

Trường Đại học Khoa Học Tự Nhiên  
Khoa Công Nghệ Thông Tin  
Bộ môn Công Nghệ Phần Mềm

# CTT526 - Kiến trúc phần mềm

# Mẫu thiết kế

## Structural Patterns

PGS.TS. Trần Minh Triết  
[tmtriet@fit.hcmus.edu.vn](mailto:tmtriet@fit.hcmus.edu.vn)

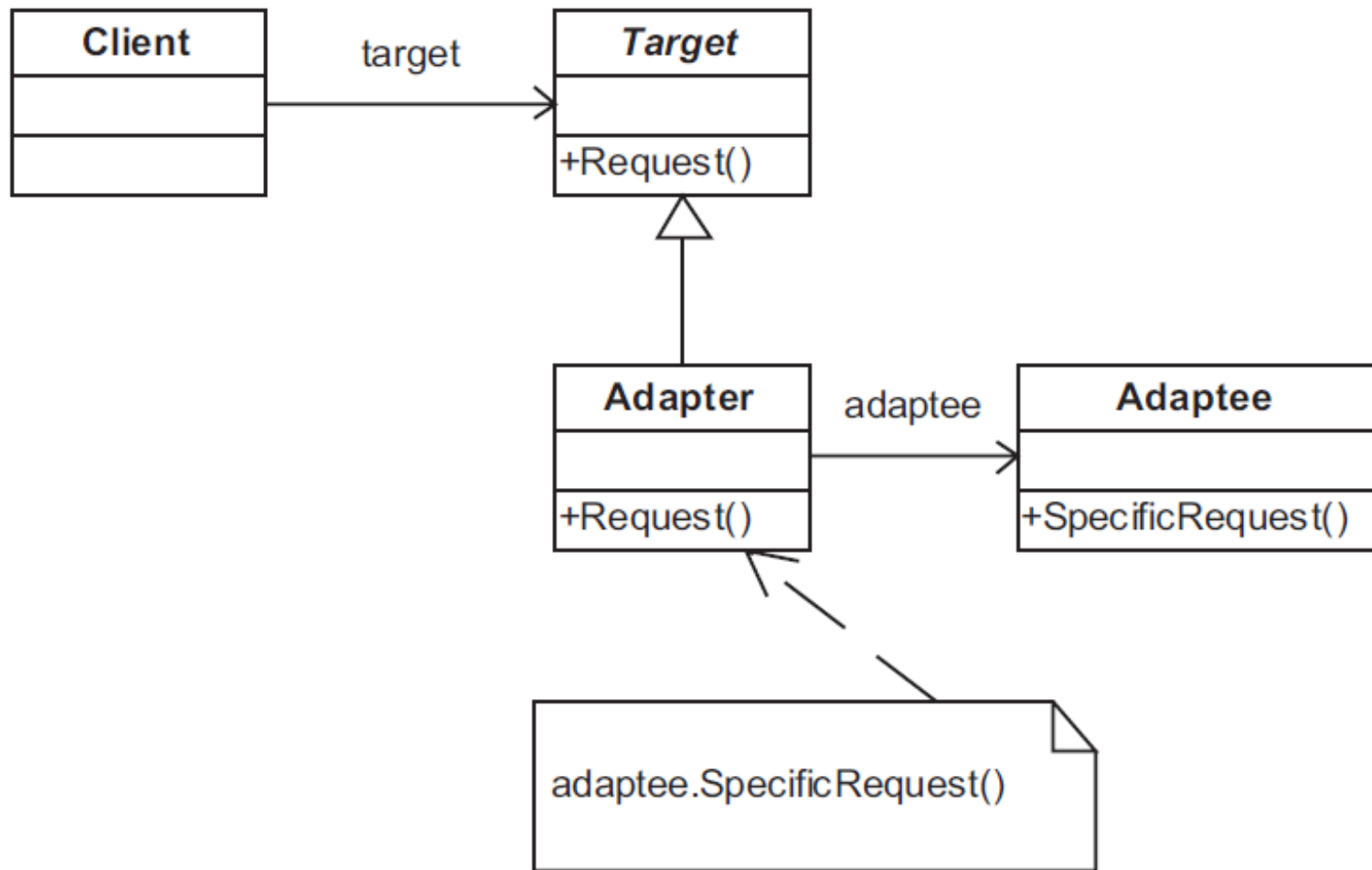


KHOA CÔNG NGHỆ THÔNG TIN  
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN

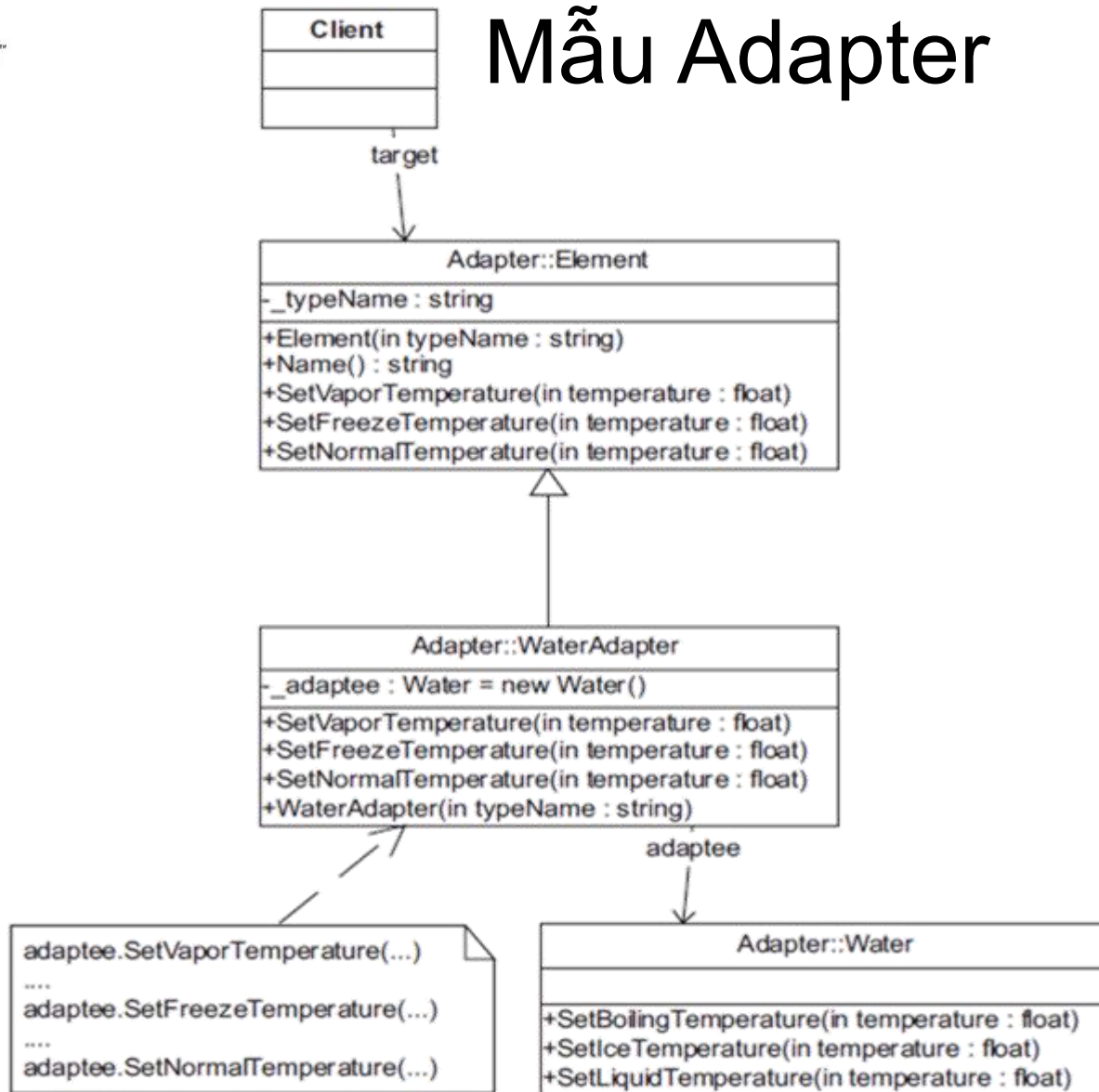
# Mẫu thiết kế trong nhóm Structural Pattern

- ☐ Mẫu Adapter
- ☐ Mẫu Bridge
- ☐ Mẫu Composite
- ☐ Mẫu Decorator
- ☐ Mẫu Facade
- ☐ Mẫu Flyweight
- ☐ Mẫu Proxy

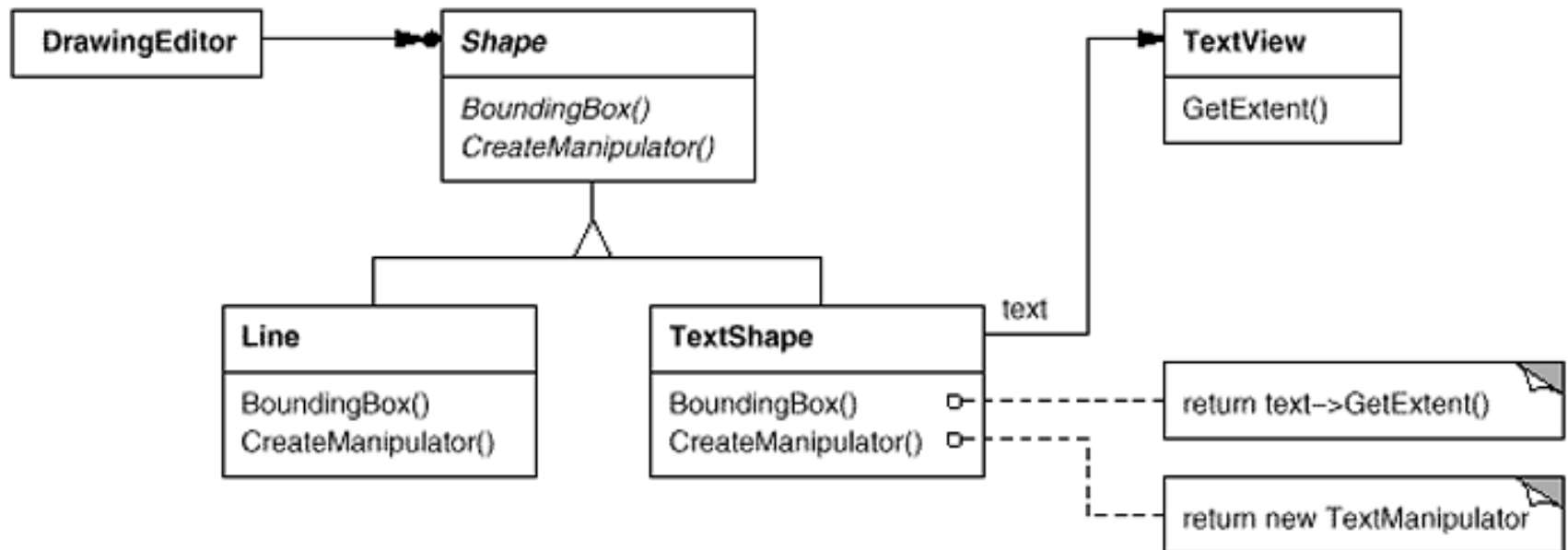
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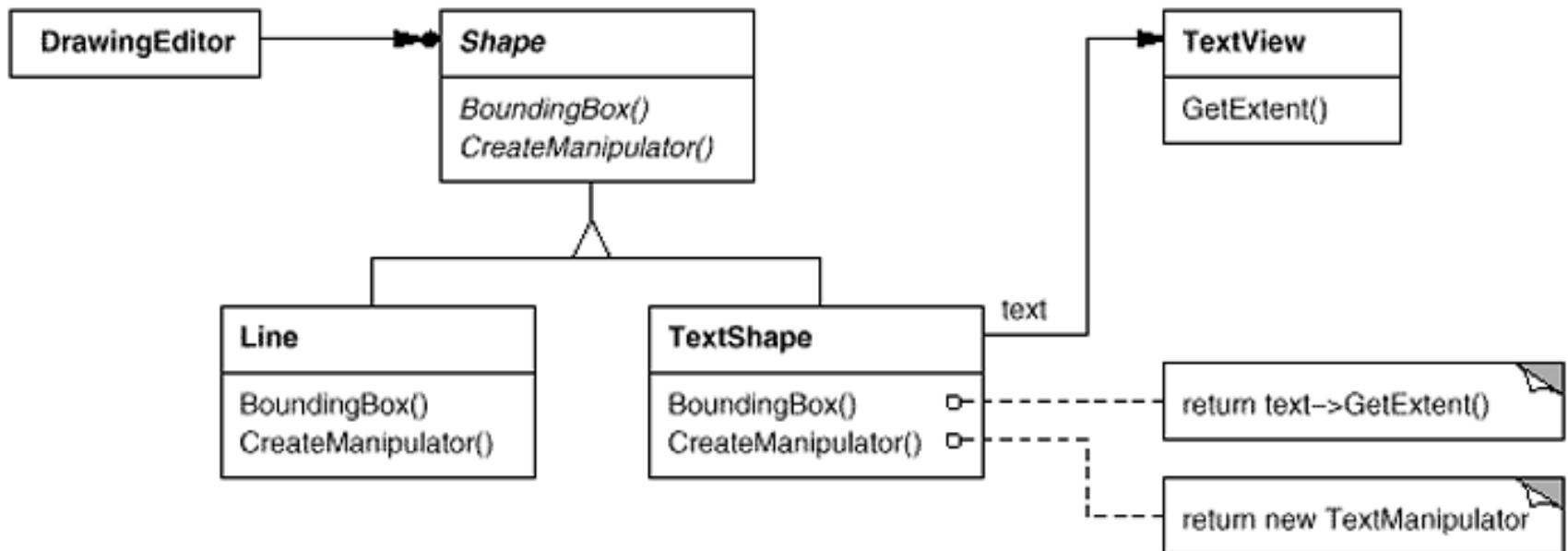
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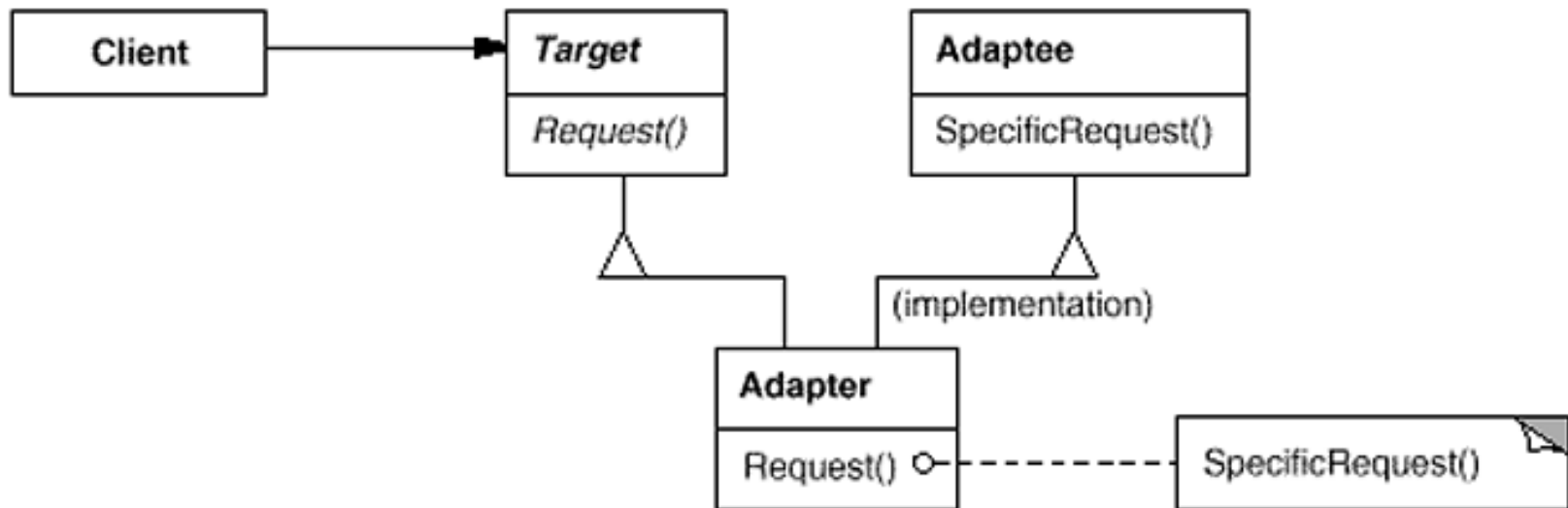
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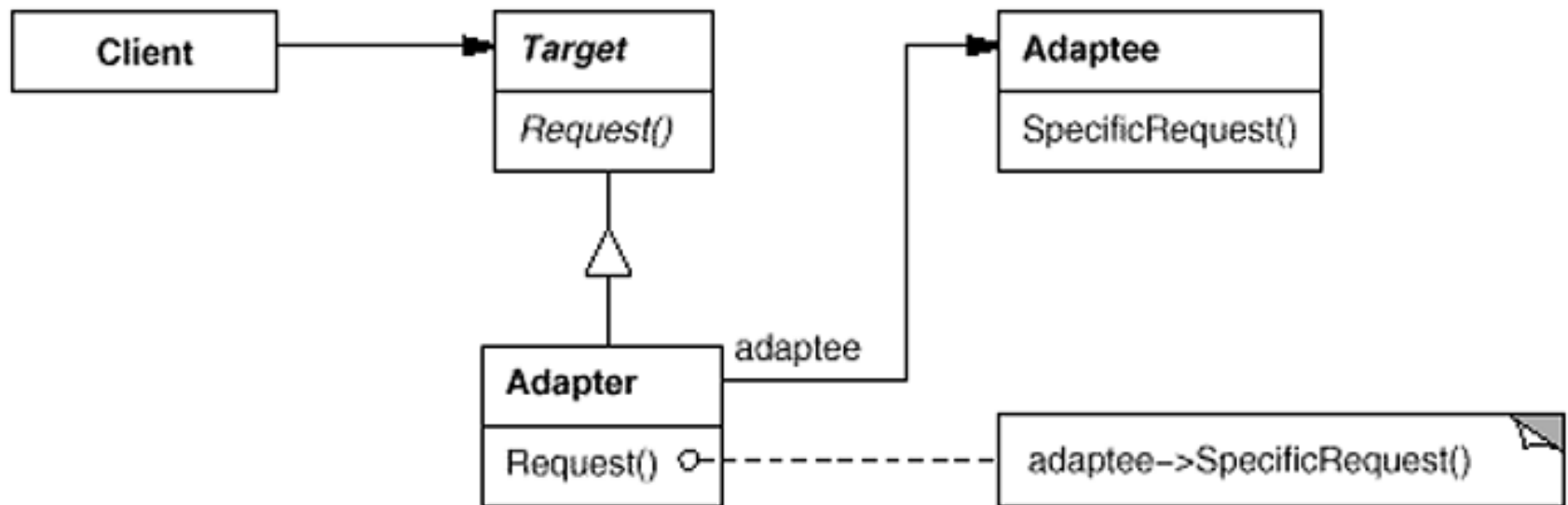
# Mẫu Adapter



