BCS 230 Lab5

CRN 23798, 23322, 20108 Spring 2015

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Objective: To learn to define and implement classes and use classes to manipulate data.
To learn to hide class definition and implementation in separate files.

Task:

Write a program that defines a class `Rectangle` and implement it as required. The class `Rectangle` should consist of three private member variables: `length` of type `double`, `width` of type `double`, `color` of type `string`. The class `Rectangle` should also include the following member functions:

1. `print` to output the length, width, and color of the rectangle.
2. `setDimension` to set the length and width of rectangle according to the parameters.
3. `setColor` to set the color according to the parameter.
4. `getLength` to return the length.
5. `getWidth` to return the width.
6. `getColor` to return the color.
7. `perimeter` to return the perimeter of the rectangle.
8. `area` to return the area of the rectangle.

   Note: perimeter = 2*(length + width),

   area = length * width.
9. A default constructor to initialize length and width to 1, and color to "white".
10. A constructor that initializes length, width, and color according to the parameters.

You should put the class definition in a header file `Rectangle.h` and put the class implementation in an implementation file `Rectangle.cpp`.

In the function main, write statements to test your class `Rectangle`.