Do the lab in pair programming: two persons team up, one directs and the other does coding, then switch.

In all exercises: try to use *this* keyword.

1. Listing 7.5 of the textbook (page 230-231) gives Circle3.java which applies data encapsulation. First, try to use *this* keyword to rewrite the class. Then, write a class Circle4.java based on it. You should add the following methods into the class:

   ```java
   public boolean equals(Circle4 anotherCircle)
   // this instance method compares the object with another object; it returns true if the // object’s radius is equal to another object’s radius, and false if not equal.

   public double compareTo(Circle4 anotherCircle)
   // this instance method compares the object with another object; it returns the // difference of their areas.

   public String toString()
   // this instance method returns the object information (radius and area) in string // (according to your favorite format).
   ```

   Then, write an application class TestCircle4.java, construct 3 Circle4 objects:
   myCircle1 with the default radius (1.0)
   myCircle2 with radius 5
   myCircle3 with radius 1.

   Compare myCircle1 with myCircle3 using equals() method, and compare myCircle1 with myCircle2 using compareTo() method, and then display all three objects using toString() method.

2. Exercise 7.2: The Fan class

3. Exercise 7.4: The Stock class