# Mẫu Adapter



# Mẫu Adapter



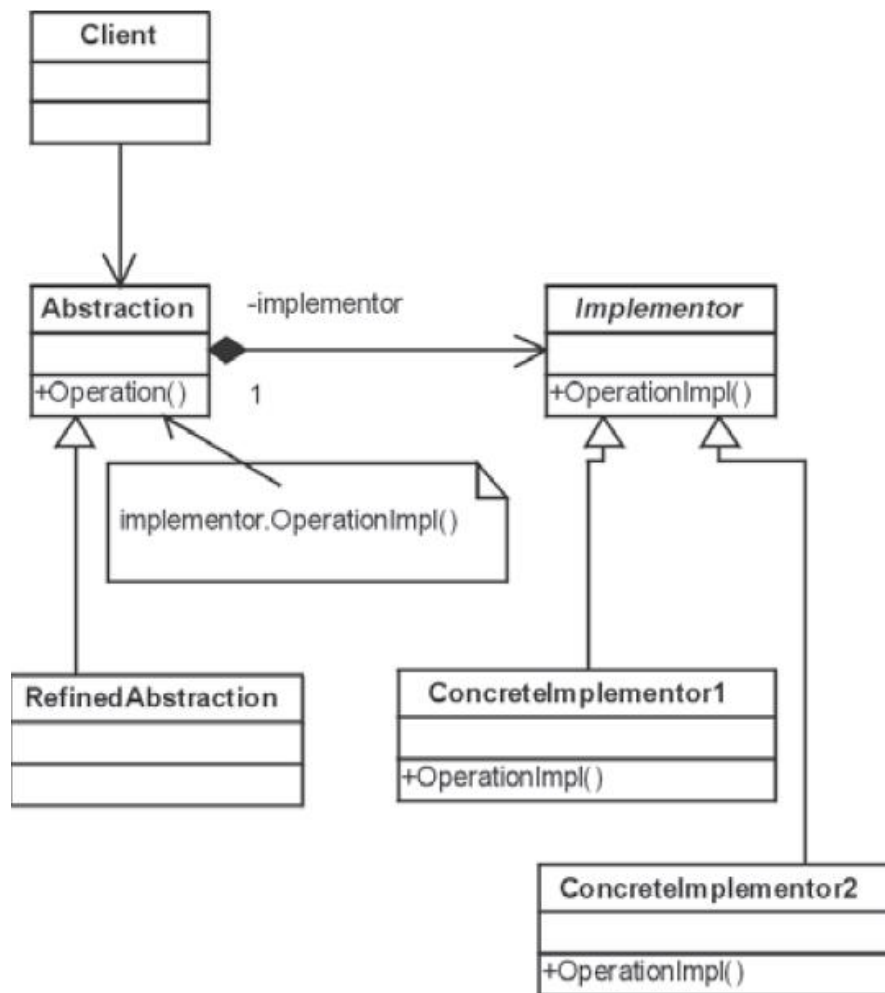


# Mẫu Adapter

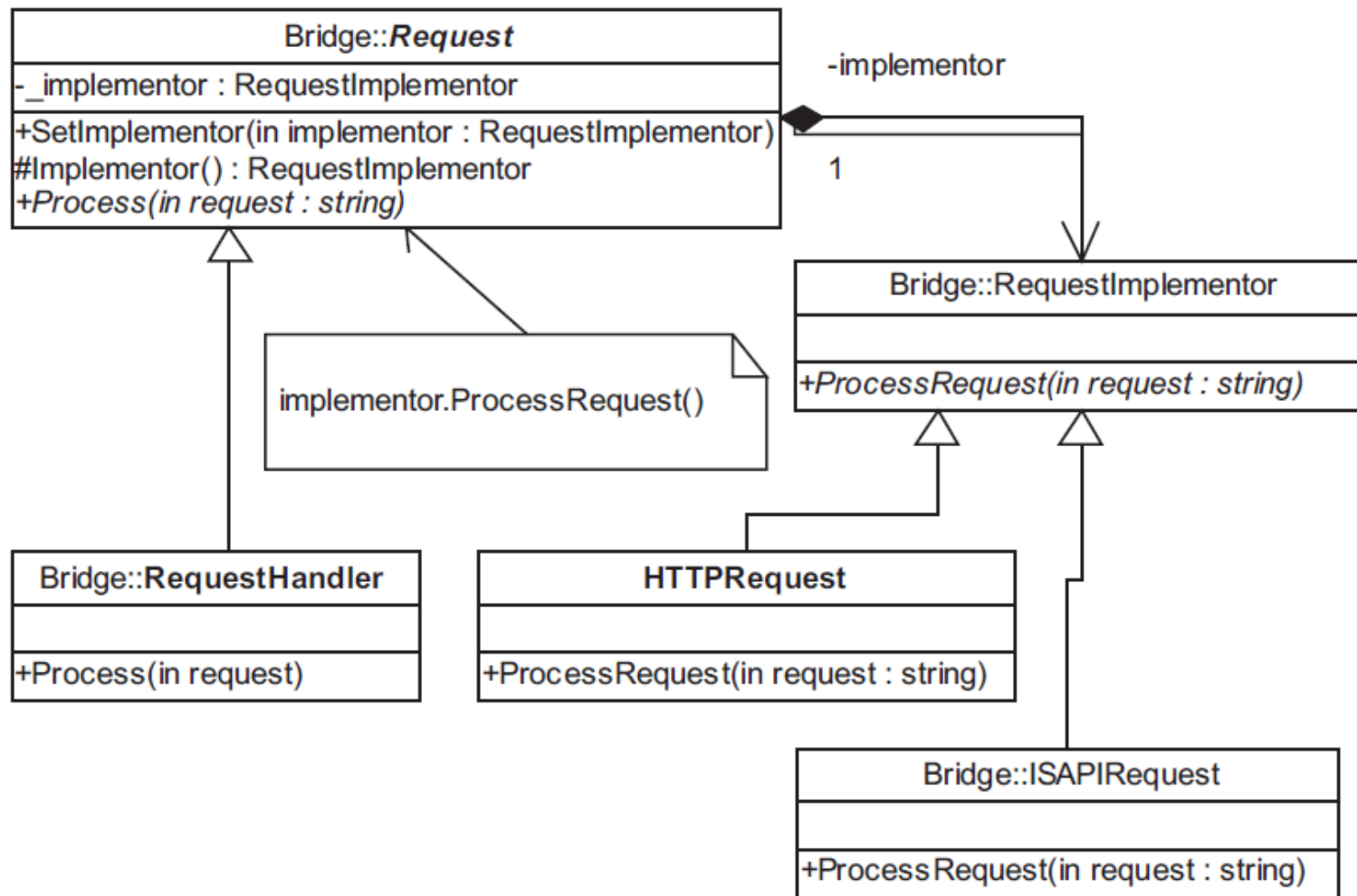
- Thảo luận
  - ▣ Bản chất của mẫu Adapter?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Bridge pattern
    - Decorator pattern
    - Facade pattern
    - Proxy pattern
    - Template pattern
    - Visitor pattern



