

Assignment 2

CSE 4851: Design Pattern

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In this project , a village constitutes of components like house , lake , trees , well and a chicken farm. The components are formed using various basic shapes (like square , triangle , curved line , and cylinder). The shapes themselves will have some properties which can vary and each will inherit the basic interface known as “Shape”. Thus , composite Design pattern will be used to place all the objects together to create an entire village.

```
Shape.java x
1 public interface Shape {
2     public void draw();
3 }
4
```

```
Shape.java x Rectangle.java x
1 public class Rectangle implements Shape {
2     public int height;
3     public int width;
4     public void draw() { System.out.println("Rectangle Drawn"); }
7 }
8
```

```
Shape.java x Rectangle.java x ComponentsVillage.java x
1 import java.util.ArrayList;
2
3 public class ComponentsVillage {
4     public String name;
5     public ArrayList<Shape> shapes_list = new ArrayList<>();
6
7     public ComponentsVillage(String s) {
8         this.name = s;
9         System.out.println(this.name + " is added.");
10    }
11
12    public void add_shape(Shape s) { this.shapes_list.add(s); }
15 }
```

```
ain
"C:\Program Files\Java\jdk1.8.0_66\bin\java" ...
Creating a village
Lake is added.
tree is added.
house is added.
farm is added.
well is added.

Process finished with exit code 0
```