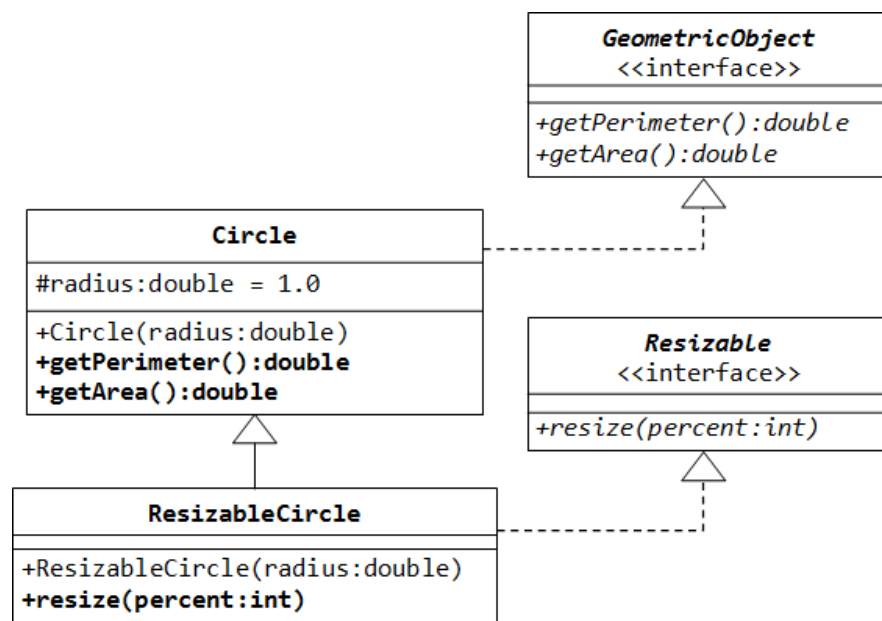# Lab 9

To pass this exercise you must:

- Complete the exercise below
- After completing the task, submit your java source file to Canvas for assessment
- Discuss your work with your tutor for feedback during the tutorial session.
- Submit it by the **end of the tutorial** or submit it by **due date Sunday** of this tutorial week

Task:

Given the class diagram above, do the following steps:

1. Write the interface called GeometricObject, which declares two abstract methods: getPerimeter() and getArea(), as specified in the class diagram.

2. Write the implementation class Circle, with a protected variable radius, which implements the interface GeometricObject.

3. Write a test program called TestCircle to test the methods defined in Circle.

4. The class ResizableCircle is defined as a subclass of the class Circle, which also implements an interface called Resizable, as shown in class diagram. The interface Resizable declares an abstract method resize(), which modifies the dimension (such as radius) by the given percentage. Write the interface Resizable and the class ResizableCircle.

5. Write a test program called TestResizableCircle to test the methods defined in ResizableCircle.

Submission

Zip your java files and submit the zipped file to Canvas for assessment.

Marking scheme (10 marks)

1. The interface GeometricObject is appropriately defined
2. The class Circle is correctly implemented as required
3. The interface Resizable is appropriately defined
4. The class ResizableCircle is correctly implemented as required
5. Overall working implementation with testing classes
6. Readability: name conventions (variable name, constant name, class name), meaningful names, indentation, comments (including class header & method header comments)