

# CSE 3421

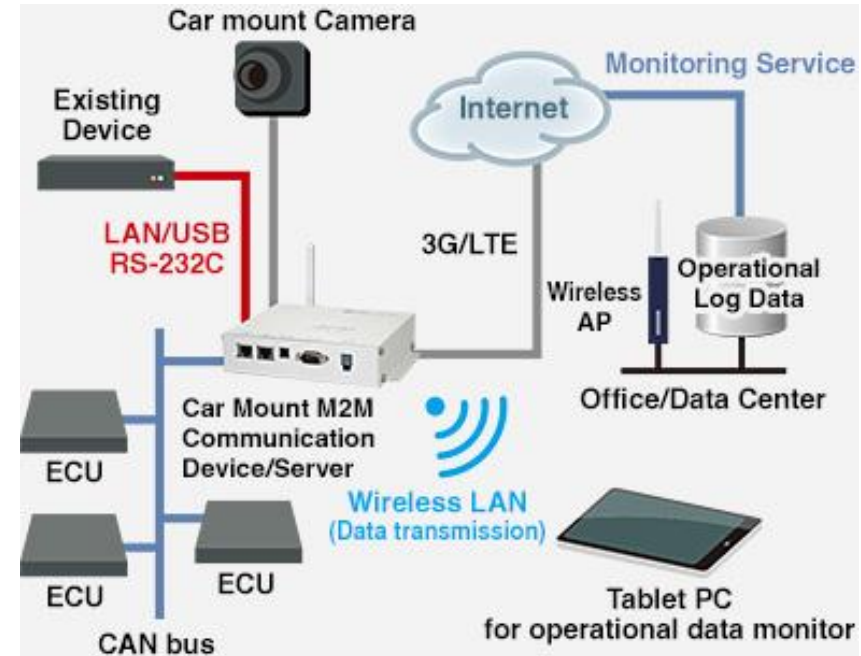
## Design Pattern

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# Behavioral Patterns

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



