3 Exercises

Designs a class named **Rectangle** to represent a rectangle. The class contains:

- **Two double data fields** named **width** and **height** that specify the width and height of the rectangle. The default values are 1 for both width and height.
- **A static data member** named **countOfObject**, which stores the numbers of rectangle objects.
- **A no-arg constructor** that creates a default rectangle.
- **A constructor** that creates a rectangle with the specified width and height.
- **Two getters and two setters**.
- A method named **getArea()** that returns the area of this rectangle.
- A method named **getPerimeter()** that returns the perimeter.
- A method named **display()** that print out the information of rectangle.
- A static method named **getCount()** that returns the number of the rectangle objects.

Write a test program that creates two Rectangle objects, one with the default width and height, and the other with width 4 and height 35.2. Display the width, height, area and perimeter of each rectangle in this order and then the numbers of the rectangle objects.

Using a three-file way, one .h for class declaration and other two .cpps for the member functions' definitions and the test program respectively.

A sample runs might look like this:

```
     Rectangle 1
---------------------
Width:          1
Height:         1
Perimeter:      4
Area:           1

     Rectangle 2
---------------------
Width:          4
Height:      35.2
Perimeter:   78.4
Area:       140.8
The numbers of the rectangles are:2
```