# Assignment 3.1
# CSCI 5448

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**Problem(15 points):** For the existing ARCANE Project 2, create either a detailed UML Activity diagram to describe the flow of actions and decision points in the simulation or a detailed UML State diagram that shows program states and transitions that cause state changes. Which one you use depends on whether your code is more code flow or state/transition-based.

**Solution:**

**ADVENTURERS**

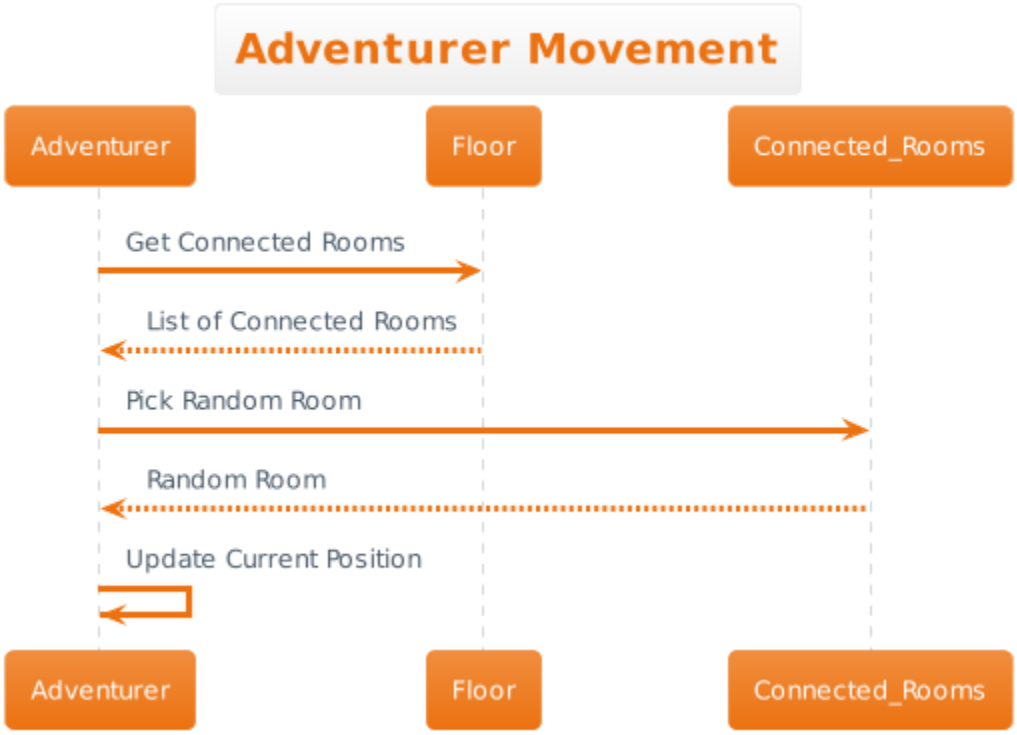



**Fig 1.1** All Adventurers Movement activity

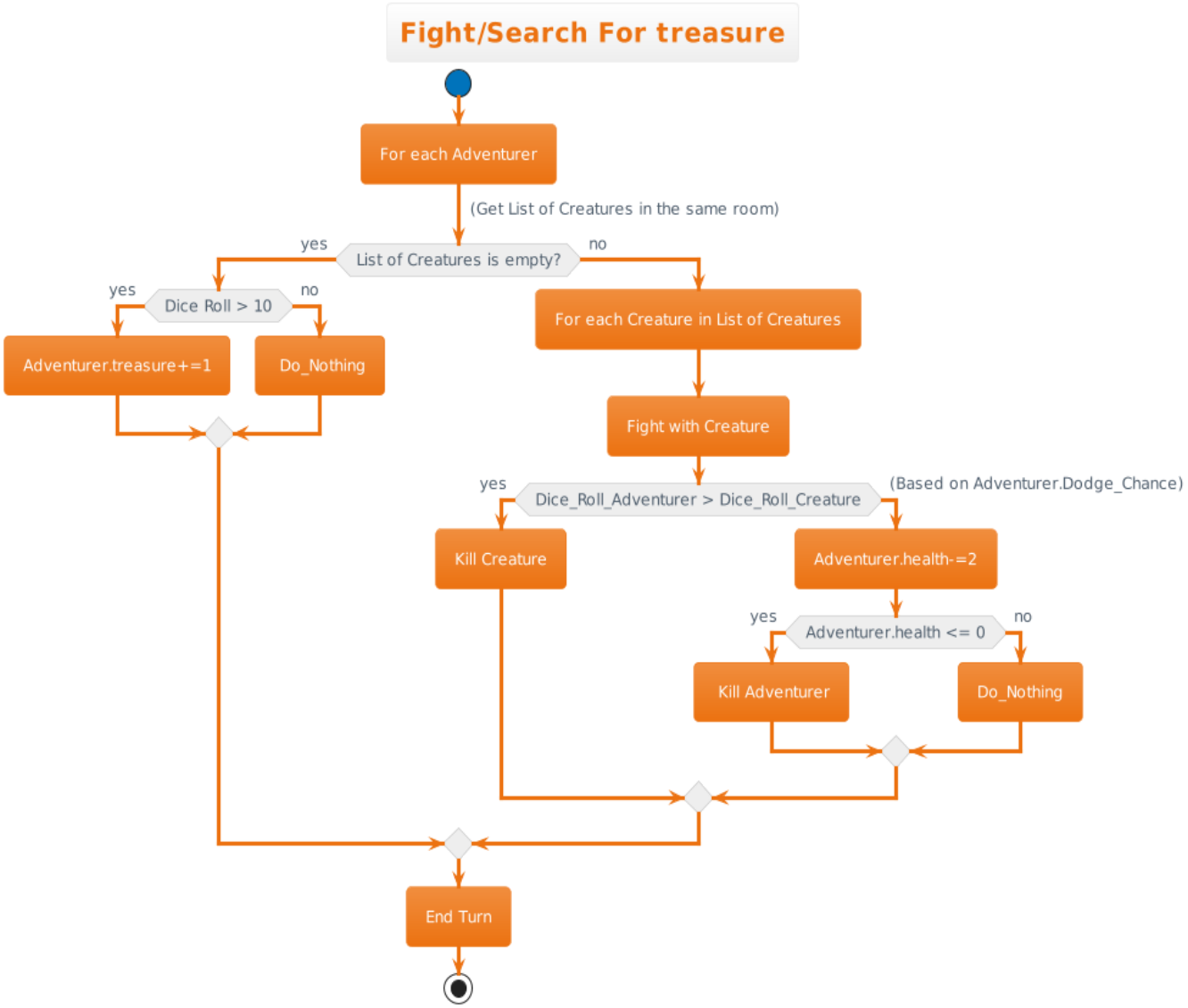



