Rectangle Calculator 6.0

Create a program that keeps calculating the perimeters and areas of rectangles as long as the user types 'y' or 'Y' when being asked whether to continue.

Note: **Bold** words are output while non-bold words are input in the following console sample.

Console Sample

```
Rectangle Calculator 6.0

Enter height: -.1

Enter width: .0

Both height and width must be positive!

Enter height: -.1

Enter width: .2

Both height and width must be positive!

Enter height: .1

Enter width: -.2

Both height and width must be positive!

Enter height: .1

Enter width: .2

Perimeter: 0.6
Area: 0.02

Press y to continue or another letter to quit: y

Enter height: .0

Enter width: -.2

Both height and width must be positive!

Enter height: .0

Enter width: .2

Both height and width must be positive!

Enter height: .1

Enter width: .0

Both height and width must be positive!

Enter height: .2

Enter width: .3

Perimeter: 1
```

```
Area: 0.06

Press y to continue or another letter to quit: Y

Enter height: -.1

Enter width: -.2

Both height and width must be positive!

Enter height: .0

Enter width: .0

Both height and width must be positive!

Enter height: .3

Enter width: .4

Perimeter: 1.4
Area: 0.12

Press y to continue or another letter to quit: g
```

Specifications

- You have to define a class *Rectangle* with two private data members corresponding to height and width respectively.

- Declare and define a non-default constructor which requires two parameters corresponding to the private data members for the class *Rectangle*.

- Declare and define a getter and a setter for each private member in the class *Rectangle*.

- Declare and define a public member function *get_perimeter()* in the class *Rectangle* to calculate the perimeter and return the result. The formula for calculating the perimeter of a rectangle is:

  `perimeter = 2 * (height + width)`

- Declare and define a public member function *get_area()* in the class *Rectangle* to calculate the area and return the result. The formula for calculating the area of a rectangle is:

  `area = height * width`

- Declare and define a public member function *display_results()* in the class *Rectangle* to display the calculation results by callig *get_area()* and *get_perimeter()* respectively.

- In the *main()*, after displaying the title, you must use a loop to allow the user to continue as long as the user enters 'y' or 'Y'. In each iteration of the loop, after getting all the necessary inputs from the user, you must first verify the positivity of both the height and width. Only when both the height and width are positive, a *Rectangle* object will be created based on user's inputs and then the member function *display_results()* will be called on the object before asking the user whether to continue. Otherwise, if either the height or the width or both are not positive, the whole process will be started over after displaying an error message "Both height and width must be positive!"

- Your program is not supposed to ask the user whether they want to continue or not if the current height and width don't pass the positivity verification.

- Your program should accept decimal entries like 35.5 and 14.25.

- There is no requirement of precision for the output.