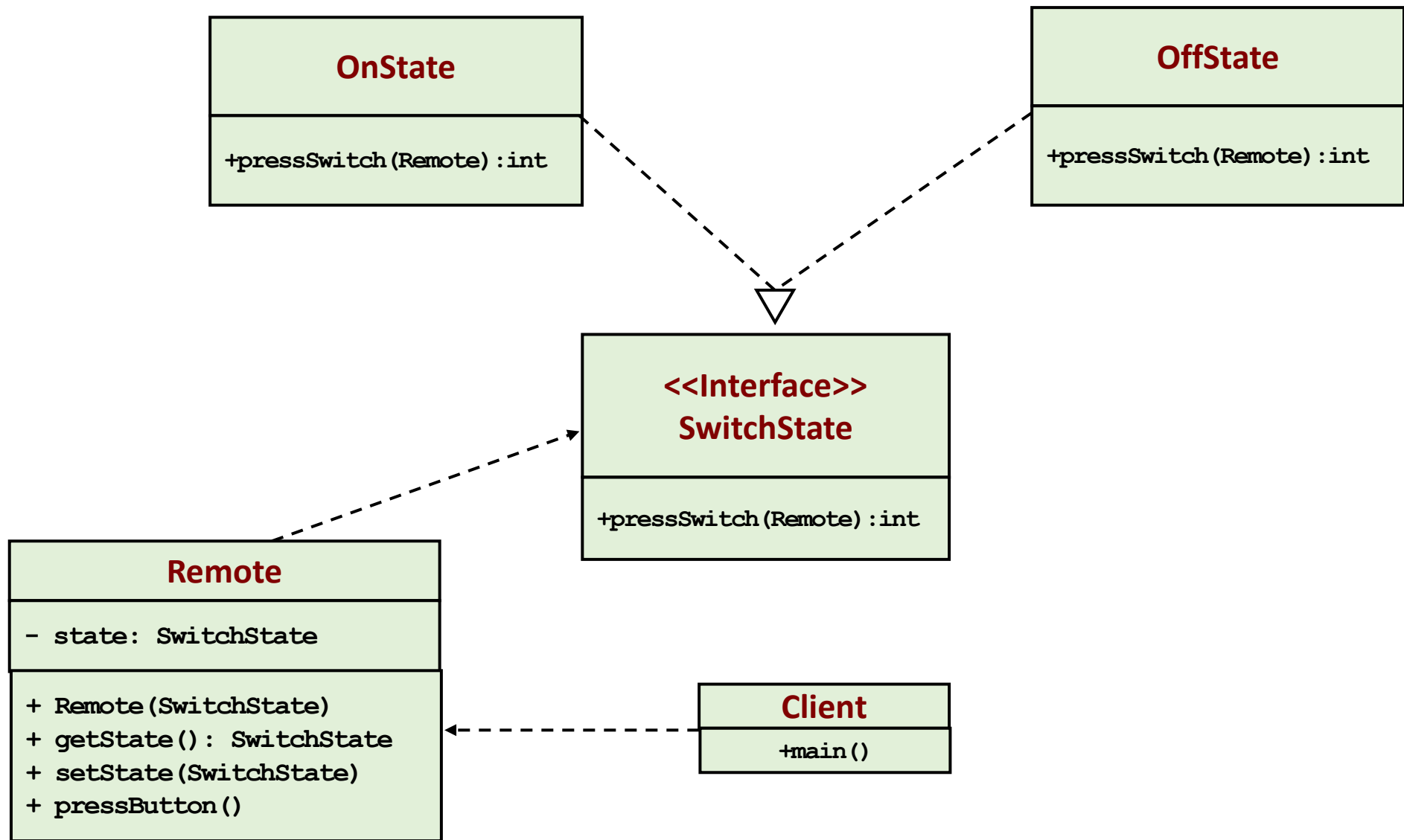
# State Pattern

# 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**.

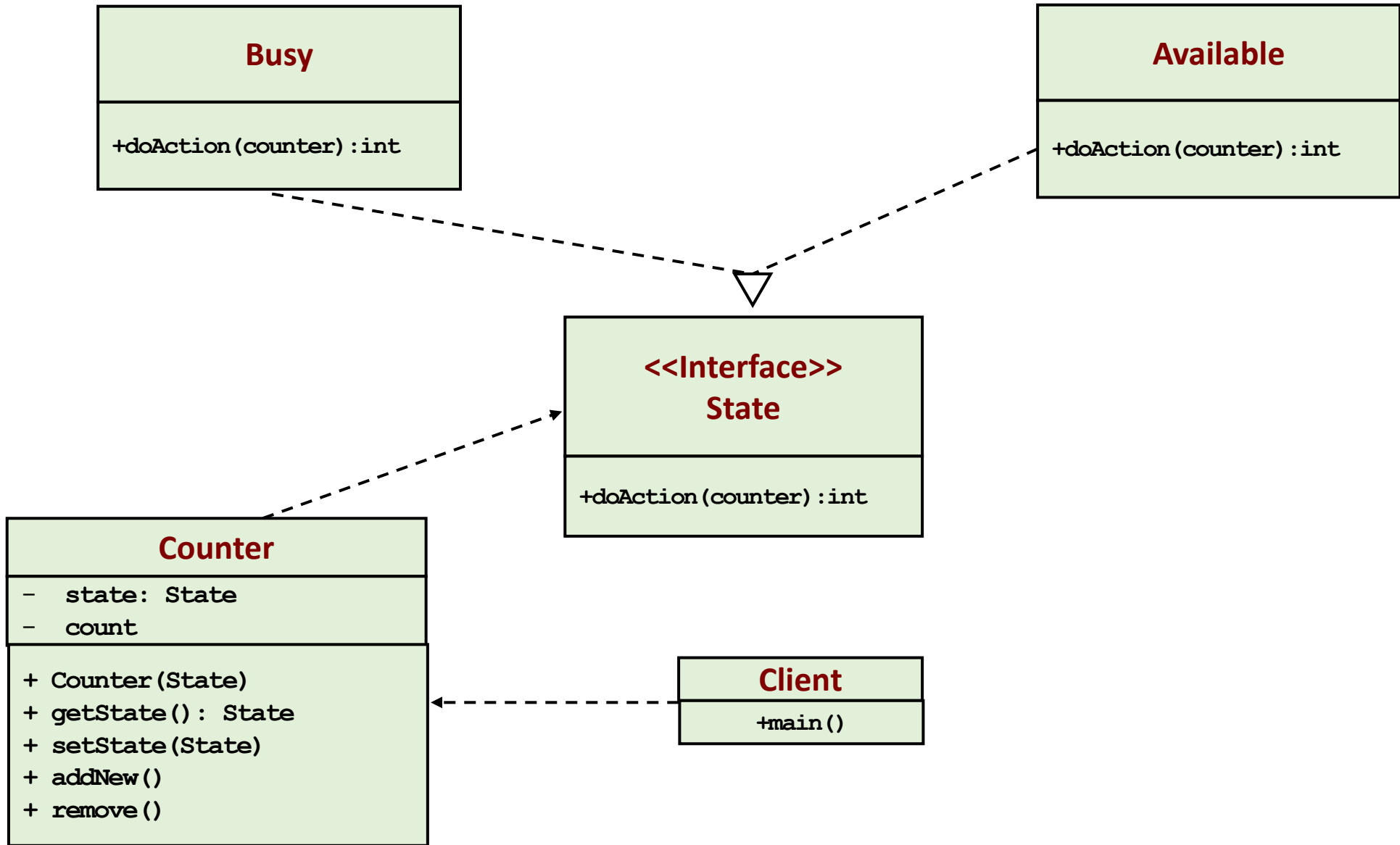
