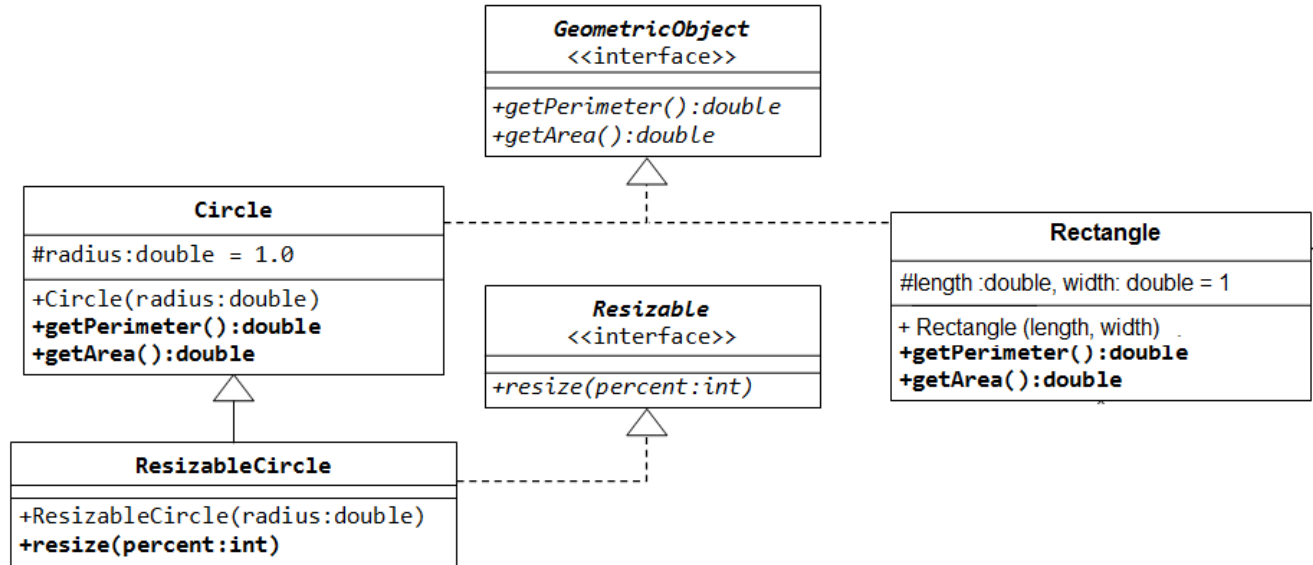


Assignment # 3

Due Tuesday April 2nd

In this problem use interfaces, inheritance, and polymorphism as you learned in class



Given the above diagram

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 the implementation class `Rectangle`, with a protected variable `length` and `width`, which implements the interface `GeometricObject`.
4. Write the class `ResizableCircle` that 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.
5. Write the interface `Resizable`.

6. Write a test application that creates object of each class, place references to those object in **ArrayList< GeometricObject>**, and then iterates through the Array List, **polymorphically** invoking each object's `getArea()`, `getPerimeter()` method.

While iterating through the array list if the object is a `ResizableCircle` increase the radius of the circle by 15%.