CSE 5322 Software Design Patterns

Homework 1

1. **Domain Model Class Diagram**
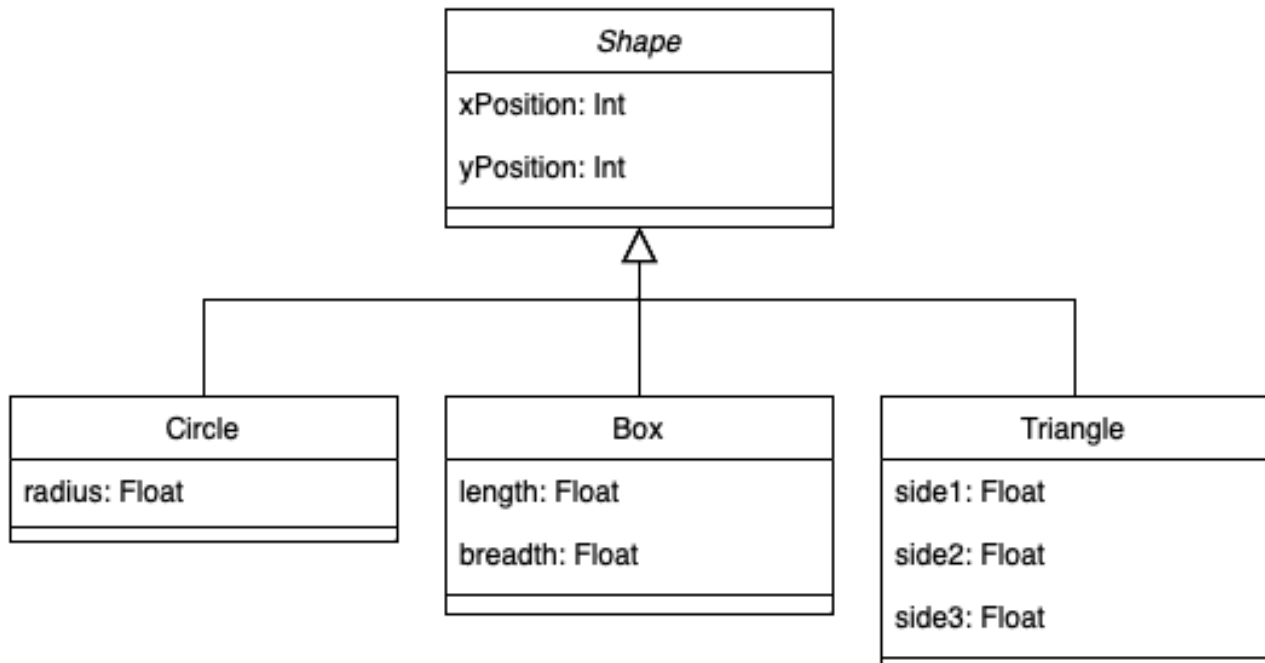
2. **Expanded Use Case**

| UC: Draw Shape	
Pre-condition: The application is running.	
Actor: User	System: HW1 application
	(0) System displays the HW1 GUI.
(1) TUCBW the user clicking one of the buttons.	(2) The system highlights the clicked button.
(3) The user clicks anywhere on the drawing area.	*(4) The system paints the desired shape at the position.
(5) TUCEW the user seeing the corresponding shape painted at the position clicked in the drawing area.	
Post-condition: None	

3. Scenario

Draw Shape Scenario Description

3) The user clicks anywhere on the drawing area
4.1) The Draw GUI draws shape with Draw Controller using current shape and point.
4.2) The Draw Controller sets position of current shape with x, y coordinates.
4.3) The Draw Controller adds current shape to the composite in Shape Expert.
4.4) The Draw Controller draws using Shape Expert with the graphics.
4.5) The Shape Expert draws shape for each shape in composite with graphics.
4.6) The system paints the desired shape at the position.

