

Circle Class

Chapter 3

*******READ THESE INSTRUCTIONS*******

Write a *Circle* class that has the following fields:

radius: a *double* and PI: a *final double* initialized with 3.14159

The class should have the following methods:

- Constructor. Accepts the radius of the circle as an argument.
- *setRadius* A mutator method for the radius field.
- *getRadius* A accessor method for the radius field.
- *getArea* Returns the area of the circle, calculated as:
$$\text{area} = \text{PI} * \text{radius} * \text{radius}$$
- *getDiameter* Returns the diameter of the circle, calculated as:
$$\text{diameter} = \text{radius} * 2$$
- *getCircumference* Returns the circumference of the circle, calculated as:
$$\text{circumference} = 2 * \text{PI} * \text{radius}$$

Write a program that demonstrates the *Circle* class by asking the user for the circle's radius, creating a *Circle* object, and then reporting the circle's area, diameter, and circumference.