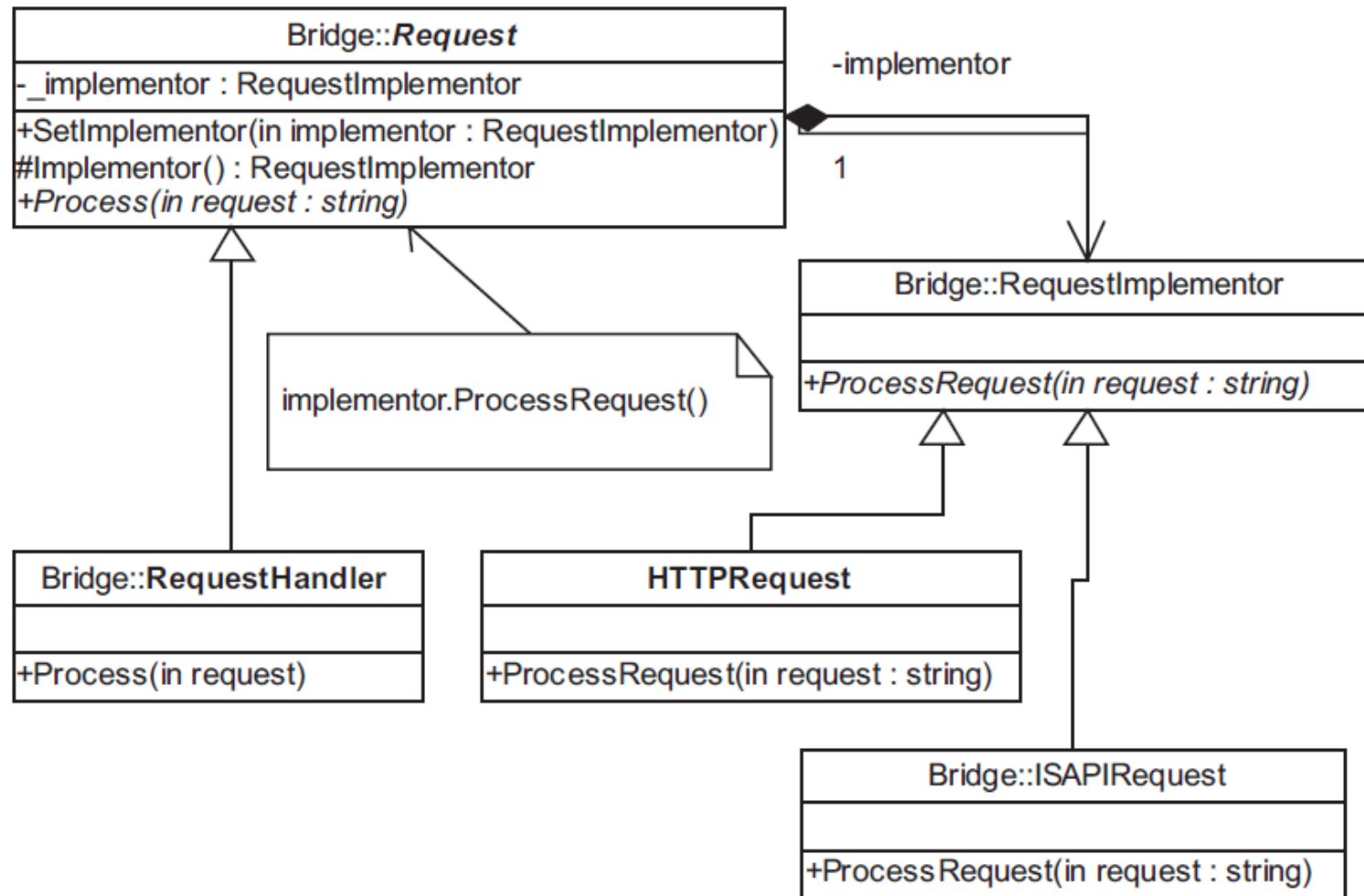
# Mẫu Bridge



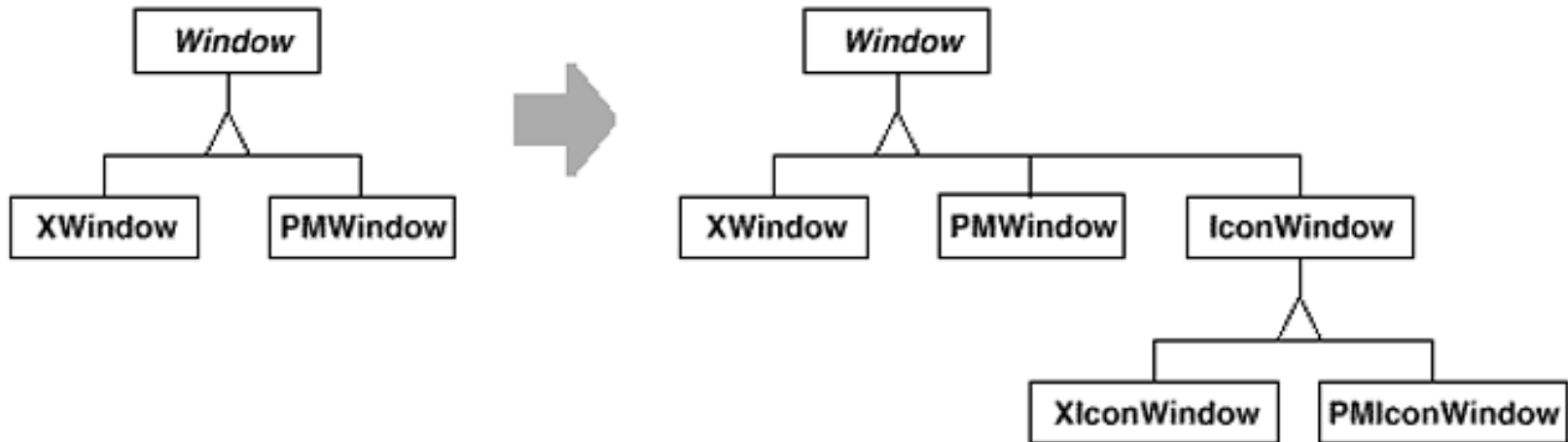
# Mẫu Bridge



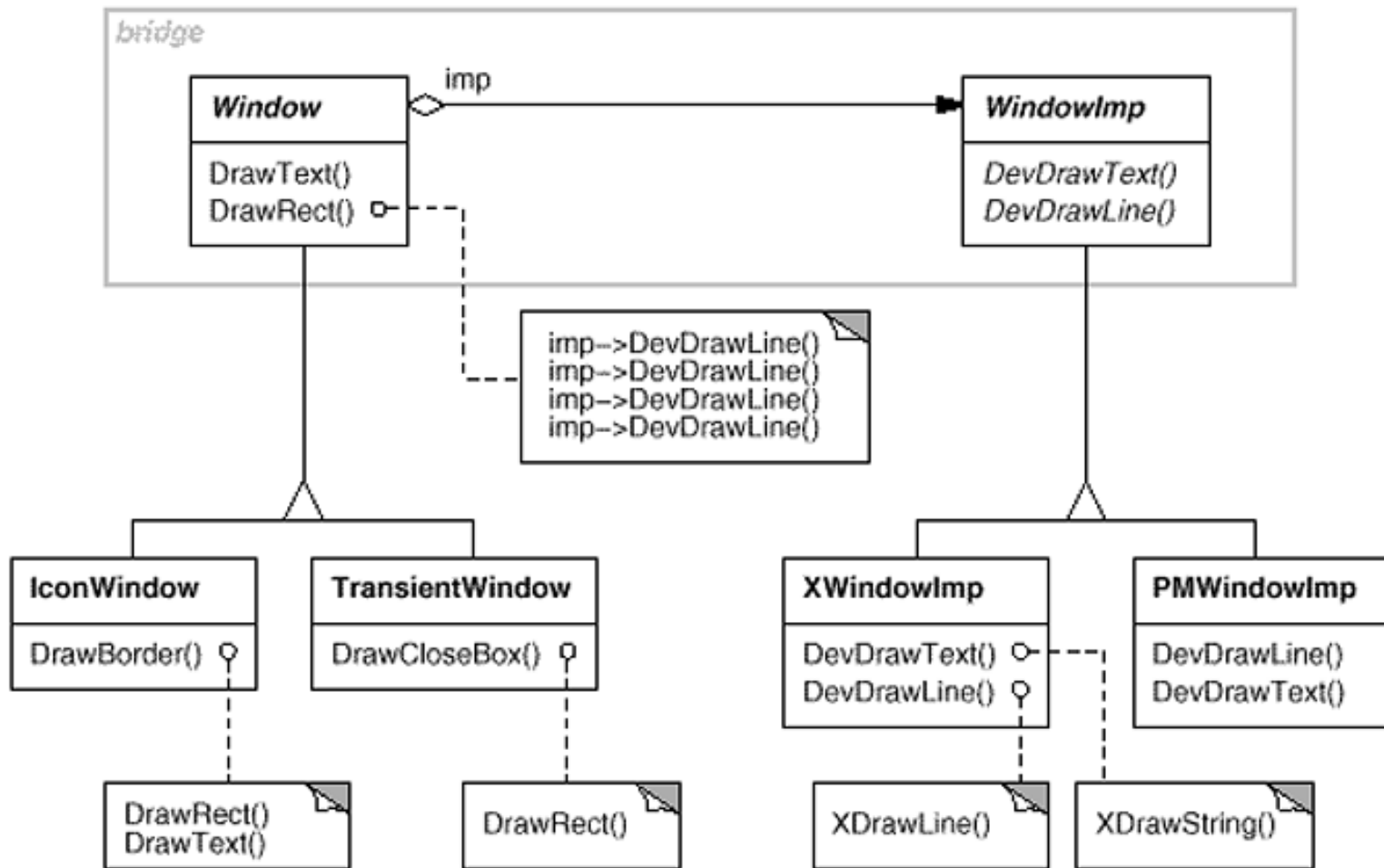
# Mẫu Bridge



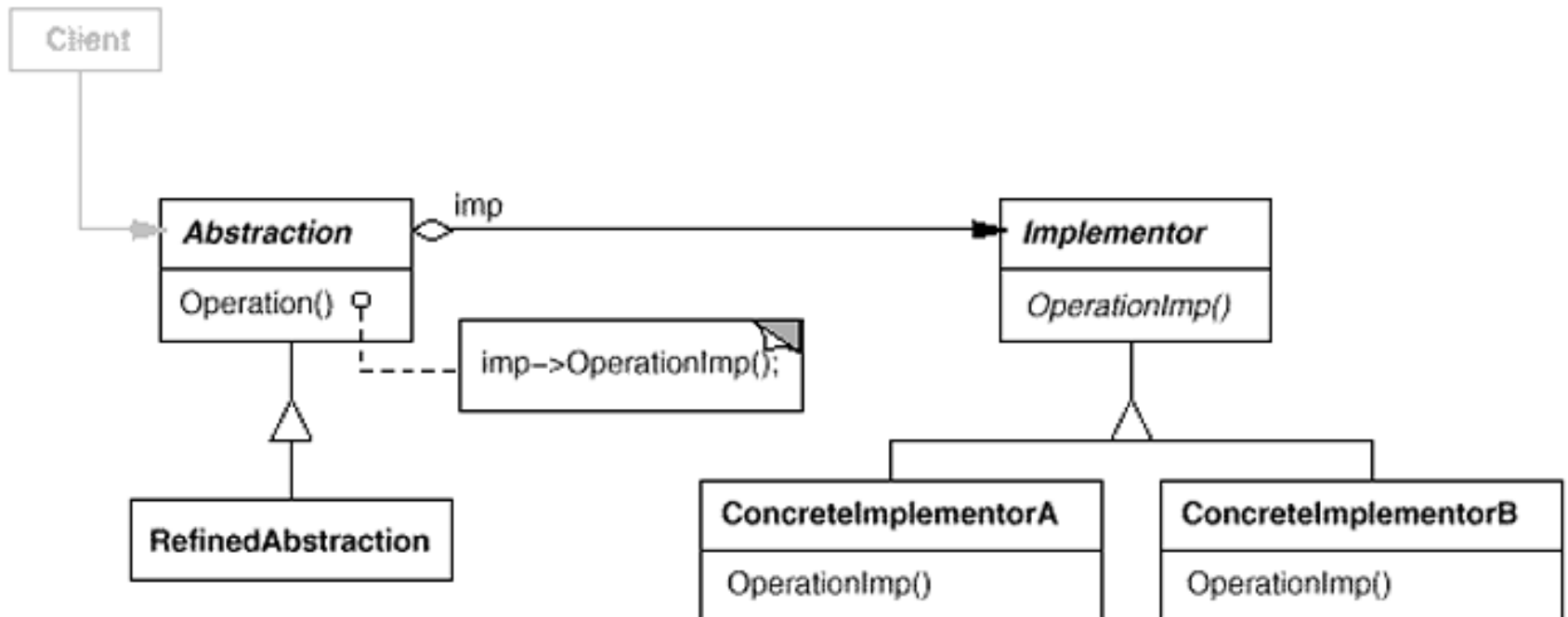
# Mẫu Bridge



# Mẫu Bridge



# Mẫu Bridge



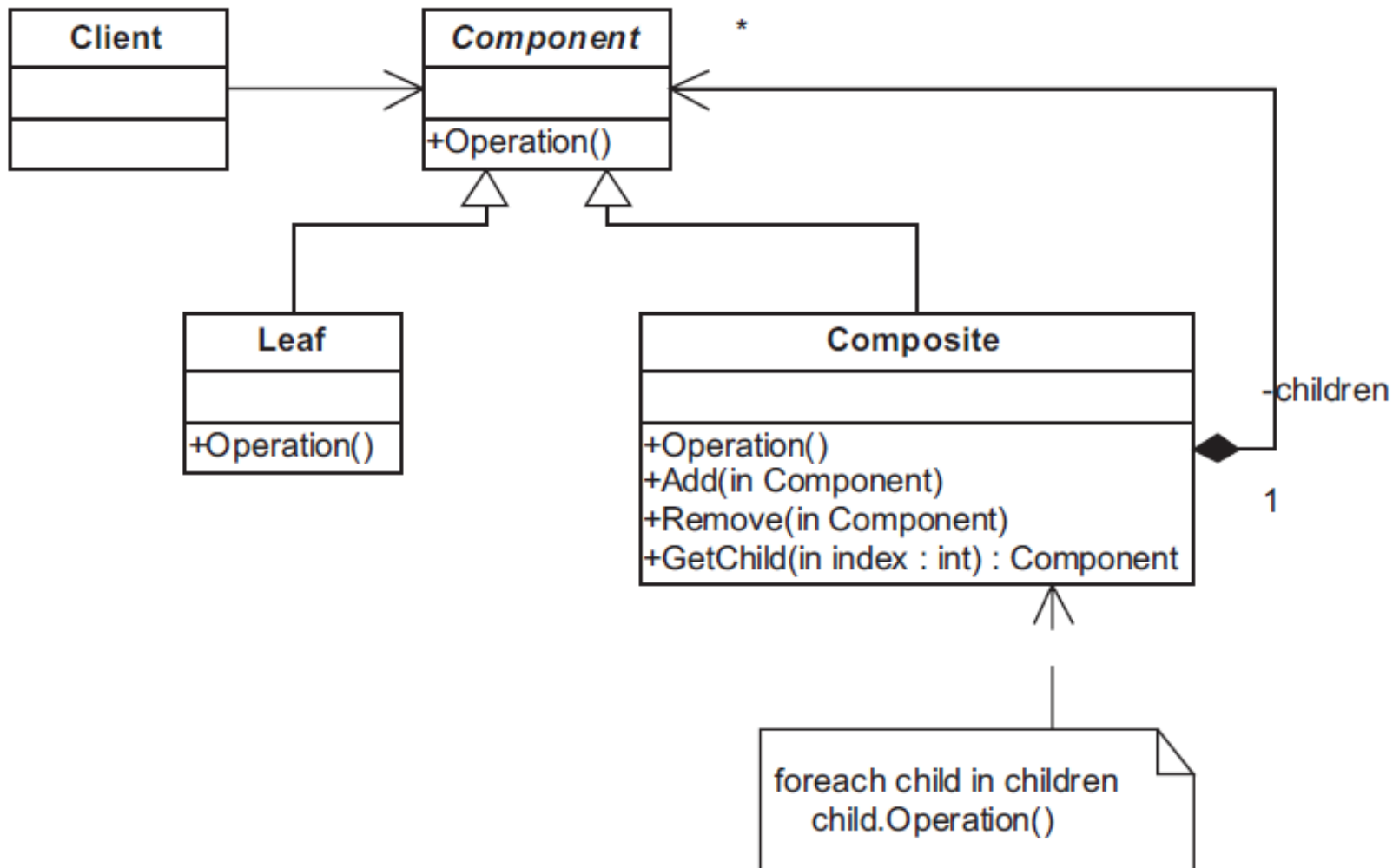
# Mẫu Bridge

- Thảo luận
  - ▣ Bản chất của mẫu Bridge?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Adapter pattern
    - Facade pattern
    - Proxy pattern
    - Template pattern

