add two constructors and a destructor to the class and create the implementation of each. One constructor is the default constructor that sets the side to 1. The other constructor will allow the user to initialize the side at the definition of the object. The destructor does not have to do anything but reclaim memory space. Create an object called **box1** that gives the value of 9 to the constructor at the definition. Add output statements so that the following is printed in addition to what is printed in Task 1.

```
The area of box1 is 81
The perimeter of box1 is 36
```

Task 3. Redo the task 2 but this time separate the class specification from implementation. This means placing class declaration in a header file that serves as the class specification file (name the file *Square.h*) and member function definitions in *Square.cpp*. The *Square.cpp* file should #include the class specification file. The program that uses the class must #include the class specification file, and be compiled and linked with the member function definitions. Name your program as a different file name from the one in Task2.

Grading your lab

When you are sure that you have completed all the tasks and also got your test data ready, you can ask me or TAs to check your answers.