

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

Hints:

```
public interface GeometricObject {  
    public double getPerimeter();  
    .....  
}
```

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

Hints:

```
public class Circle implements GeometricObject {  
    // Private variable  
    .....  
  
    // Constructor  
    .....  
  
    // Implement methods defined in the interface GeometricObject  
    @Override  
    public double getPerimeter() { ..... }  
  
    .....  
}
```

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.

Hints:

```
public interface Resizable {  
    public double resize(...);  
}  
  
public class ResizableCircle extends Circle implements Resizable {  
  
    // Constructor  
    public ResizableCircle(double radius) {  
        super(...);  
    }  
  
    // Implement methods defined in the interface Resizable  
    @Override  
    public double resize(int percent) { ..... }  
}
```

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

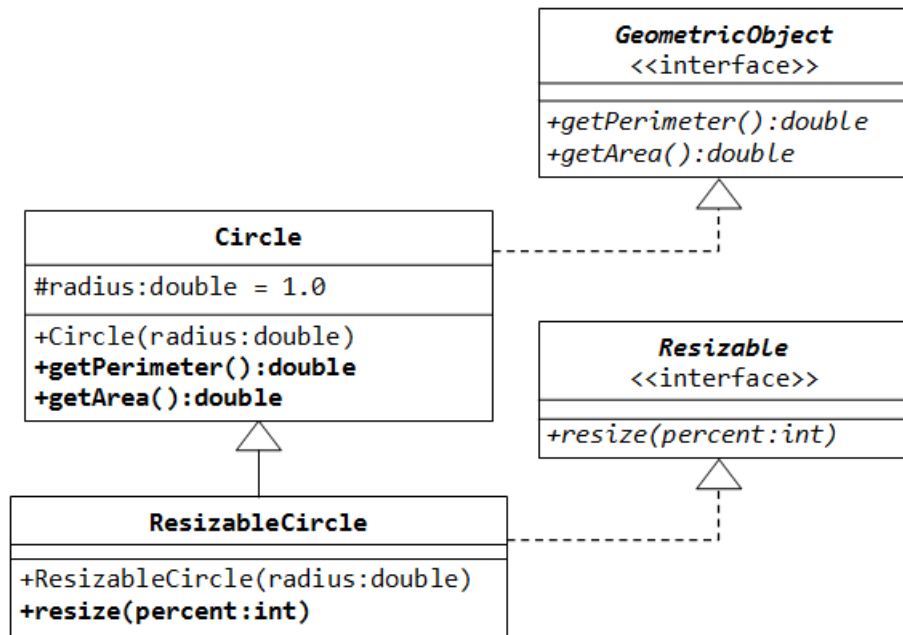


Fig.1: Class diagram