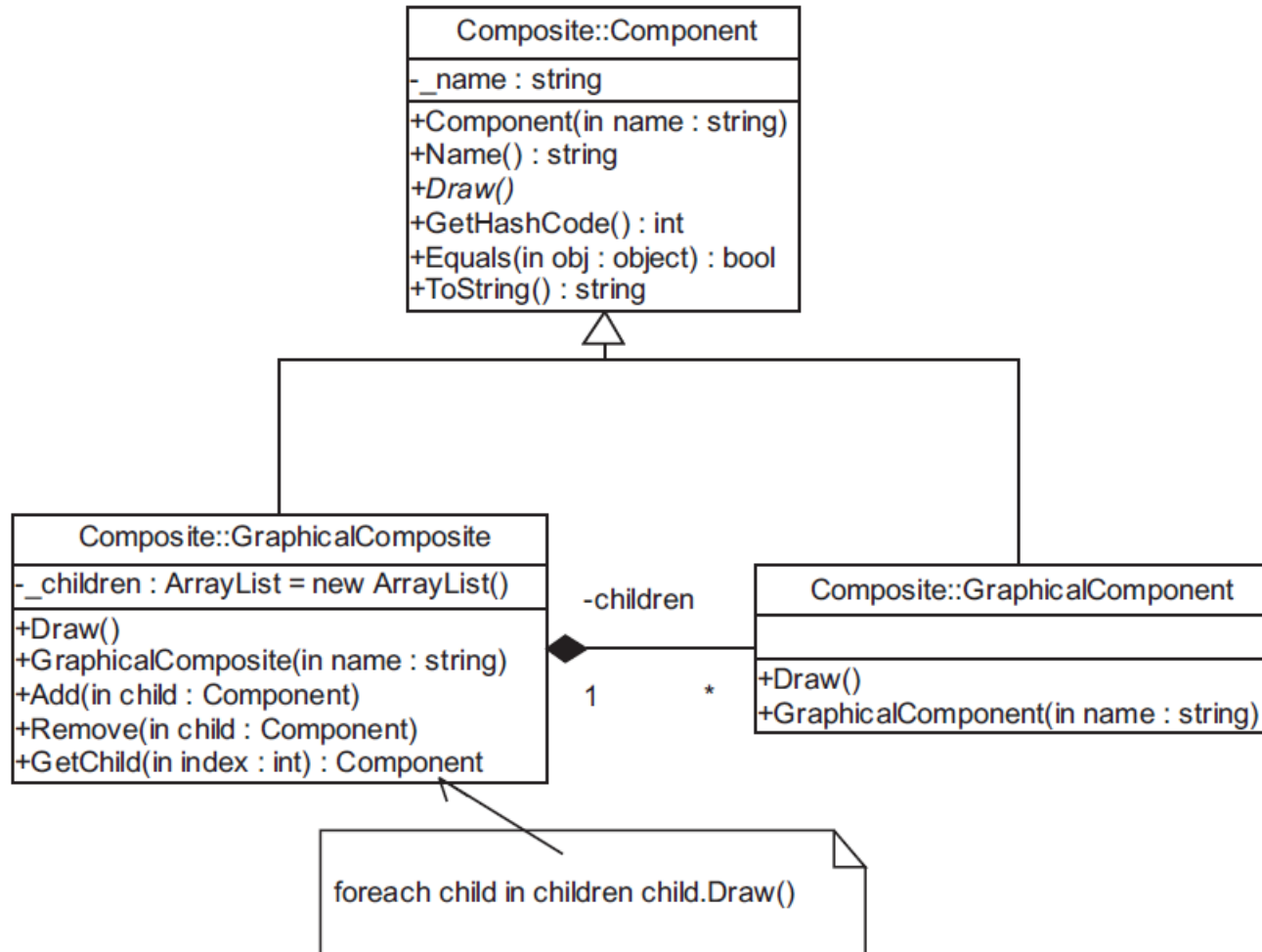




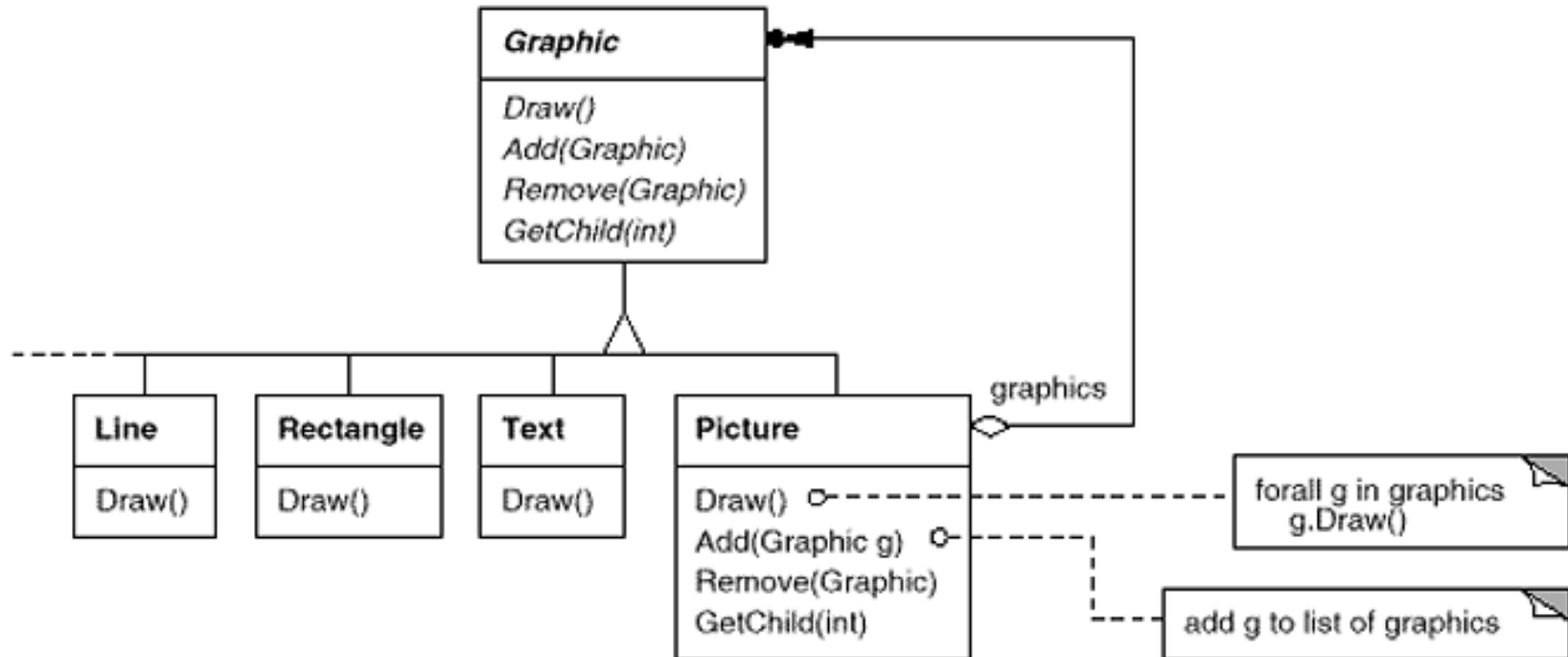
# Mẫu Composite



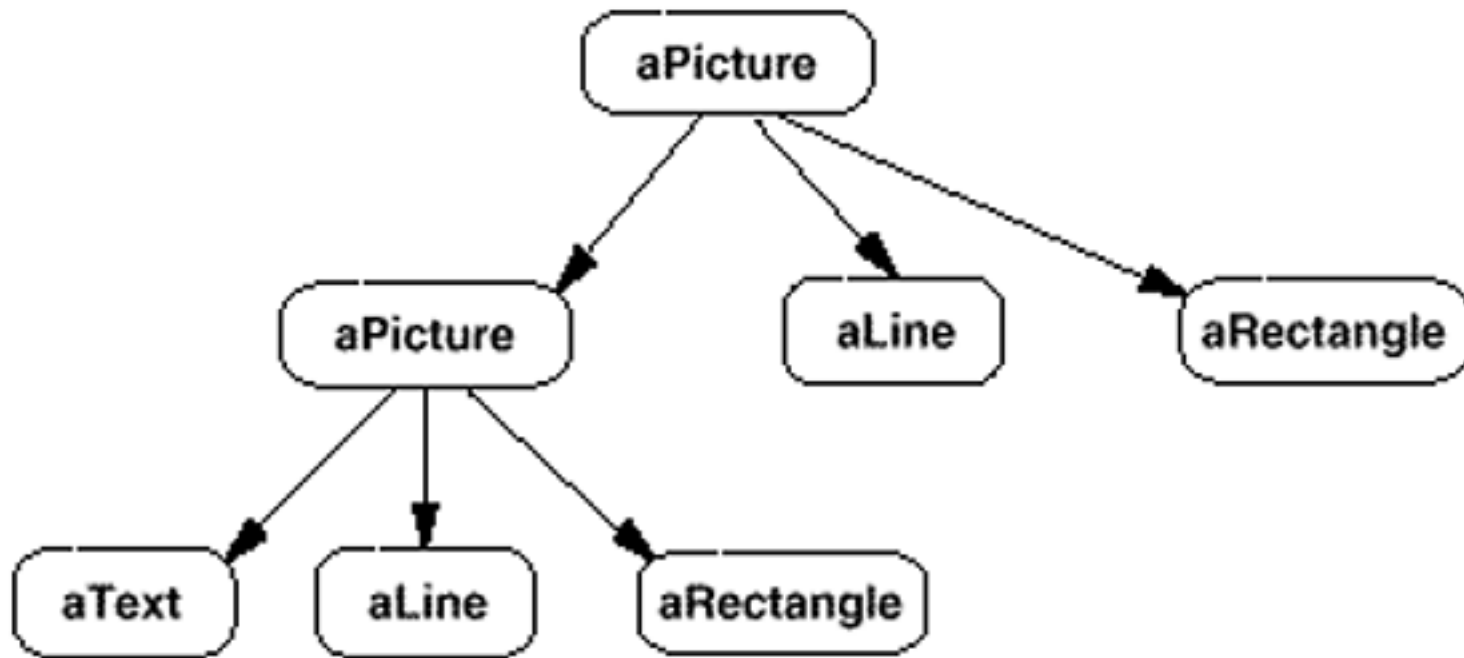
# Mẫu Composite



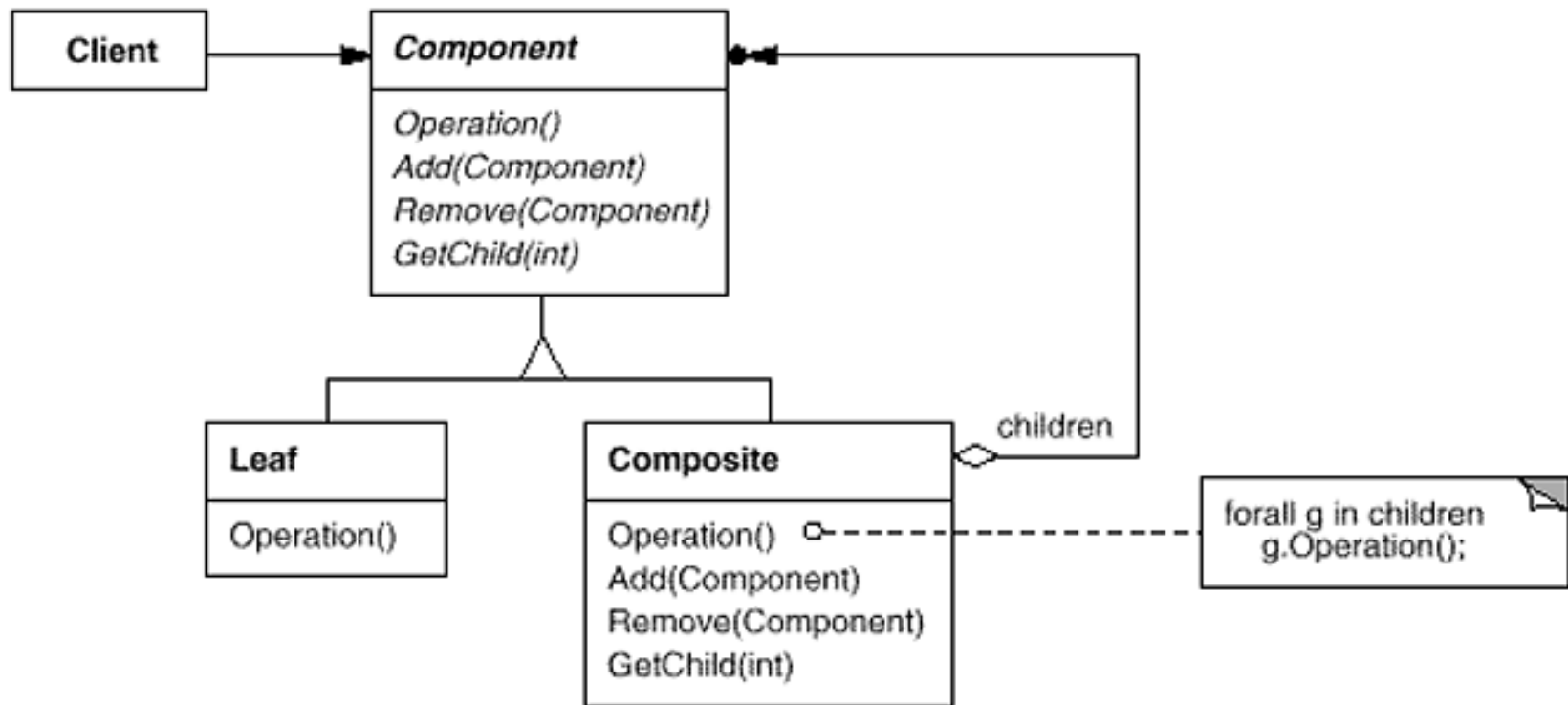
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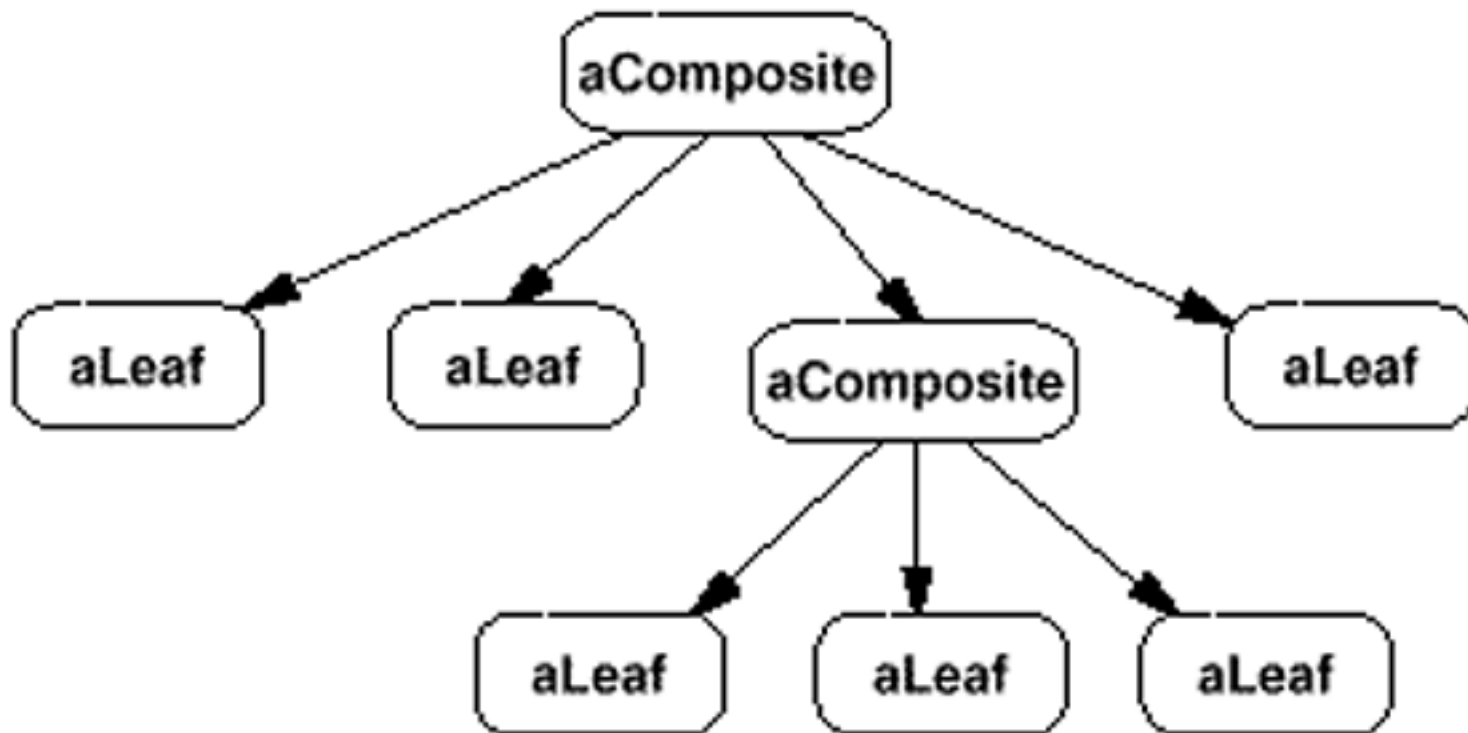
# Mẫu Composite



