

CSE 3421

Design Pattern

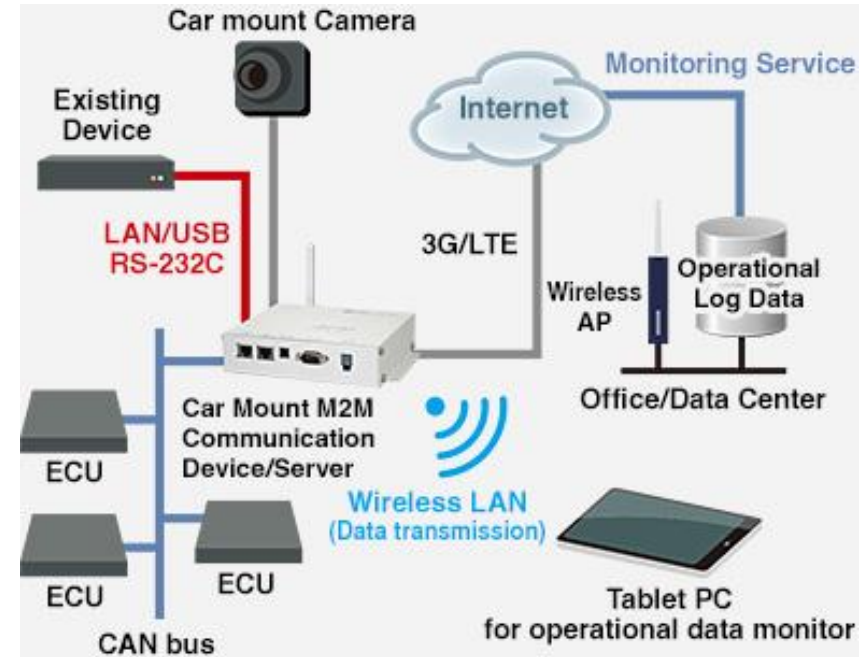
SPRING 2022

MD. RAFI-UR-RASHID

LECTURER, DEPT. OF CSE, UIU

Behavioral Patterns

- How object communicate
- Eleven behavioral patterns
 - **State**
 - **Strategy**
 - Interpreter
 - Template Method
 - Chain of Responsibility
 - Command
 - Iterator
 - Mediator
 - Memento
 - Observer
 - Visitor