4. Scenario Table

|	Subject	Subject action	Other Data/Objects	Object acted upon
3)	User	clicks	position and shape	Draw GUI
4.1)	Draw GUI	draws shape	position and shape	Draw Controller
4.2)	Draw Controller	sets position	position	Shape
4.3)	Draw Controller	adds shape	shapes	Shape Expert
4.4)	Draw controller	draws	graphics	Shape Expert
4.5)	Shape Expert	draw	graphics	Shape
4.6)	Draw GUI	paints	Shape at the position	user

5. Informal Sequence Diagram
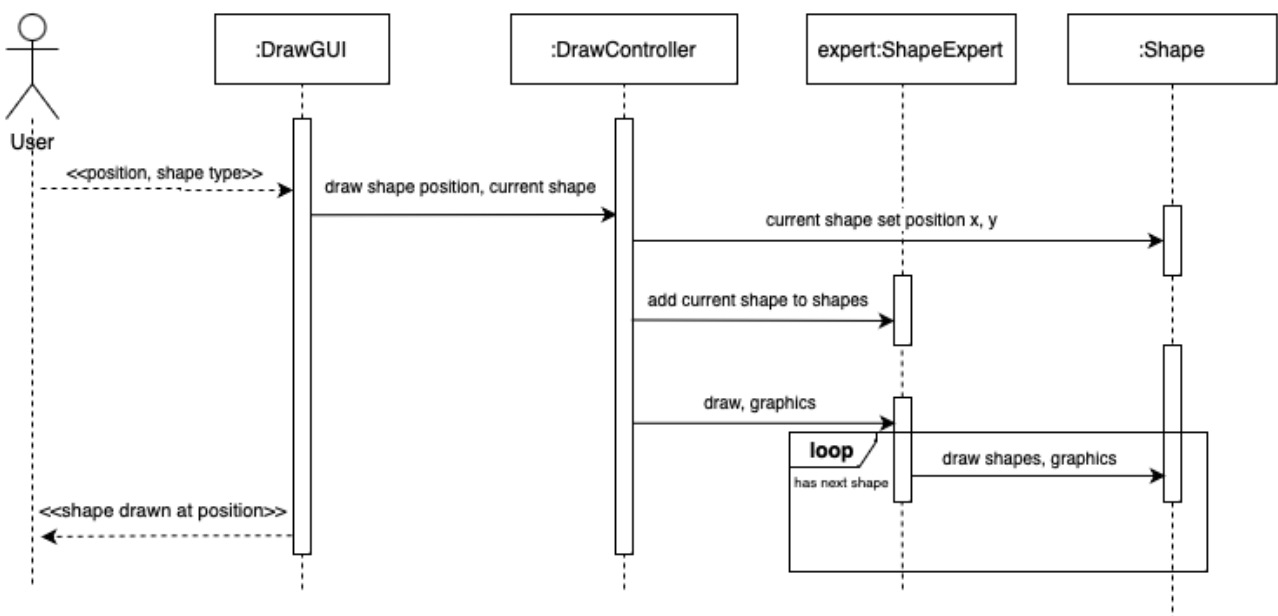
6. Design Sequence Diagram
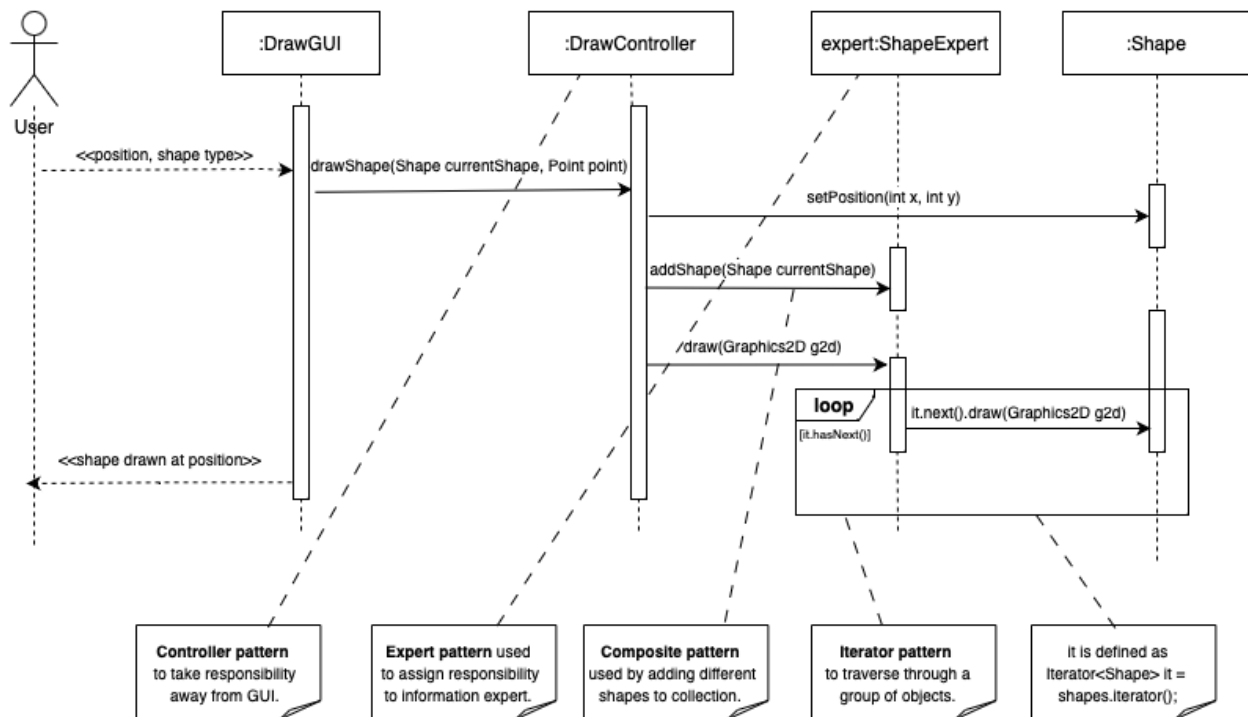
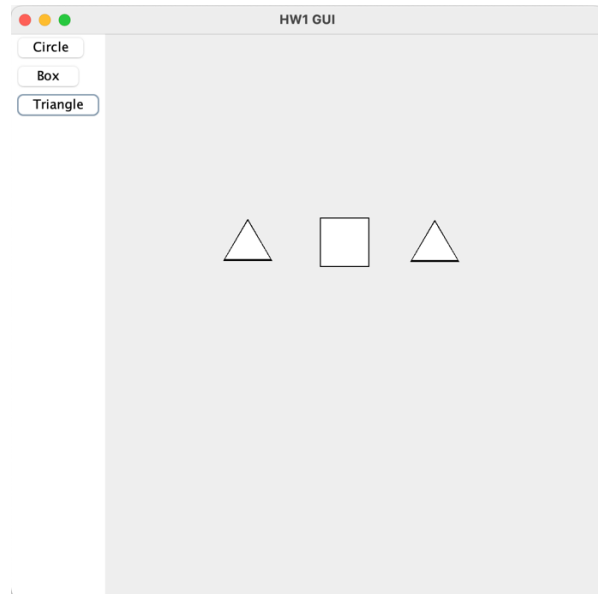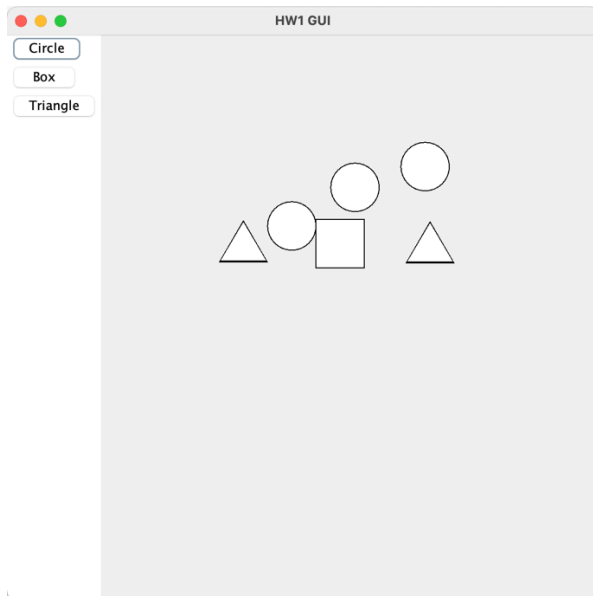### 7. Design Class Diagram
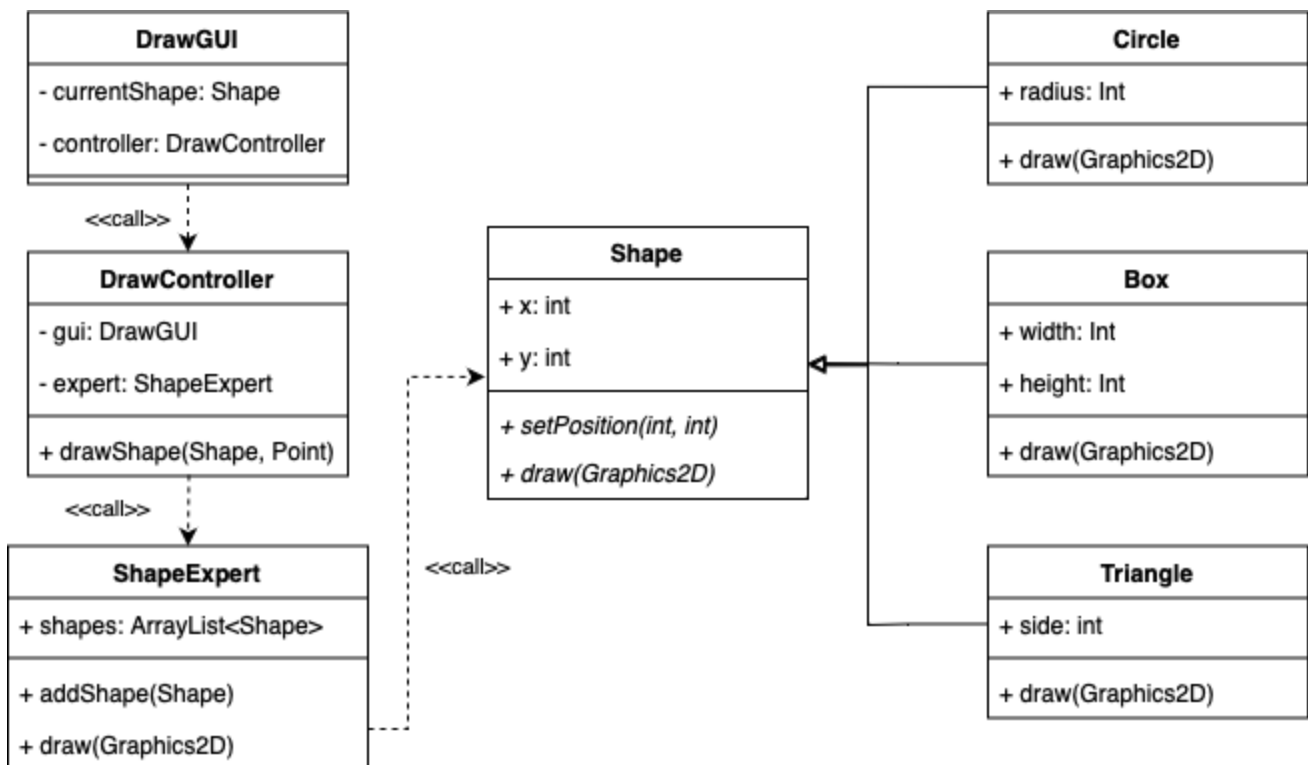
8. Implementation
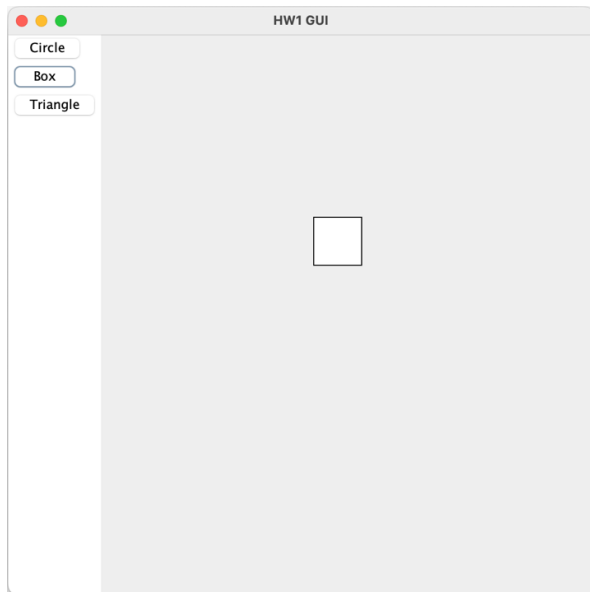
Draw one box.

Then draw 2 triangles.

Draw 3 circles.

Steps to run the code:
1) On your terminal, cd Arya_Shubham_CSE5322_S23_HW1_impl folder.
2) Then locate the folder with DrawGUI.java file and be in the same folder as this file.
3) Then run the following commands-

```
javac DrawingGUI.java
java DrawingGUI
```

4

This should open the GUI as show in the screenshot. Alternatively, you can open it on VS Code and click on the play button to run the program.