# Mẫu Composite



# Mẫu Composite

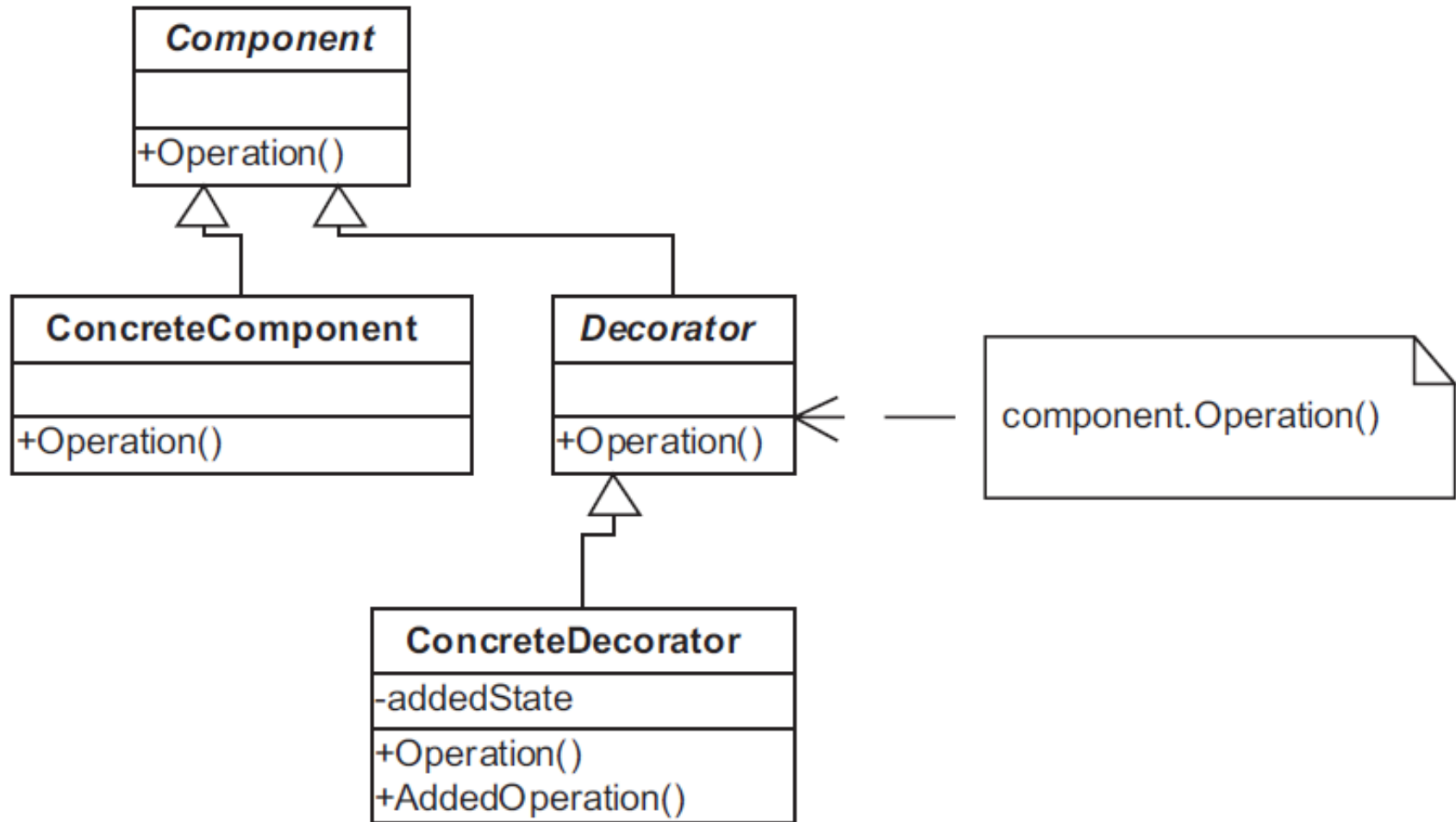


# Mẫu Composite

- Thảo luận
  - ▣ Bản chất của mẫu Composite?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Chain of Responsibility pattern
    - Command pattern
    - Decorator pattern
    - Flyweight pattern
    - Iterator pattern
    - Visitor pattern