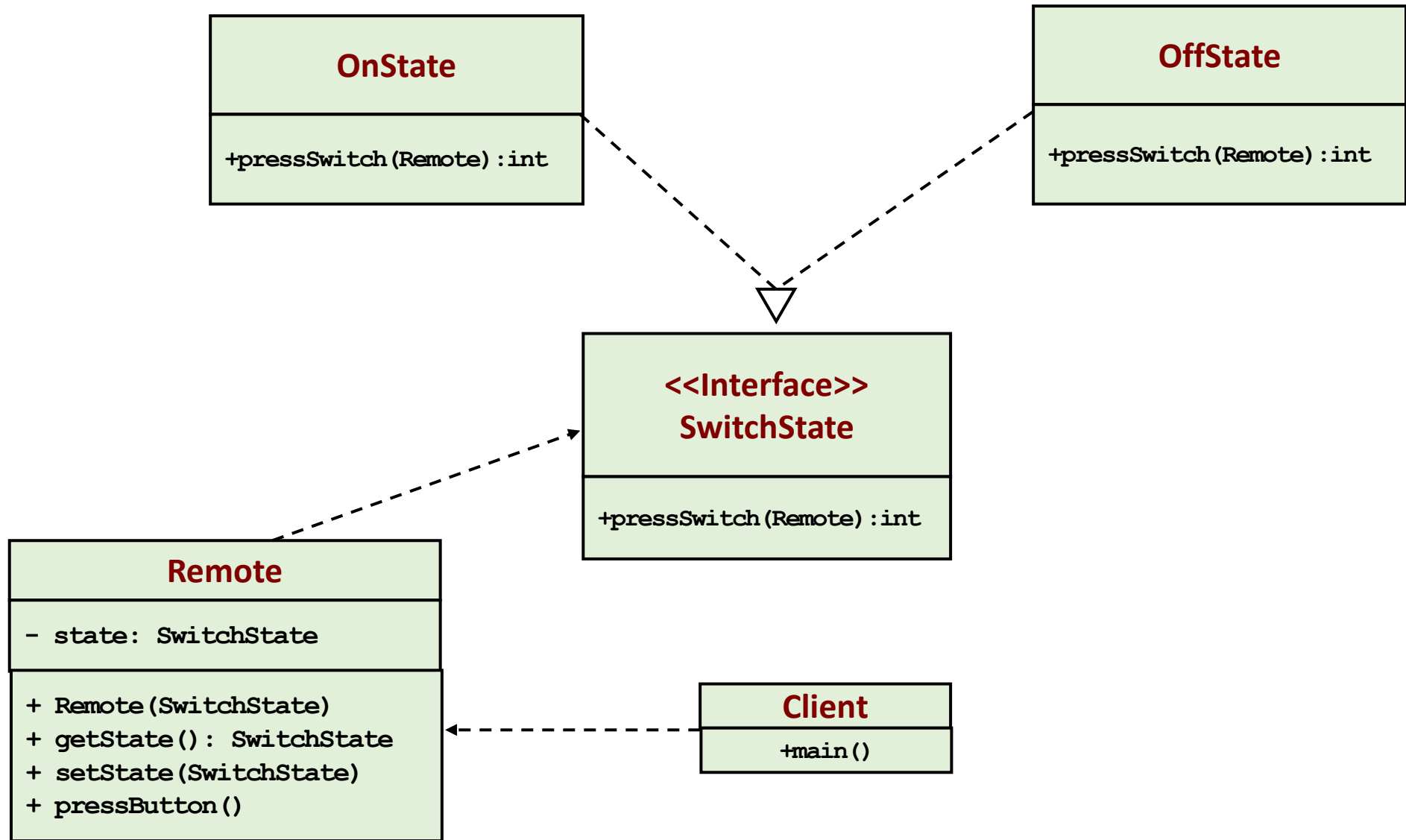
State Pattern

State Method

- Allow an object to alter its behavior when its internal state changes.
- Object's behavior is a function of its state, and it must change its behavior at **run-time**.

