Problem Set 4 Exercise #01: My Circle

Reference: Lecture 10 Unit 1 notes

Learning objective: Object-oriented programming

Estimated completion time: 15 minutes

Problem statement:

In this exercise, you are given a **MyCircle** class contained in the skeleton file **PS4_Ex01_MyCircle.java**. You are to complete the following member methods in this class:

- A constructor **`MyCircle()`** that creates a **MyCircle** object with radius 0.0.
- **`double getRadius()`** that returns radius of "this" (the calling) **MyCircle** object.
- **`void setRadius(double rad)`** that sets the radius of "this" MyCircle object to the given value.
- **`double computeArea()`** that returns the area of "this" **MyCircle** object. You should use the π (pi) constant defined in the **java.lang.Math** class when calculating area.

A client program **PS4_Ex01_TestMyCircle.java** is provided and should **not** be modified. It reads a positive value from user and creates a **MyCircle** object with that value as radius. It then retrieves the area of this **MyCircle** object by invoking the **`computeArea()`** method.

You must write your **MyCircle** class properly such that running **`TestMyCircle`** produces the same output as the sample runs shown below.

Note:

You have to open both **PS4_Ex01_MyCircle.java** and **PS4_Ex01_TestMyCircle.java** in DrJava in order to compile your program entirely. Run **PS4_Ex01_TestMyCircle.java** since this file contains the **main()** method. Both files should be stored in the same folder on your hard disk. When finish, submit both of them to CodeCrunch in one go.

Sample run #1:

```
Enter radius: 32.1
Area = 3237.13
```

Sample run #2:

```
Enter radius: 25
Area = 1963.50
```