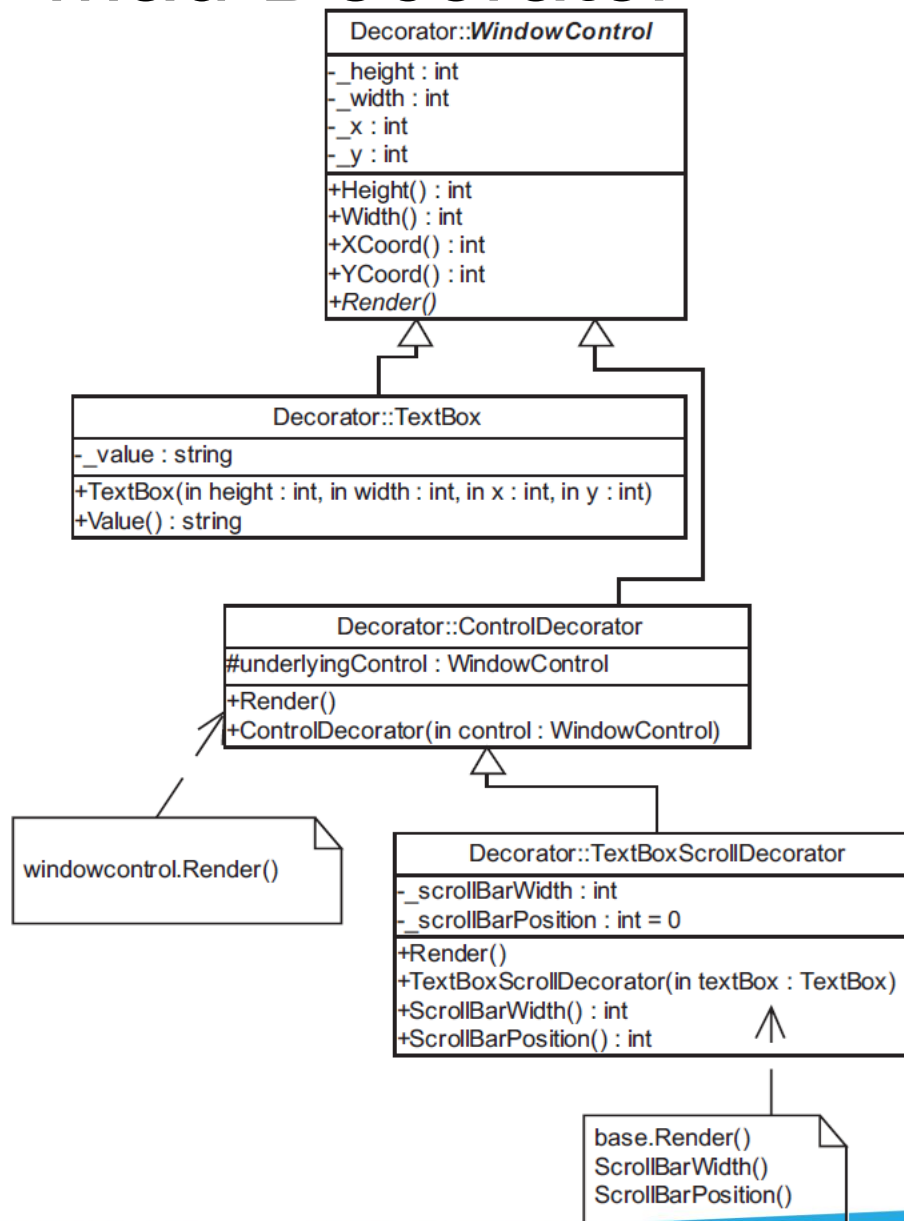


# Mẫu Decorator

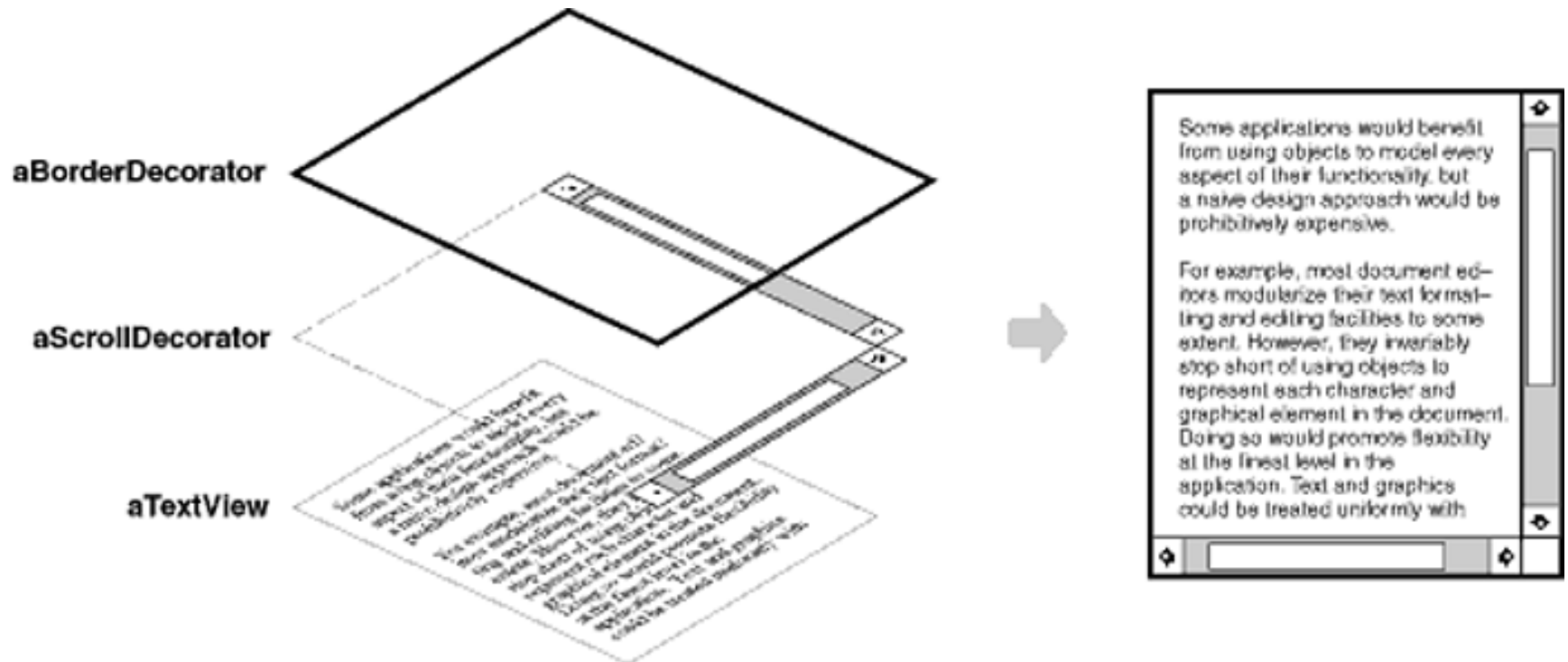




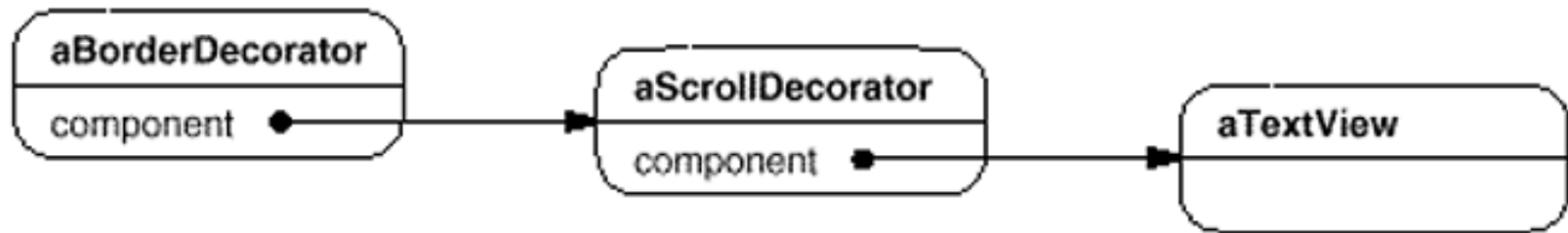
# Mẫu Decorator



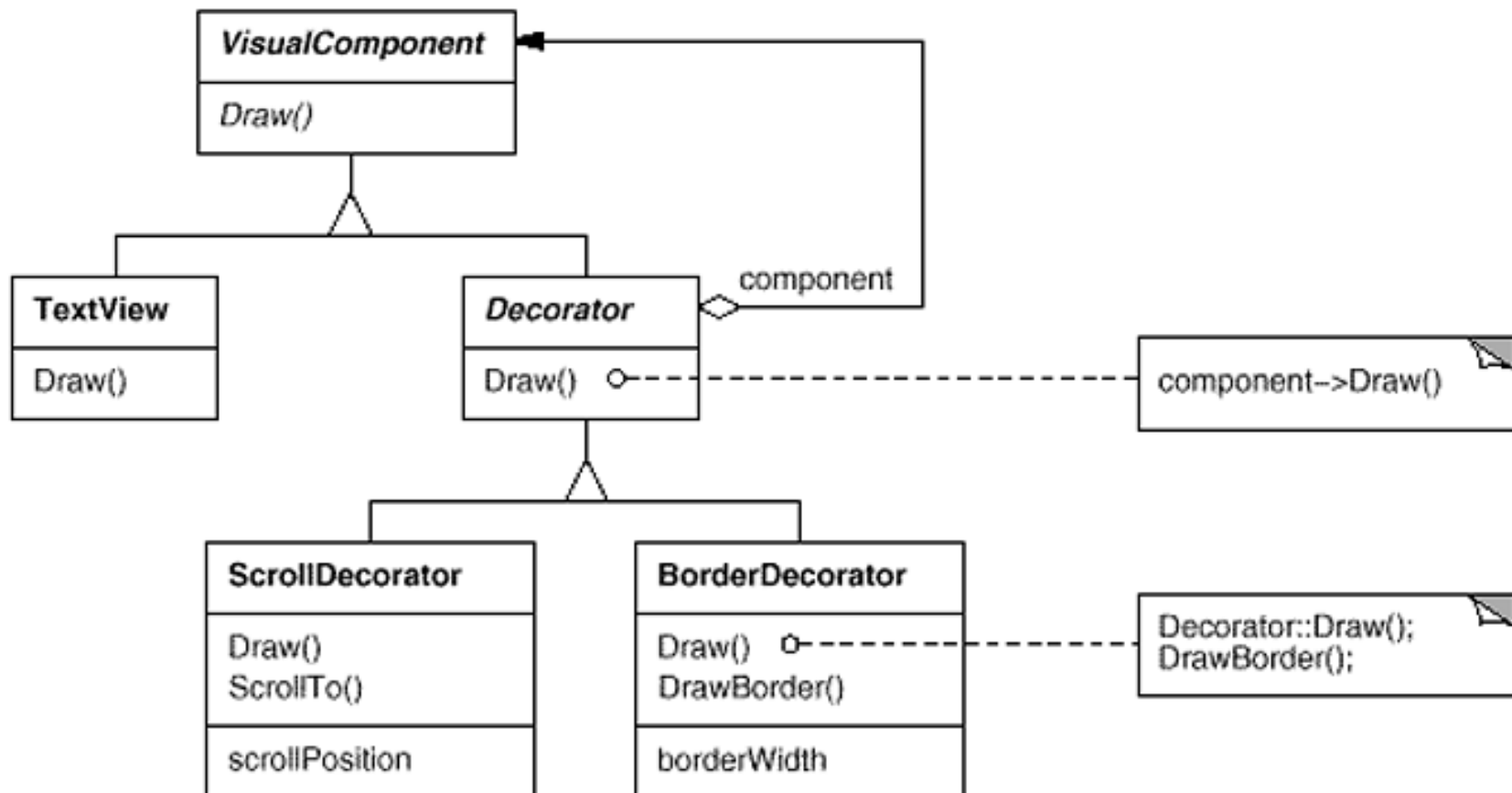
# Mẫu Decorator



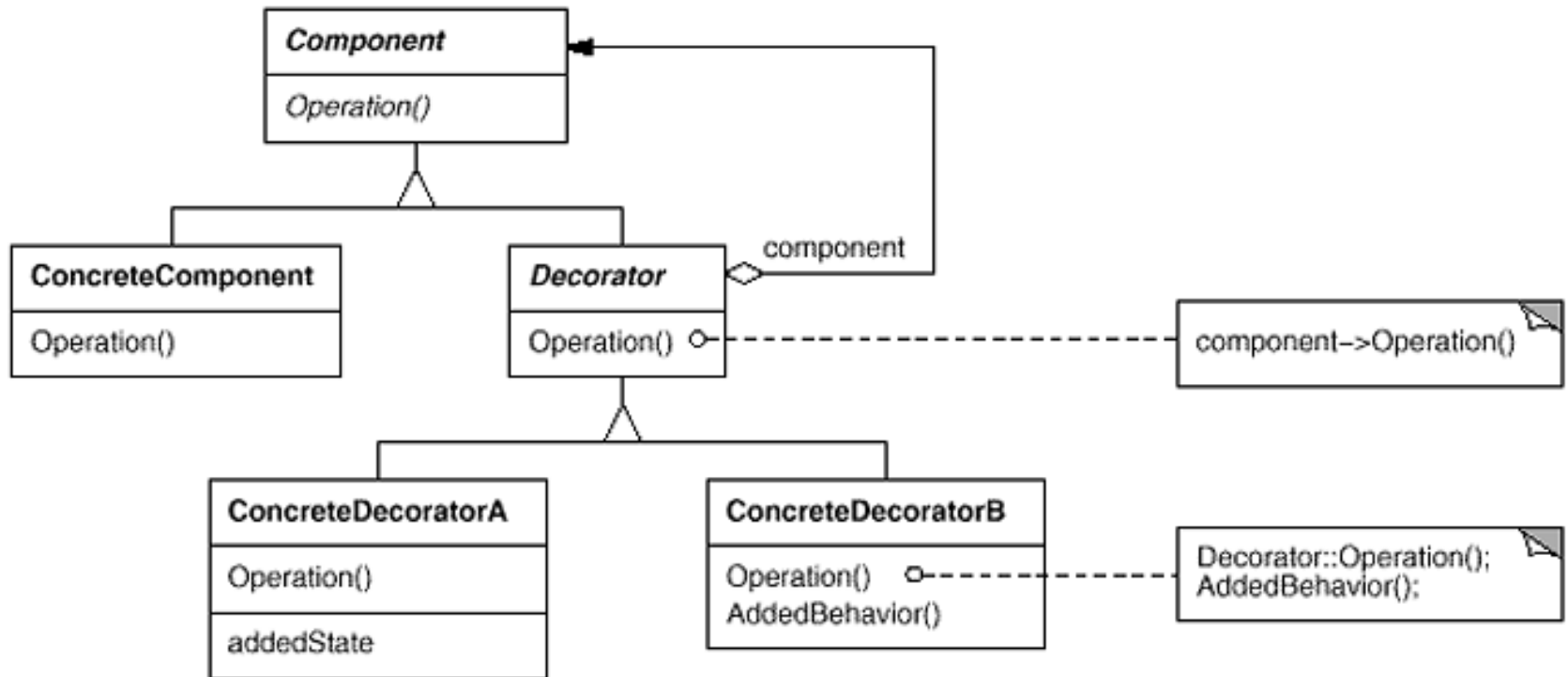
# Mẫu Decorator



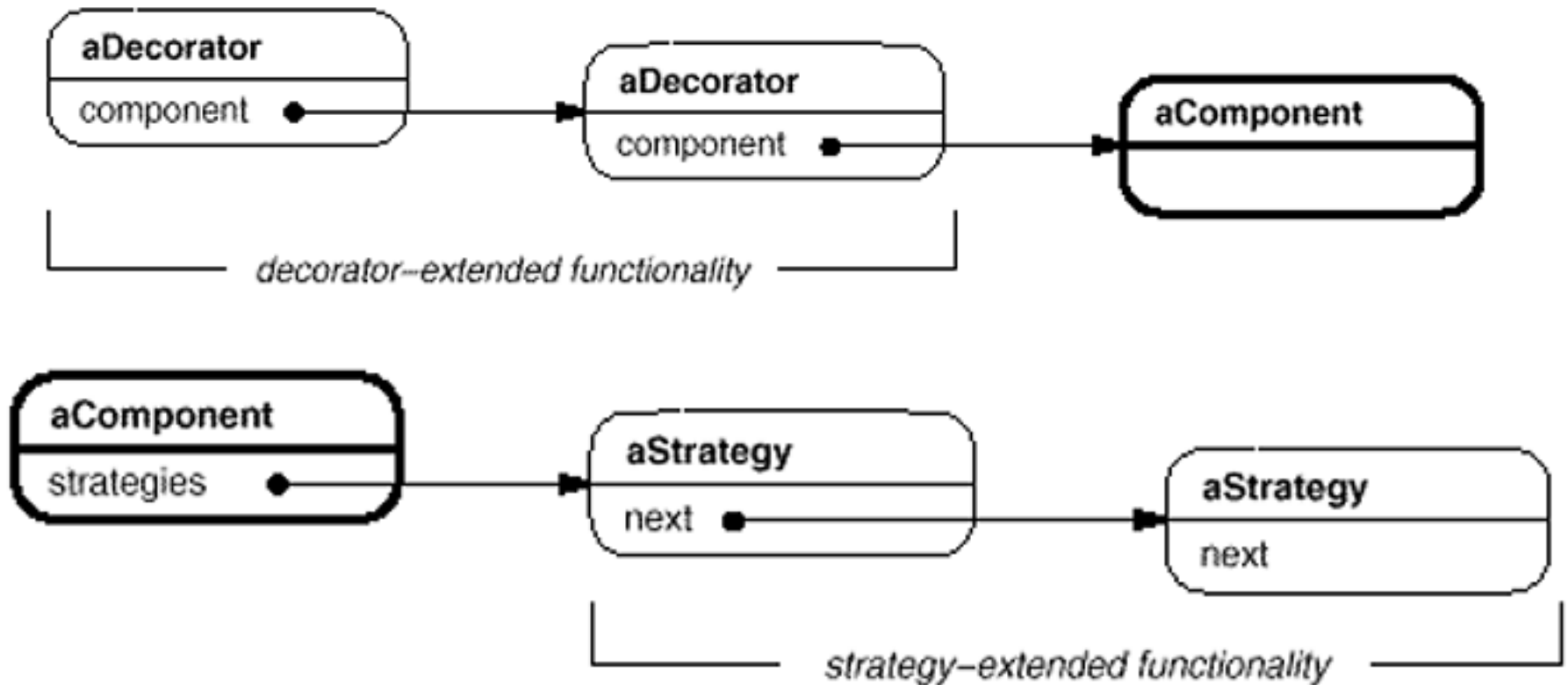
# Mẫu Decorator



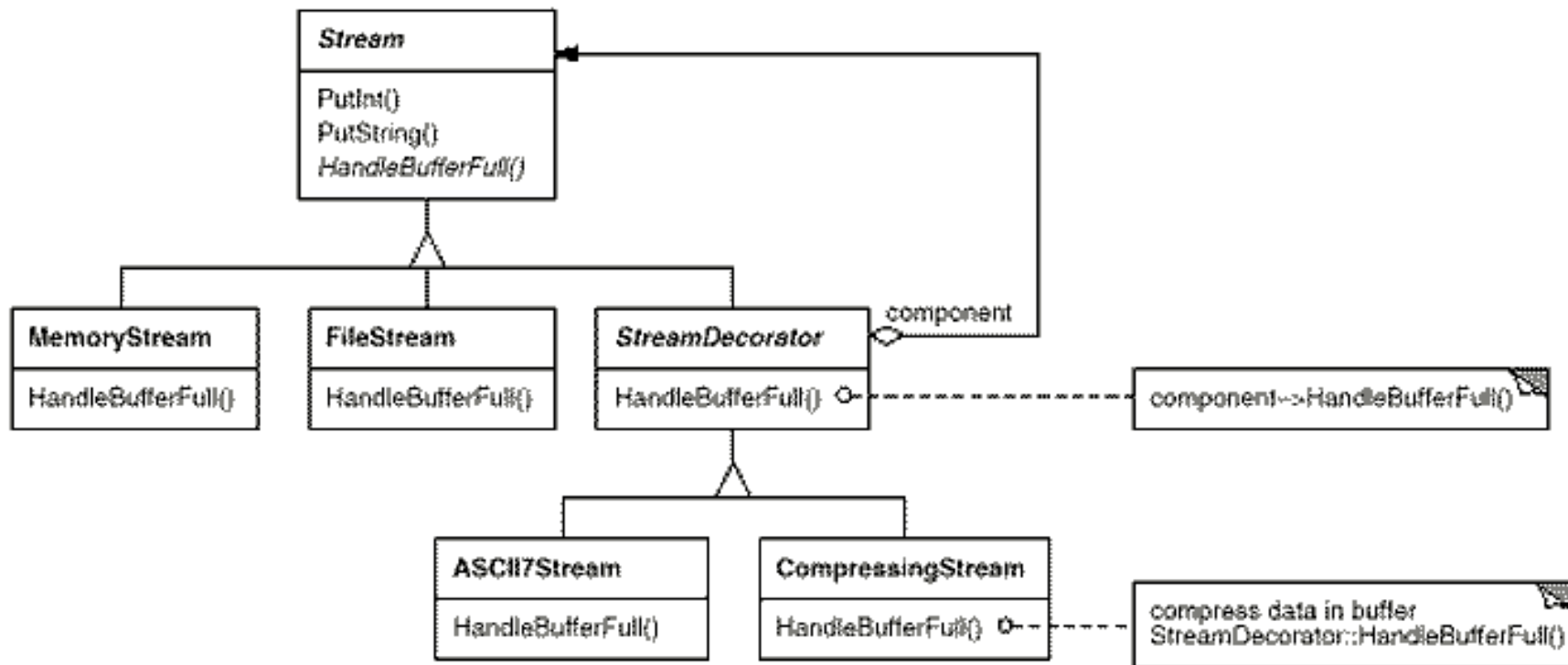
# Mẫu Decorator



# Mẫu Decorator



# Mẫu Decorator



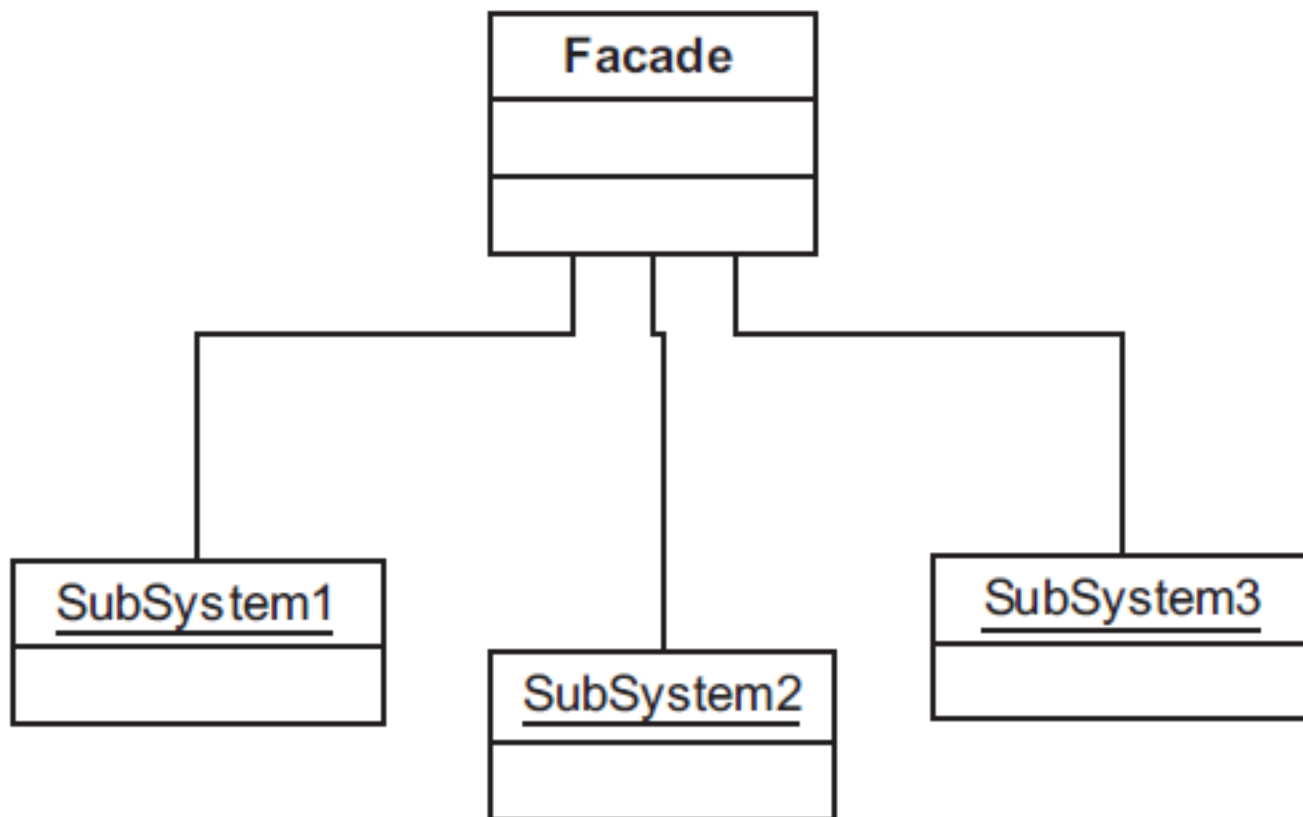
# Mẫu Decorator

- Thảo luận
  - ▣ Bản chất của mẫu Decorator?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Adapter pattern
    - Composite pattern
    - Visitor pattern