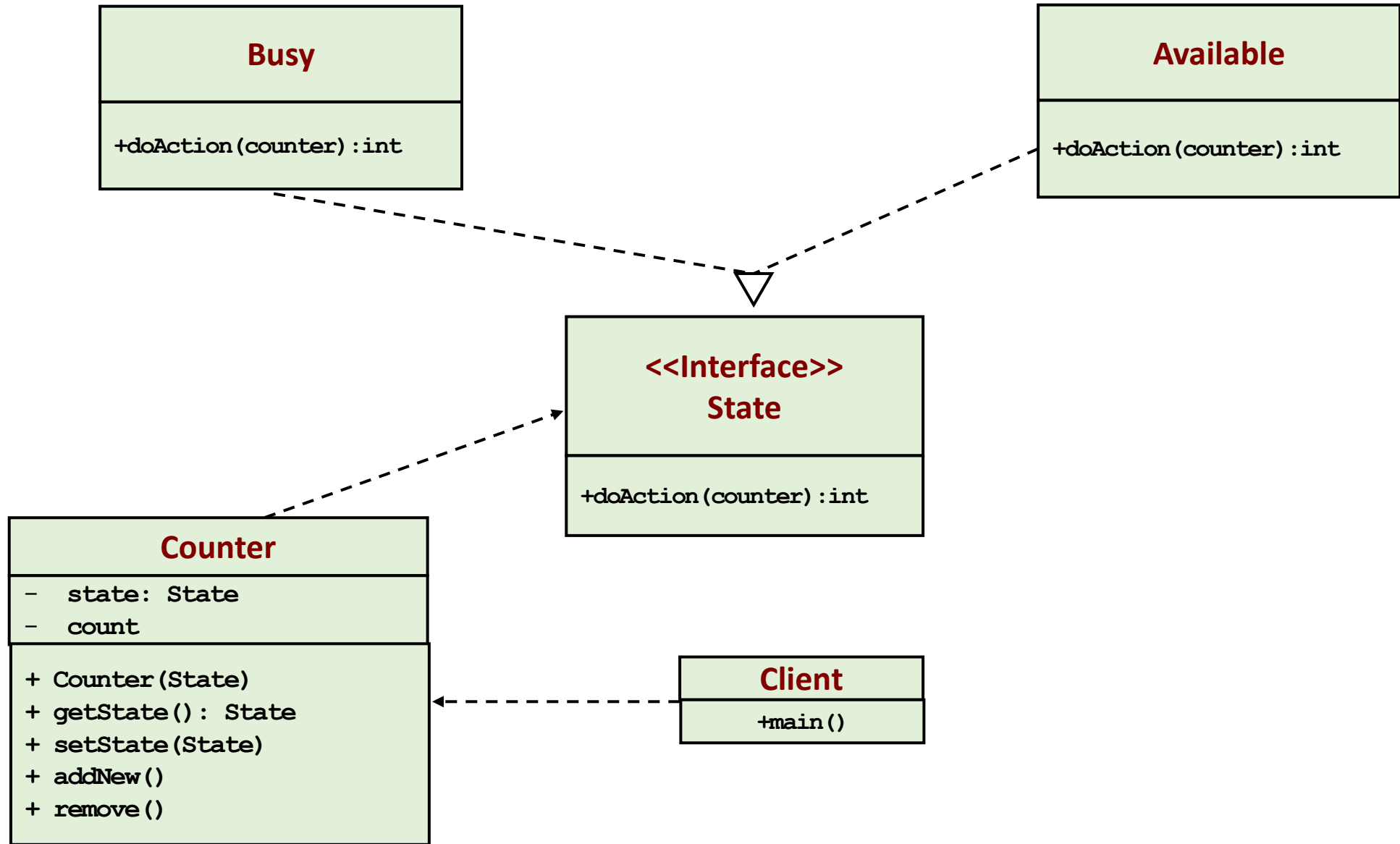
Example: Remote





Example: Queue





Practice Problems

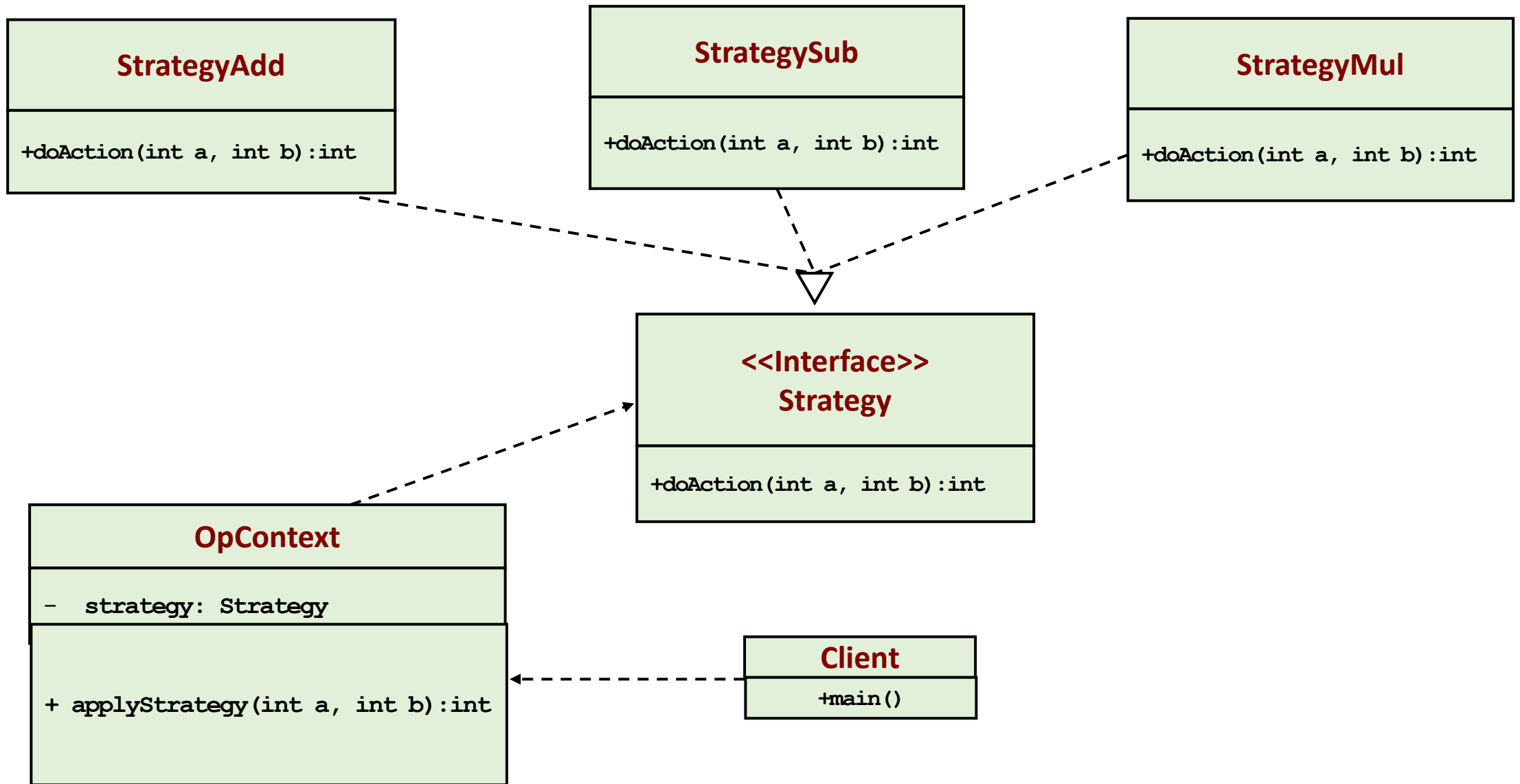
Draw UML diagram for following scenarios using appropriate design patterns:

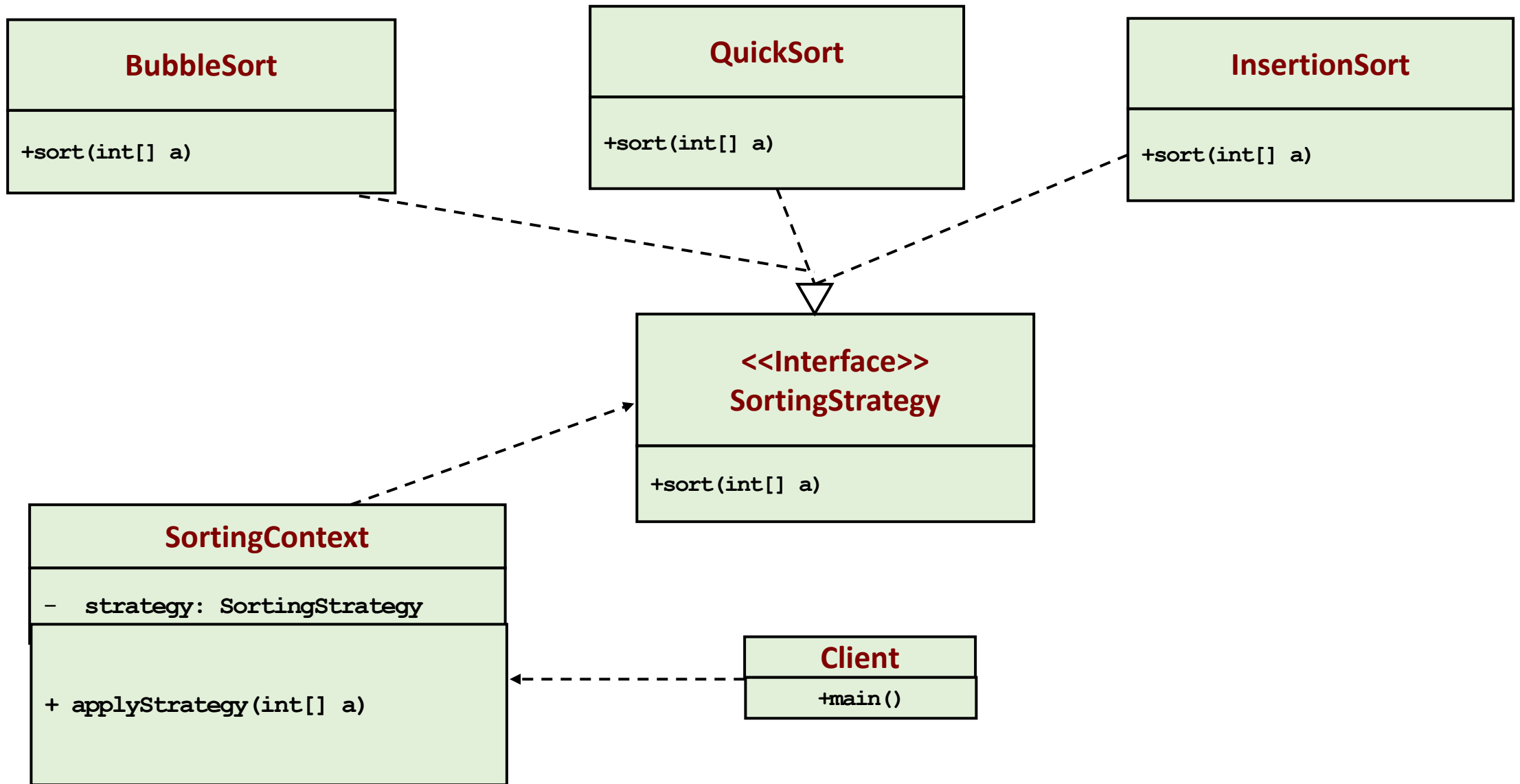
- Think of the traffic lights. The red, green and yellow colors refer to particular state of the vehicular regulation.
- Think of the different sound profiles in a mobile phone. You can switch between general, silent, and vibration.

Strategy Pattern

Strategy Method

- Define a family of algorithms, and make them interchangeable
- Select the behavior of an algorithm dynamically at **runtime**.





Practice Problems

Draw UML diagram for following scenarios using appropriate design patterns:

- Depending on the weather we clothe us differently. For instance, we wear light cloths under sun, raincoat in overcast, and airtight fabrics during winter.
- Think of the different postures a cricket umpire shows on different events.