# Example: Remote





# Example: Queue







# Practice Problems

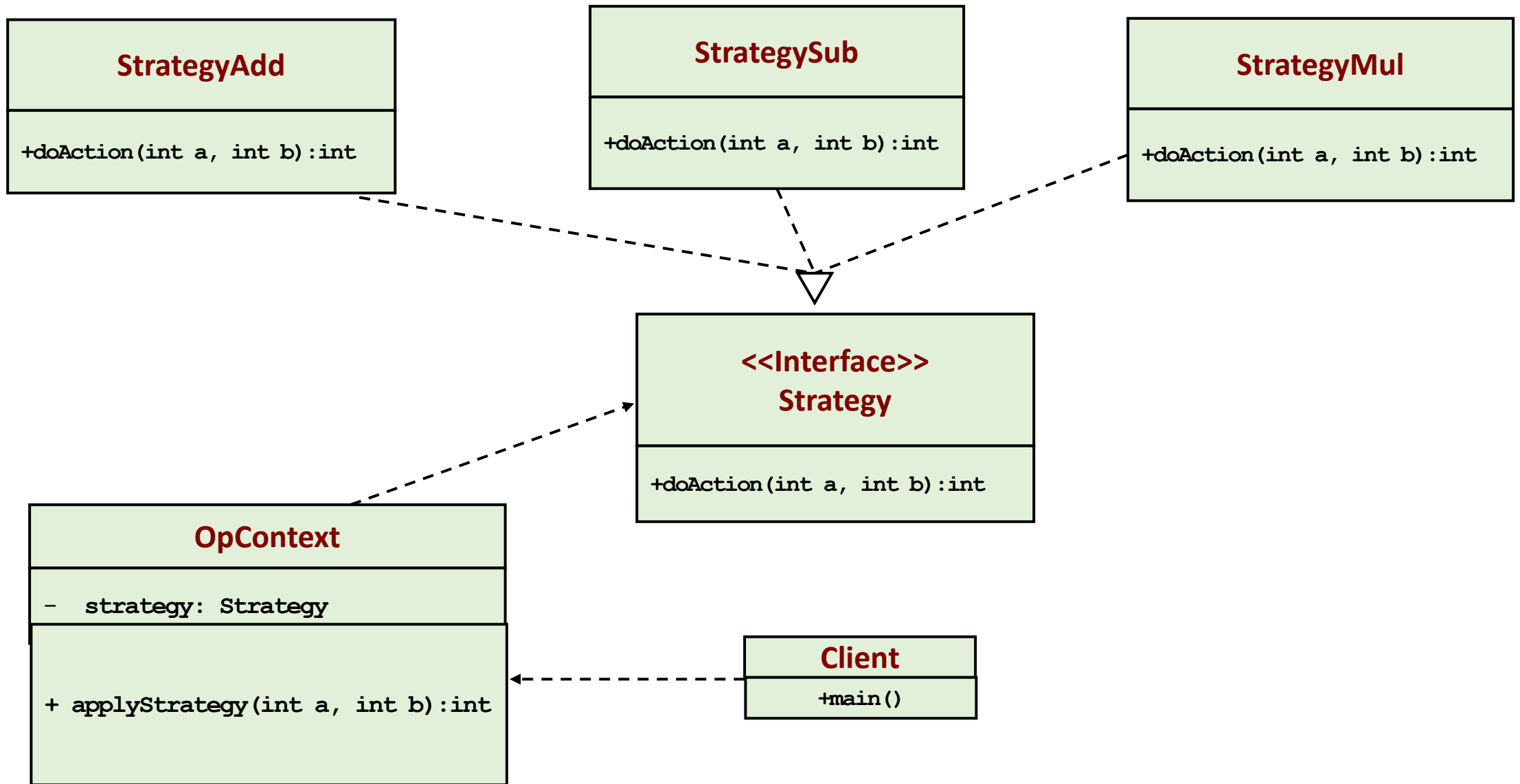
Draw UML diagram for following scenarios using appropriate design patterns:

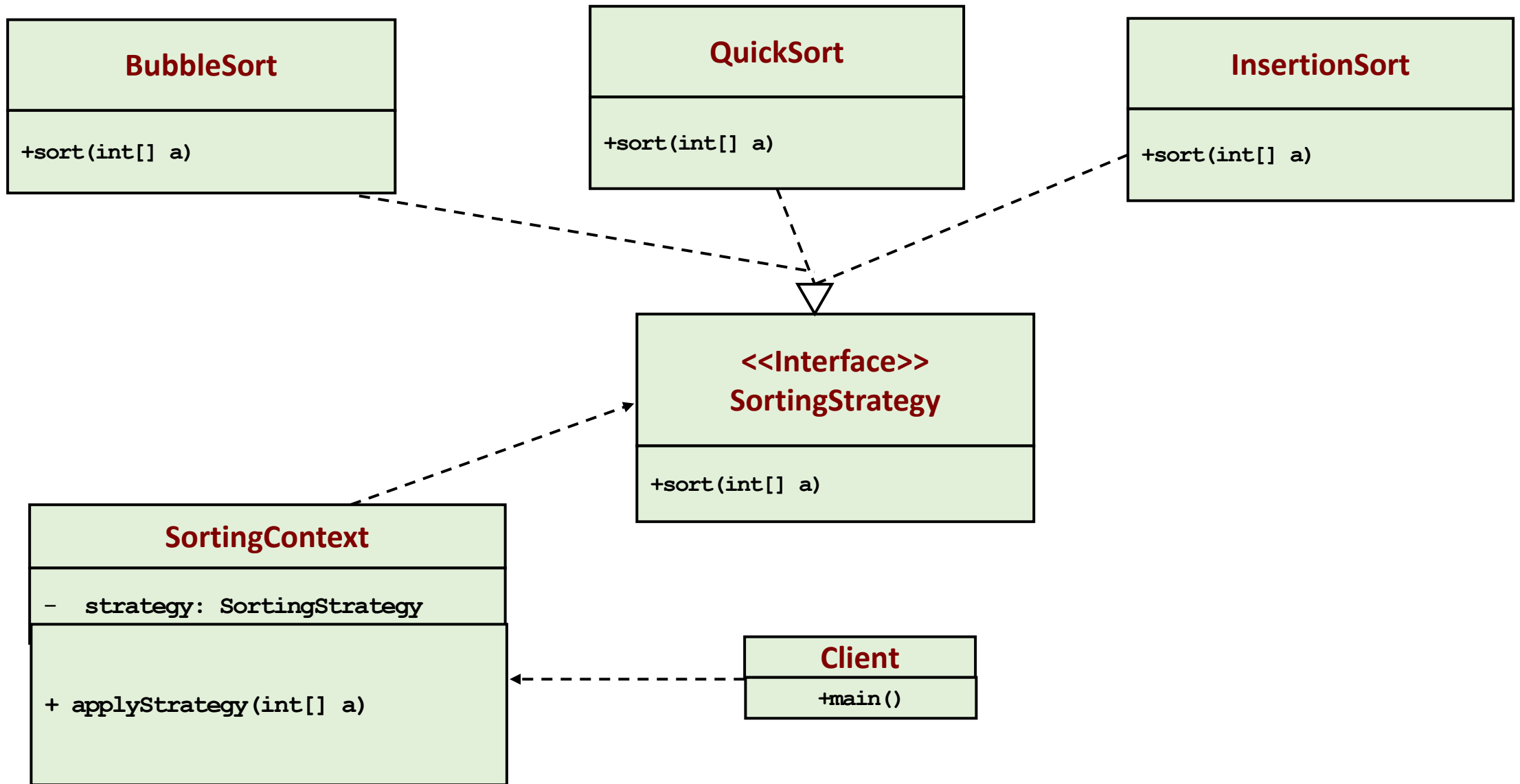
- Think of the traffic lights. The red, green and yellow colors refer to particular state of the vehicular regulation.
- Think of the different sound profiles in a mobile phone. You can switch between general, silent, and vibration.

# 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.