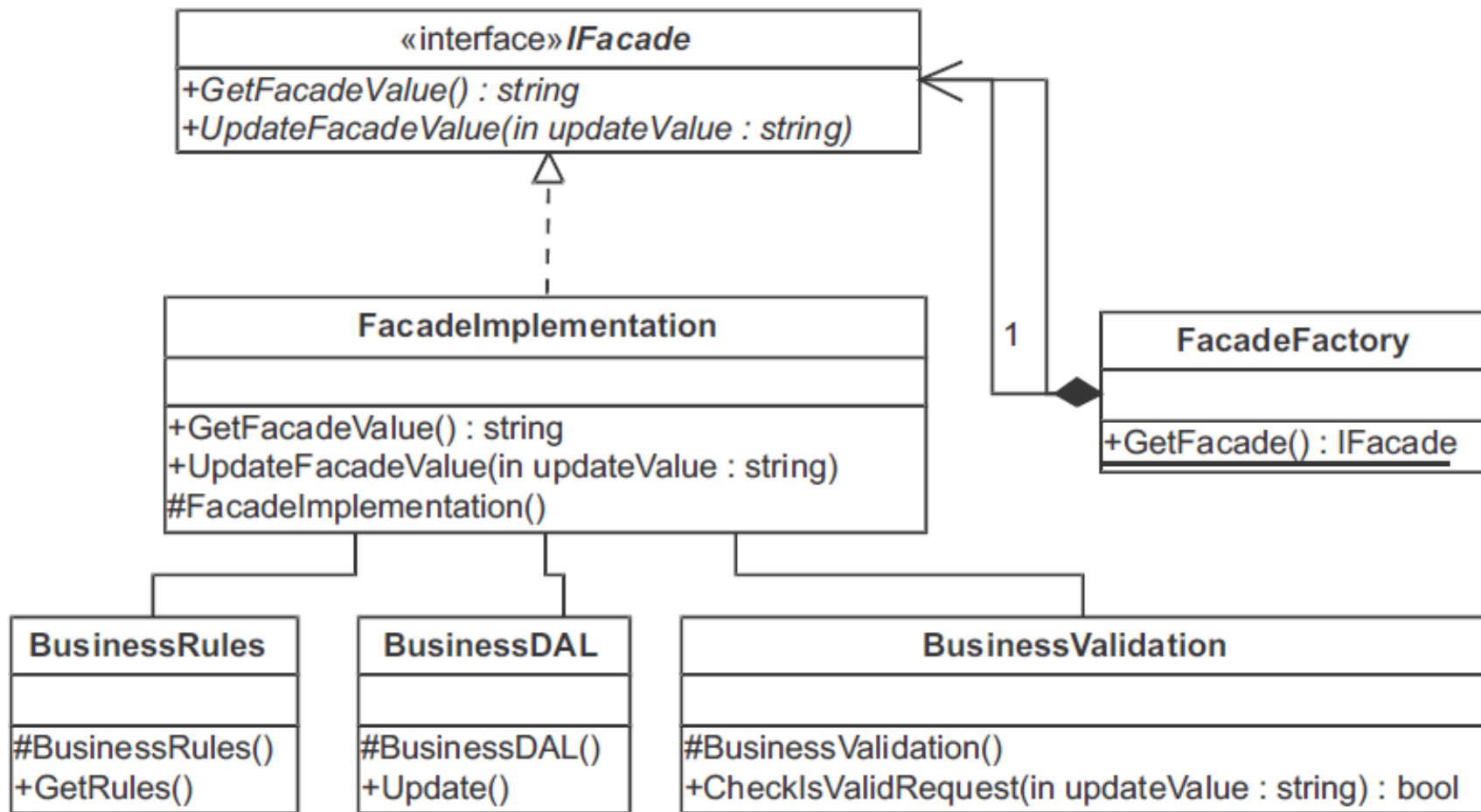




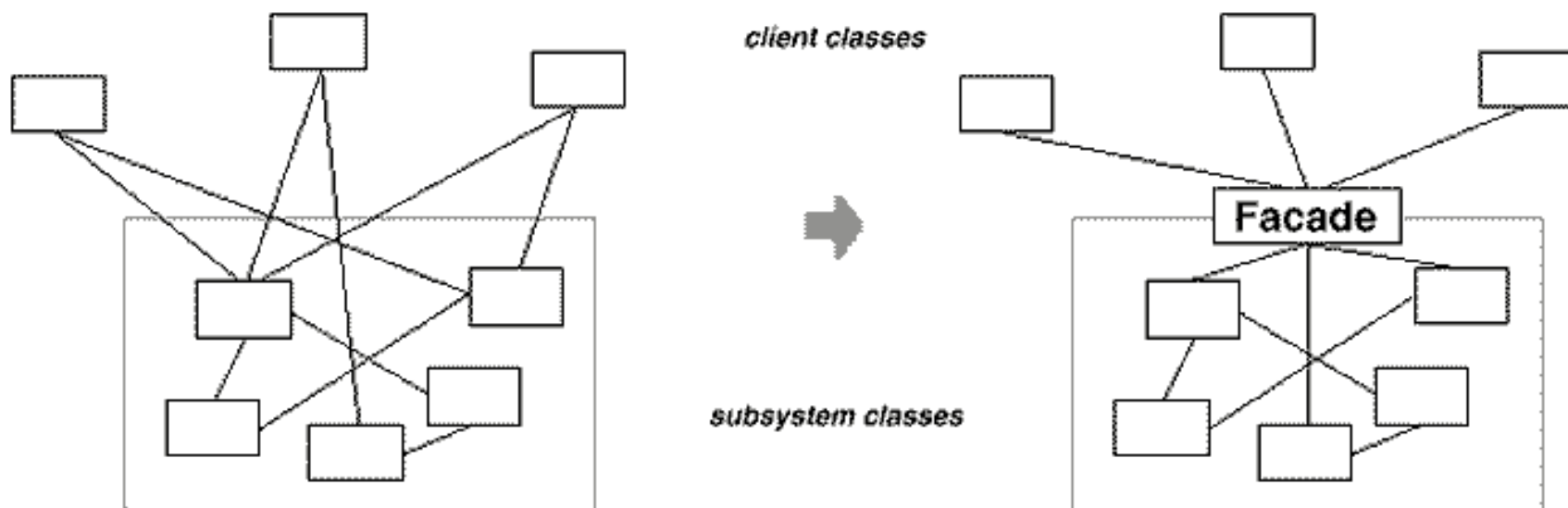
# Mẫu Facade



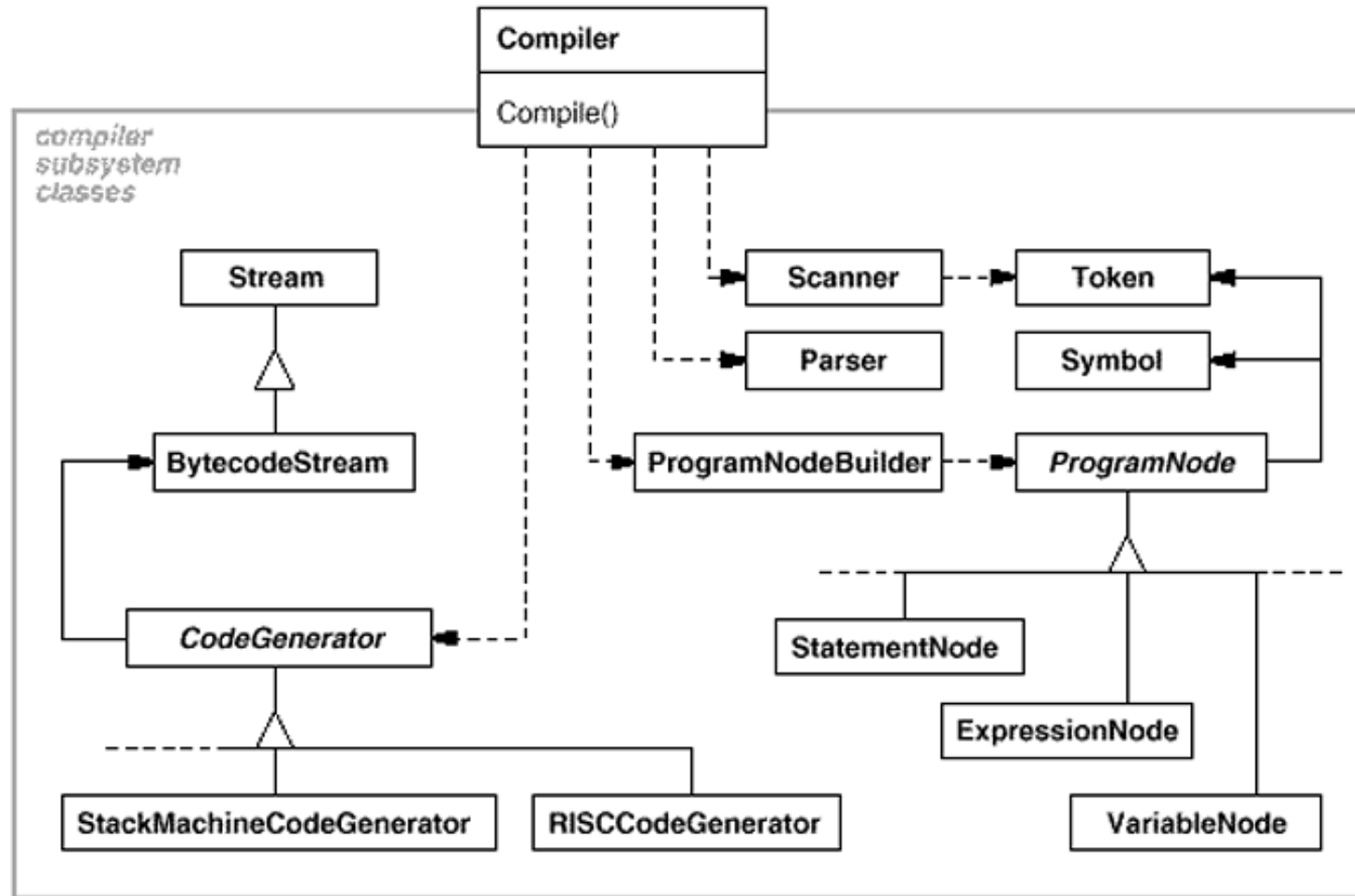
# Mẫu Facade



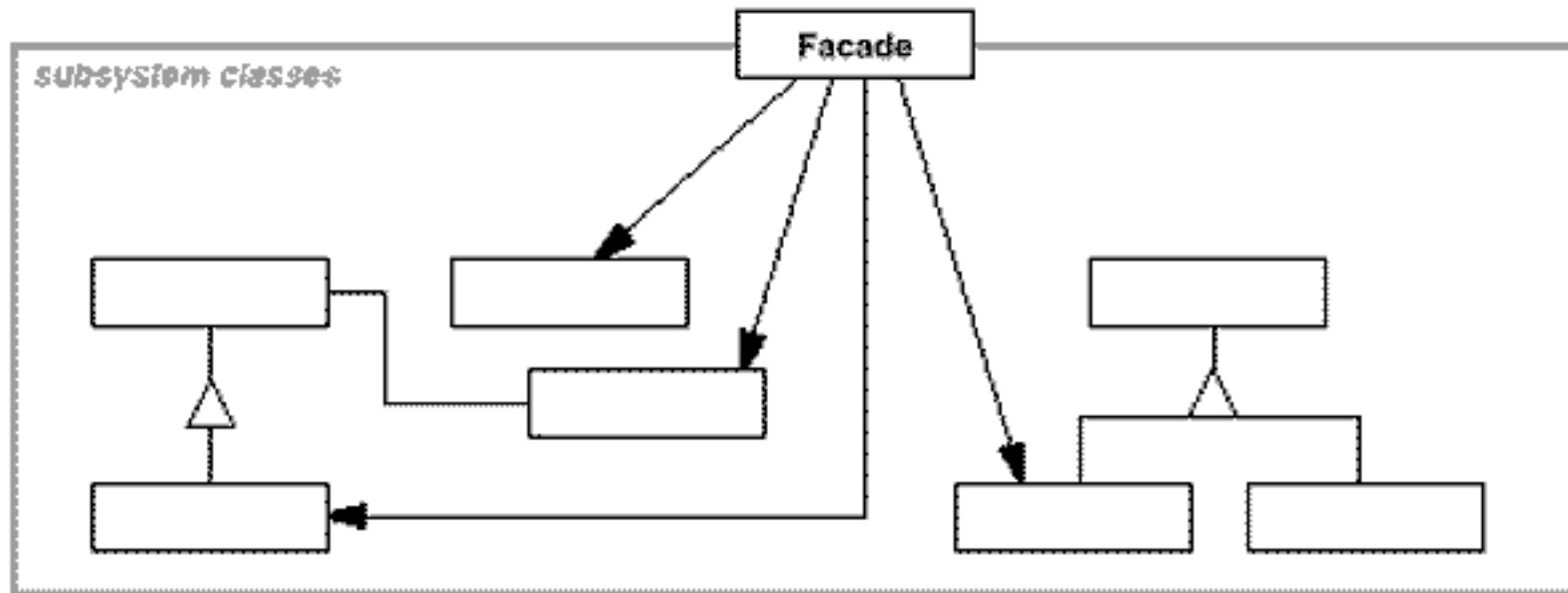
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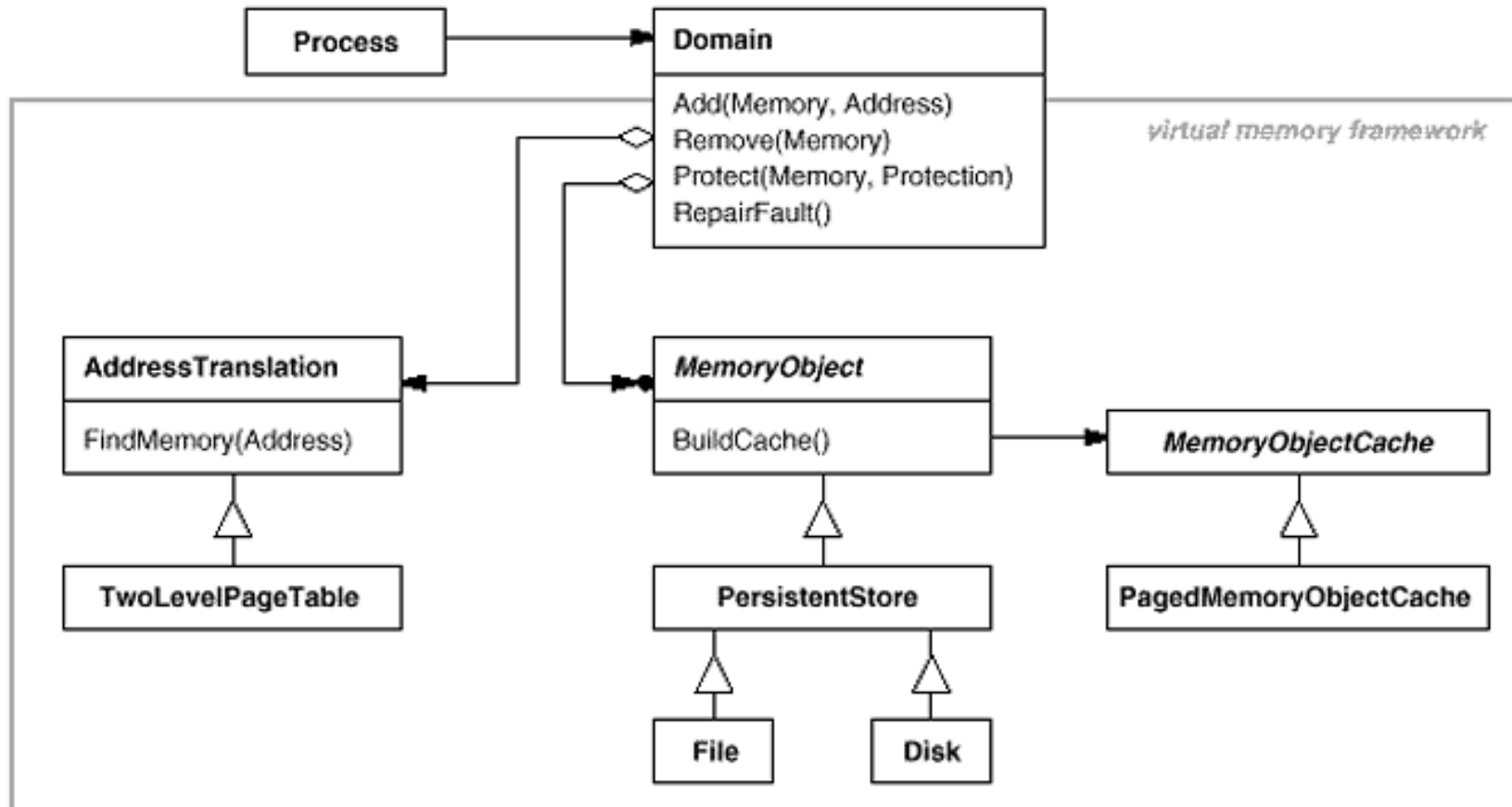
# Mẫu Facade



