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## 09.03 Assignment Instructions

Modify the classes related to circles to demonstrate polymorphism.

- 1. Create a new project called 09.03 Assignment in the Module 09 Assignments folder.
- 2. Download the Java files to the newly-created project folder.
  - o Circle2.java
  - o Cylinder2.java
  - o Oval2.java
  - o OvalCylinder2.java
- 3. Update each circle implementation class to include a getName method that will return the name of the circle. For instance, the Circle2 class should return just Circle.
- 4. Create a new client class that will be used to test the circle classes. Be sure to update the heading to include the program's purpose, your name, and today's date.
- 5. In the main method, declare and initialize at least one new instance for each of the circle classes.
- 6. Use an ArrayList to better organize the circles. Add each of the new objects to the ArrayList.
- 7. In the tester program, create a static method named showCenter. This method will accept as a parameter any object related to a circle. The method will output the result of calling the getCenter method that all the circle classes have in common. See the sample output below.
- 8. In the main method, test the showCenter method on each circle object stored in the ArrayList.

**Expected Output:** When your program runs correctly, the output should resemble the following:

```
Options

For this Circle2 the center is at (2, 4).

For this Cylinder2 the center is at (10, 15).

For this Oval2 the center is at (25, 10).

For this OvalCylinder2 the center is at (40, 10).
```



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