

1. Design 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**. These two fields have to be **private**.
- A no-arg constructor that creates a default rectangle.
- A constructor that creates a rectangle with the specified **width** and **height**.
- **Setter** and **getter** for the two fields.
- A method named **getArea()** that returns the area of this rectangle.
- A method named **getPerimeter()** that return the perimeter.

After writing the rectangle class, write a test program that creates two **Rectangle** objects – one with width **4** and height **40** and the other with width **3.5** and height **35.9**. Display the width, height, area, and perimeter of each rectangle in this order.

Hints:

- Use the Circle class as reference for yourself.
- Area of a rectangle is width * height.
- Perimeter of a rectangle is 2 * (width + height)

2. Design a class named **Stock** that contains:

- A **string** data field named **symbol** for the stock's symbol.
- A **string** data field named **name** for the stock's name.
- A **double** data field named **previousClosingPrice** that stores the stock price for the previous day.
- A **double** data field named **currentPrice** that stores the stock price for the current time.
- A constructor that creates a stock with the specified symbol and name.
- **Setter** and **getter** for the all fields.
- A method name **getChangePrecent()** that returns the percentage changed from **previousClosingPrice** to **currentPrice**.

After writing the rectangle class, write a test program that creates a **Stock** object with the stock symbol **ORCL**, the name **Oracle Corporation**, the previous closing price of **34.5**. Set a new current price to **34.35** and display the price-change percentage.

Hints:

- Use the Circle class as reference for yourself.
- Change percentage will be calculated as: (current – previous)/ previous