**Fig 1.2** Adventurer's Fight/ Search activity

## CREATURES

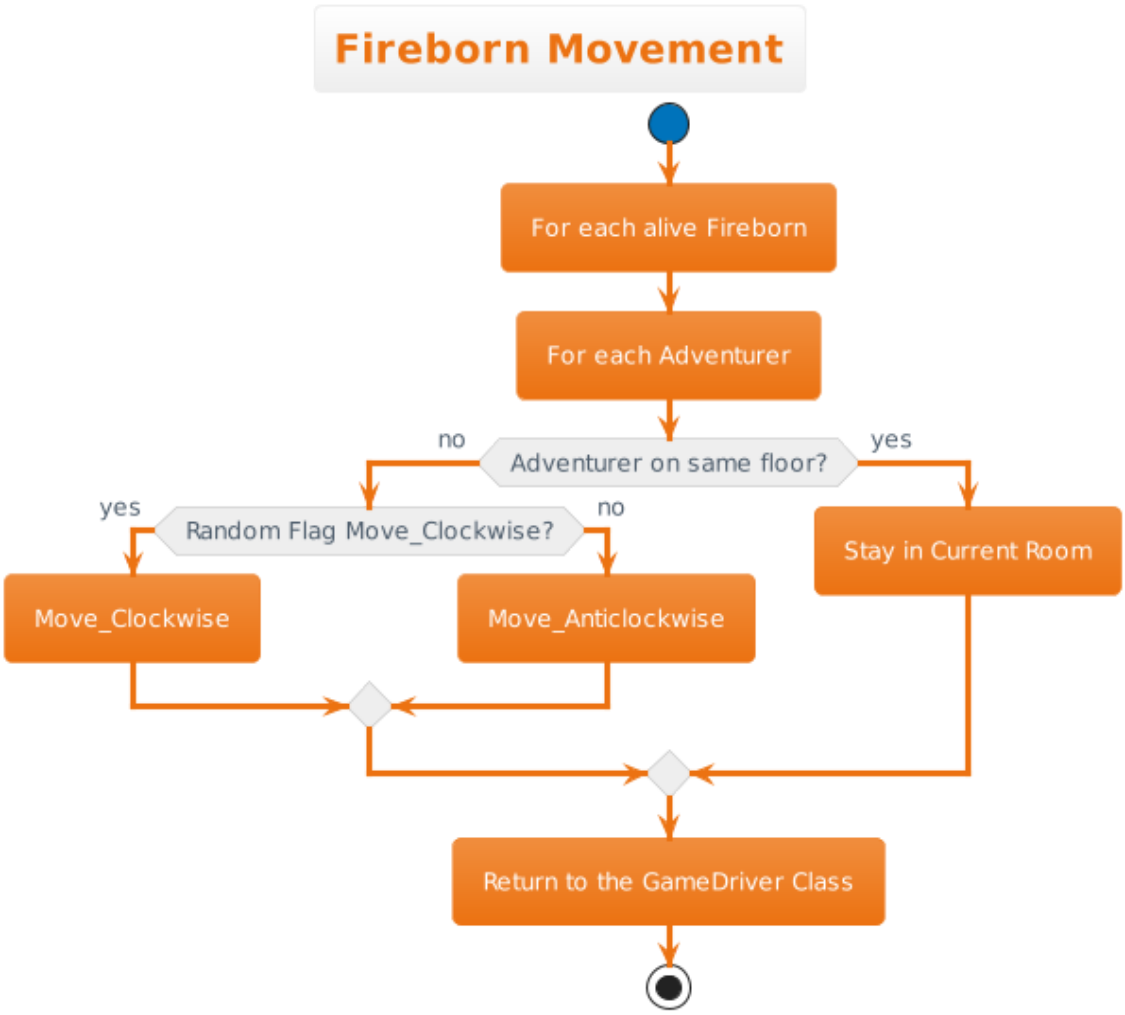



**Fig 1.3** Fireborn movement

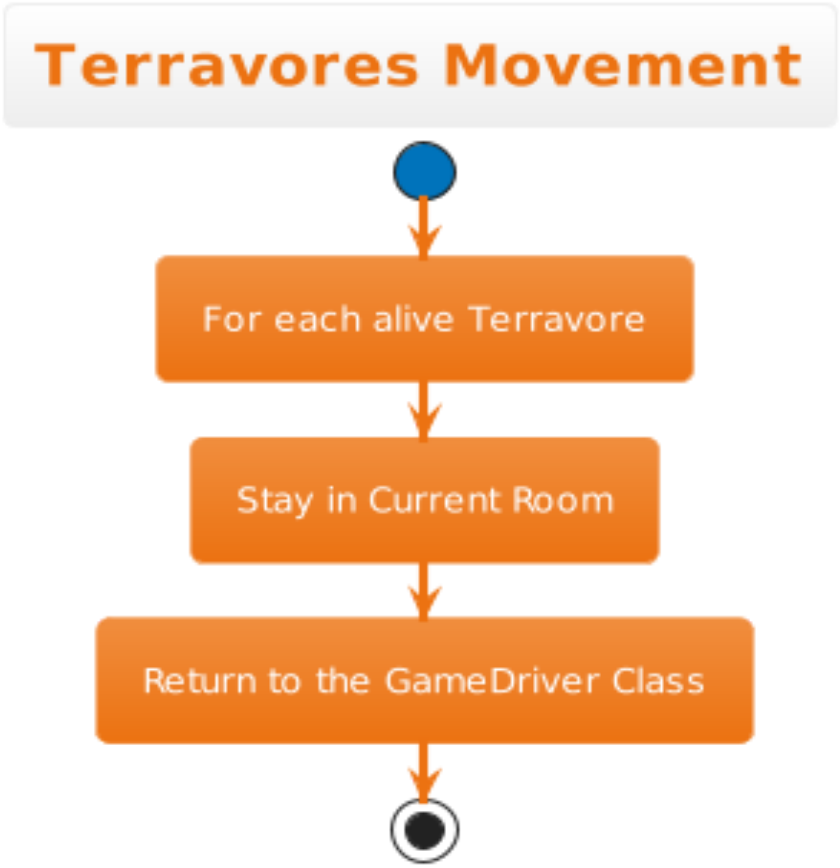



