

Task 2: Factory Method

Create a ShapeFactory class that encapsulates the object creation logic of different Shape objects like Circle, Square, and Rectangle.

```
public interface Shape {  
    void draw();  
}  
  
public class Circle implements Shape {  
    @Override  
    public void draw() {  
        System.out.println("Inside Circle::draw() method.");  
    }  
}  
  
public class Square implements Shape {  
    @Override  
    public void draw() {  
        System.out.println("Inside Square::draw() method.");  
    }  
}  
  
public class Rectangle implements Shape {  
    @Override  
    public void draw() {  
        System.out.println("Inside Rectangle::draw() method.");  
    }  
}  
  
public class ShapeFactory {  
    public Shape getShape(String shapeType) {  
        if (shapeType == null) {  
            return null;  
        } else if (shapeType.equalsIgnoreCase("CIRCLE")) {  
            return new Circle();  
        } else if (shapeType.equalsIgnoreCase("SQUARE")) {  
            return new Square();  
        } else if (shapeType.equalsIgnoreCase("RECTANGLE")) {
```

```
        return new Rectangle();
    }
    return null;
}
}

public class Main {
    public static void main(String[] args) {
        ShapeFactory shapeFactory = new ShapeFactory();
        Shape circle = shapeFactory.getShape("CIRCLE");
        if (circle != null) {
            circle.draw();
        }
        Shape square = shapeFactory.getShape("SQUARE");
        if (square != null) {
            square.draw();
        }
        Shape rectangle = shapeFactory.getShape("RECTANGLE");
        if (rectangle != null) {
            rectangle.draw();
        }
    }
}
```