

Shape Interface

Create an interface and concrete classes as described in the inheritance hierarchy below. All interfaces and classes must be in the `edu.monmouth.shape` package.

Create a class containing a main method that creates an instance of each concrete class and exercises all methods. Only supply those attributes and methods specified in the UML-nothing more, nothing less. There is no need to provide any preconditions in the mutator methods. Simply assign the value passed.

Precede all overridden methods with the `@Override` annotation.

Using `System.out.println()` verify each method in the concrete classes.

After verifying all methods work as expected, declare references as:

```
Circle circle;  
Rectangle rectangle;  
Shape shape1, shape2;
```

Explain why each of these are legal:

```
circle = new Circle(12);  
rectangle = new Rectangle(21, 34);  
shape1 = new Circle(90);  
shape2 = new Rectangle(2, 4);
```