**Fig 1.4** Terravores movement

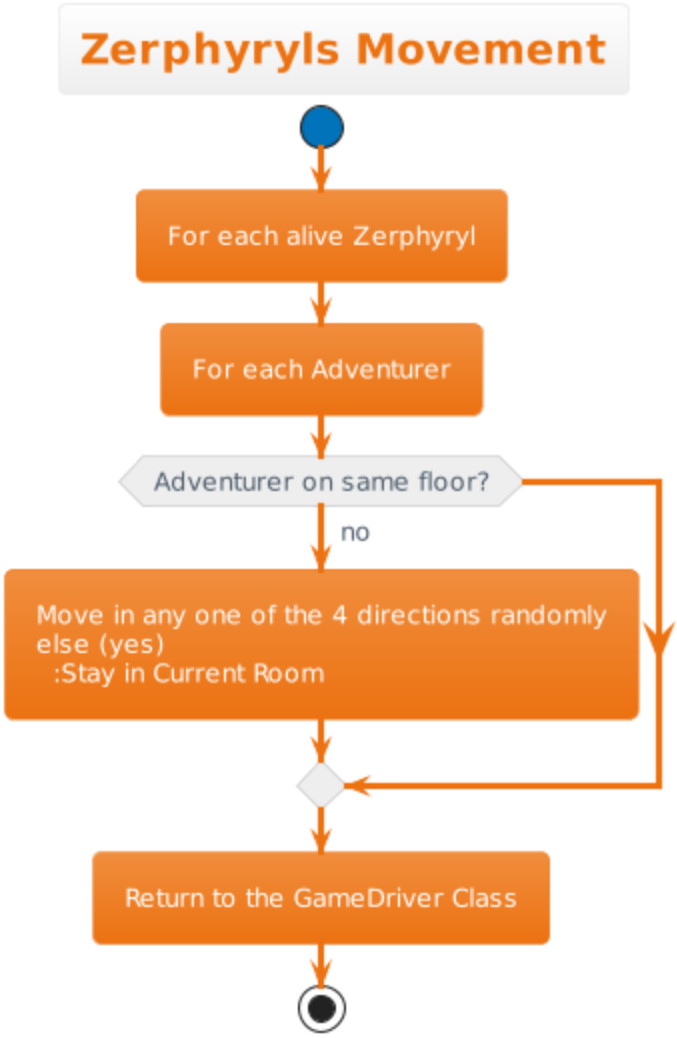



**Fig 1.3** Zephyrals movement

## GAME DRIVER

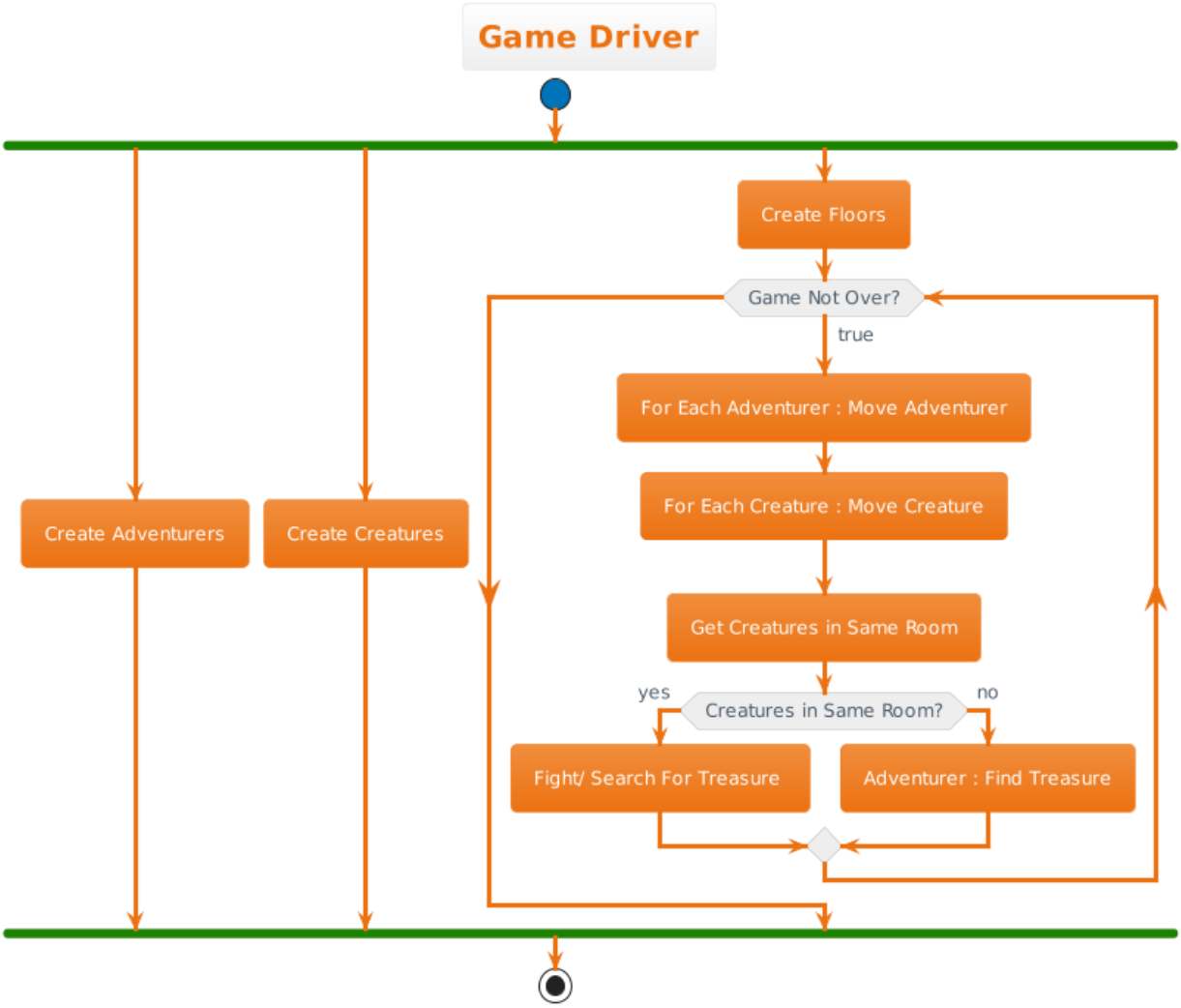
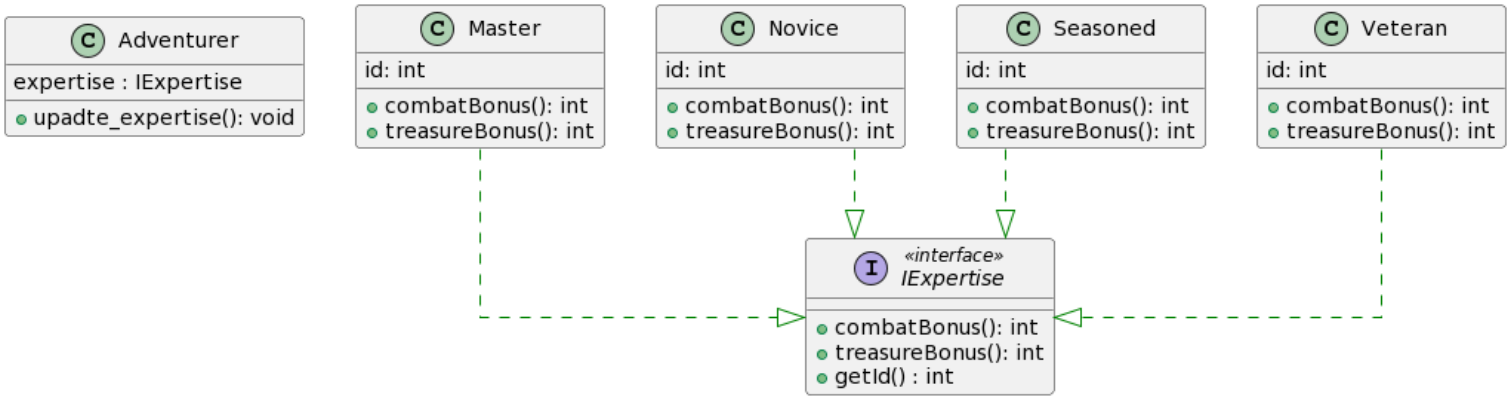



**Fig 1.4** Game Driver

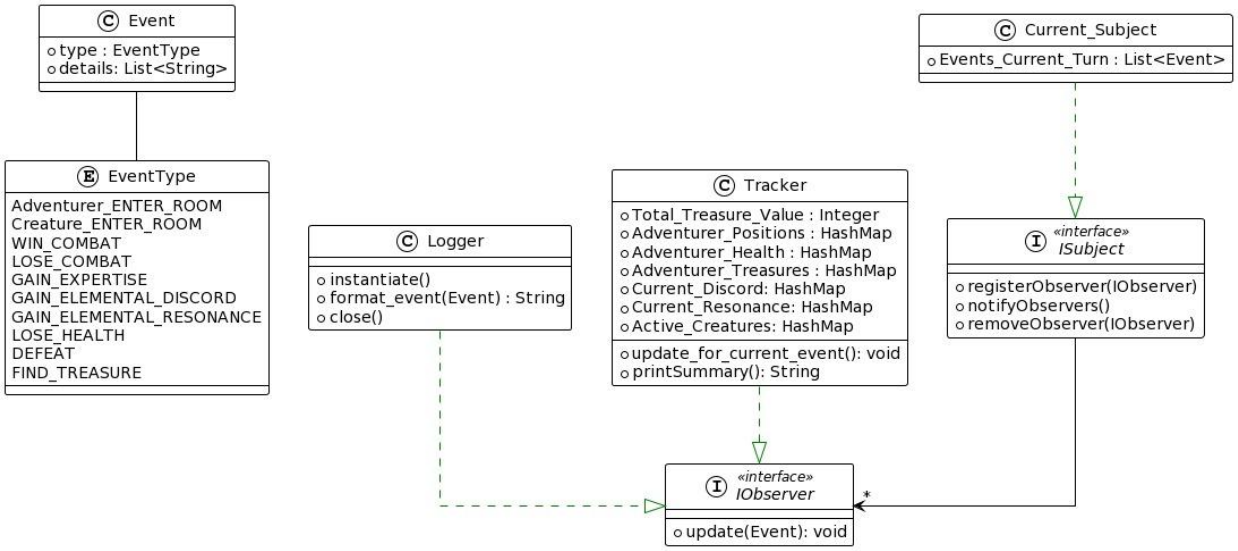
**Problem (10 points):** Draw a class diagram for extending the ARCANE simulation described in Project 3 Part 2. The class diagram should contain any classes, abstract classes, or interfaces you plan to implement. Classes should include any essential methods or attributes (not including constructors). Delegation or inheritance links should be clear. Multiplicity and accessibility tags are optional. You should note what parts of your class diagrams implement the three required patterns below: *Strategy, Decorator, and Observer.*

**Solution:**

**Strategy Pattern**



# Observer Pattern



# Decorator Pattern