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# Mẫu Facade

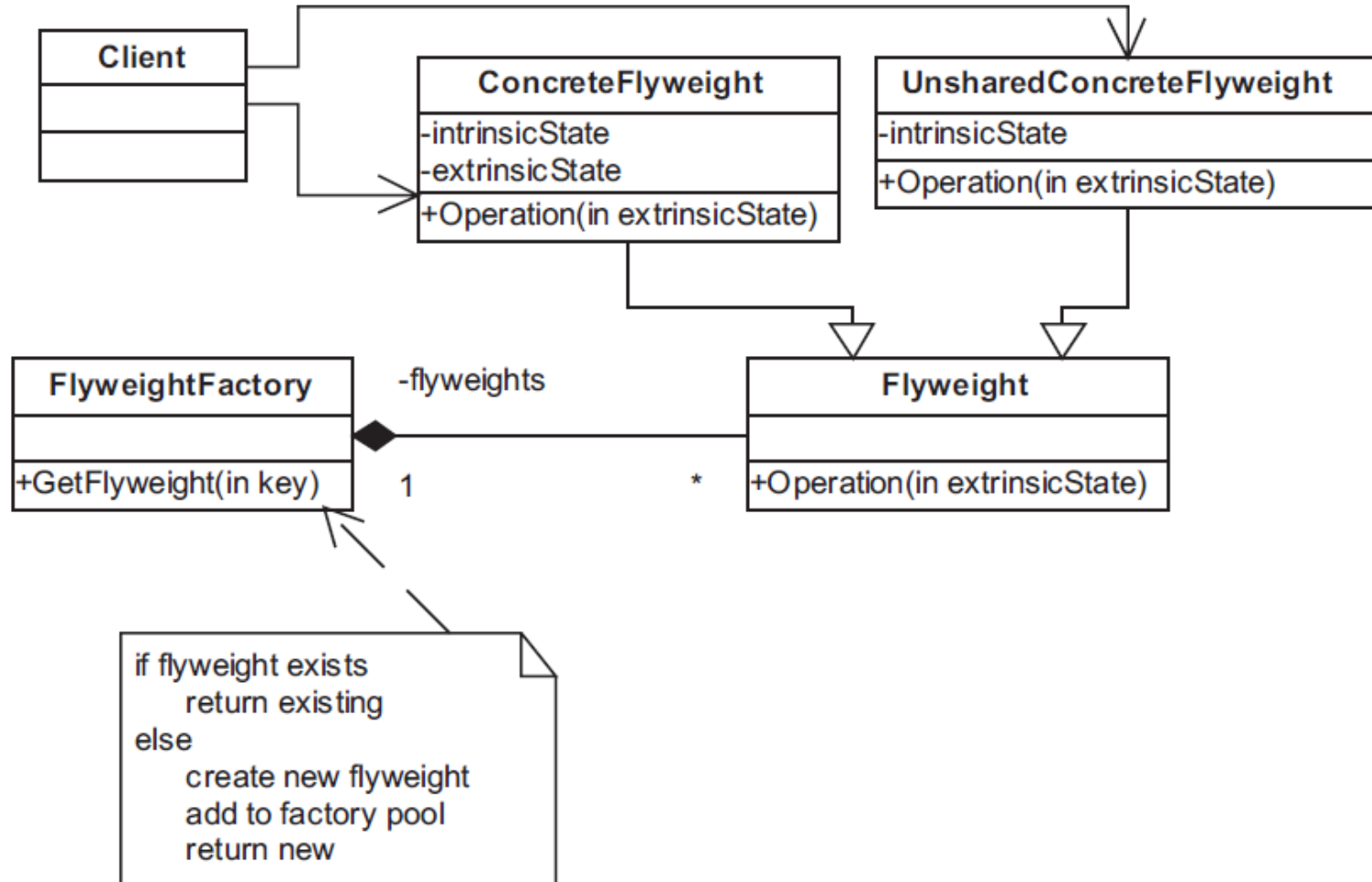


# Mẫu Facade

- Thảo luận
  - ▣ Bản chất của mẫu Facade?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Adapter pattern
    - Bridge pattern
    - Proxy pattern

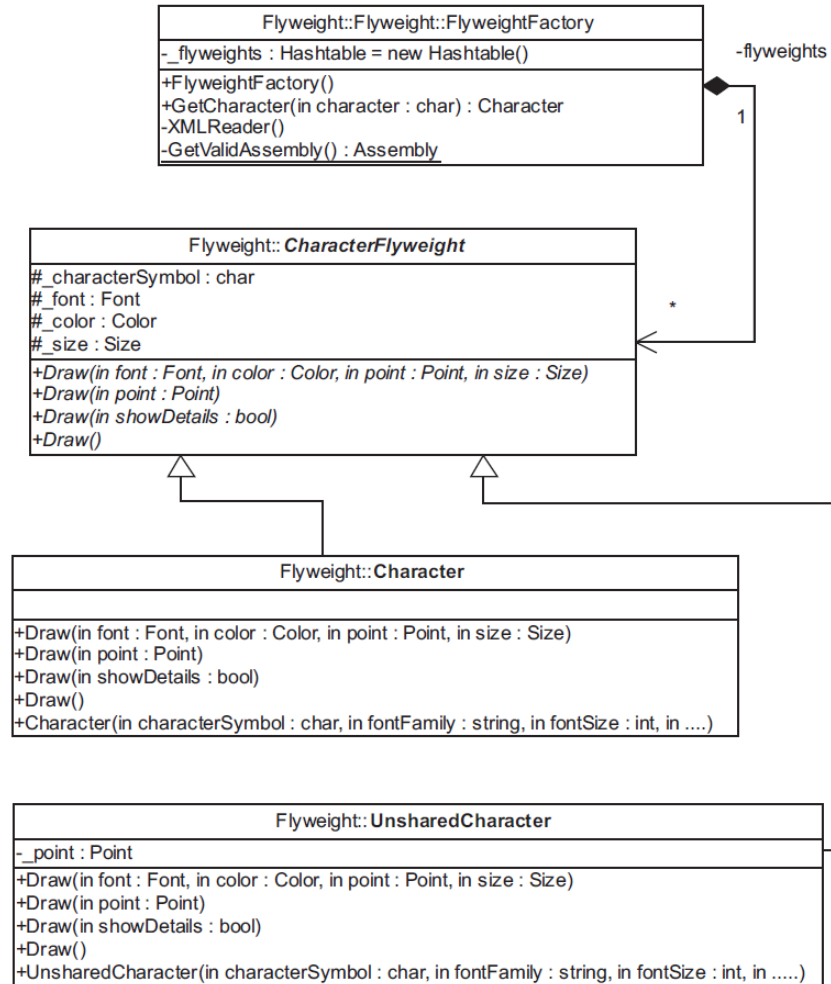


# Mẫu Flyweight



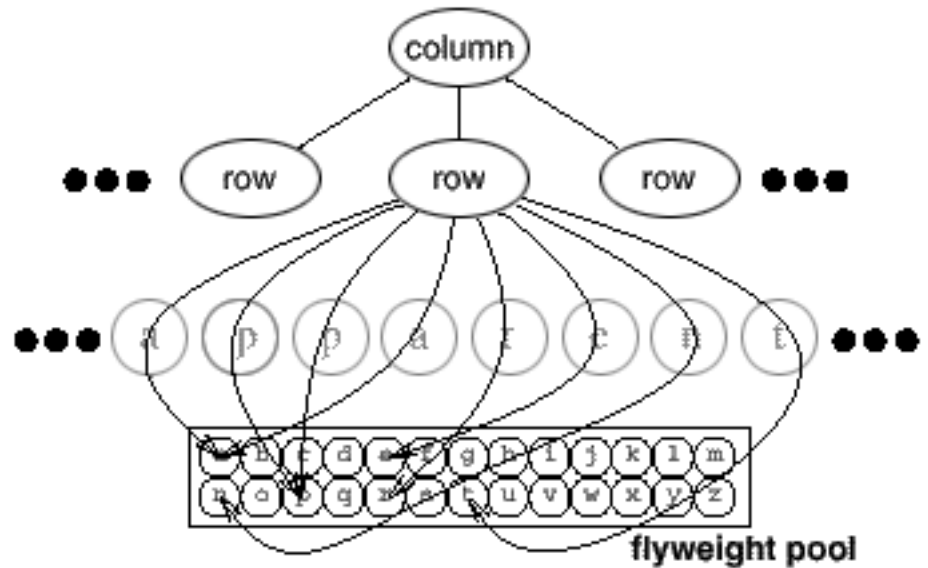
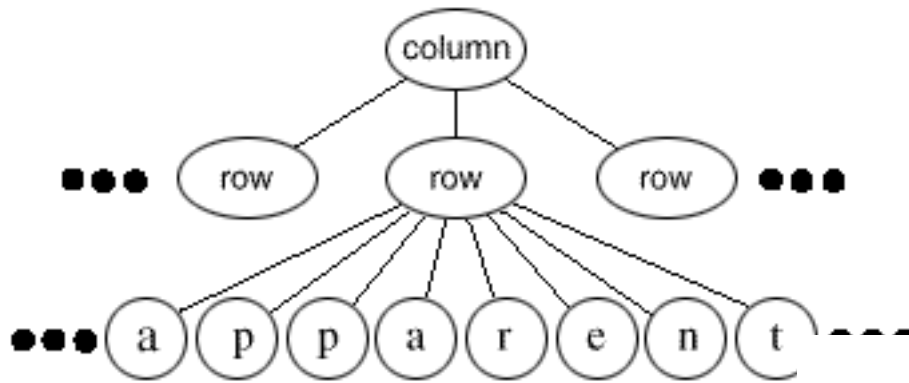


# Mẫu Flyweight

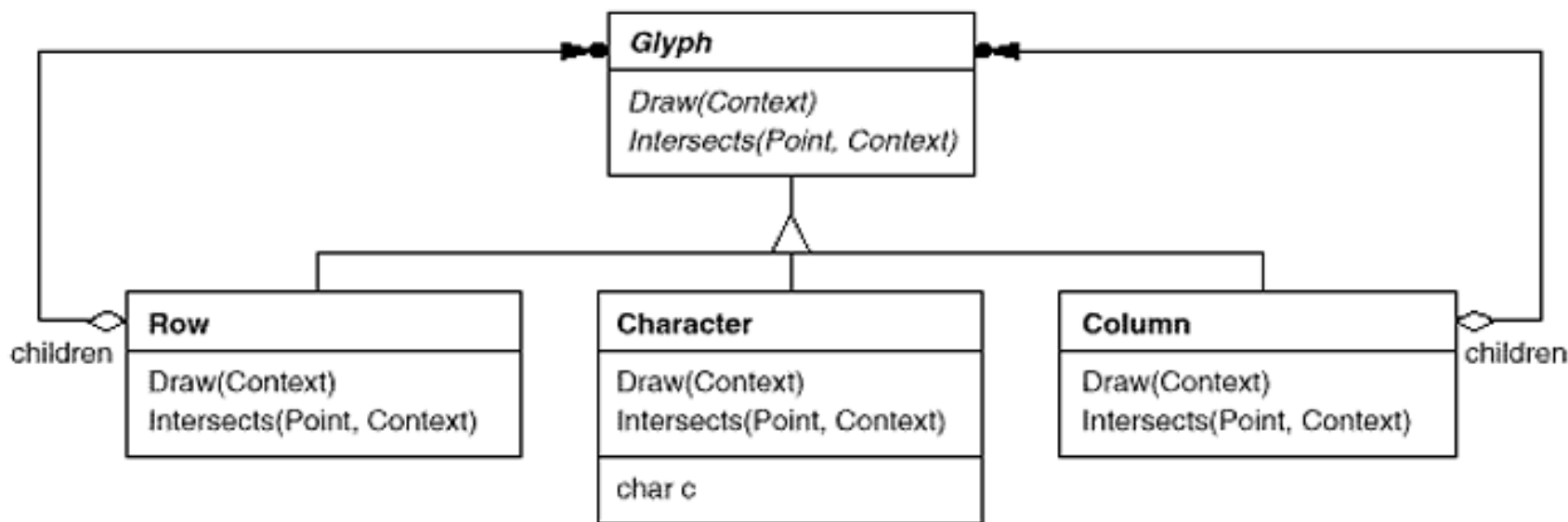




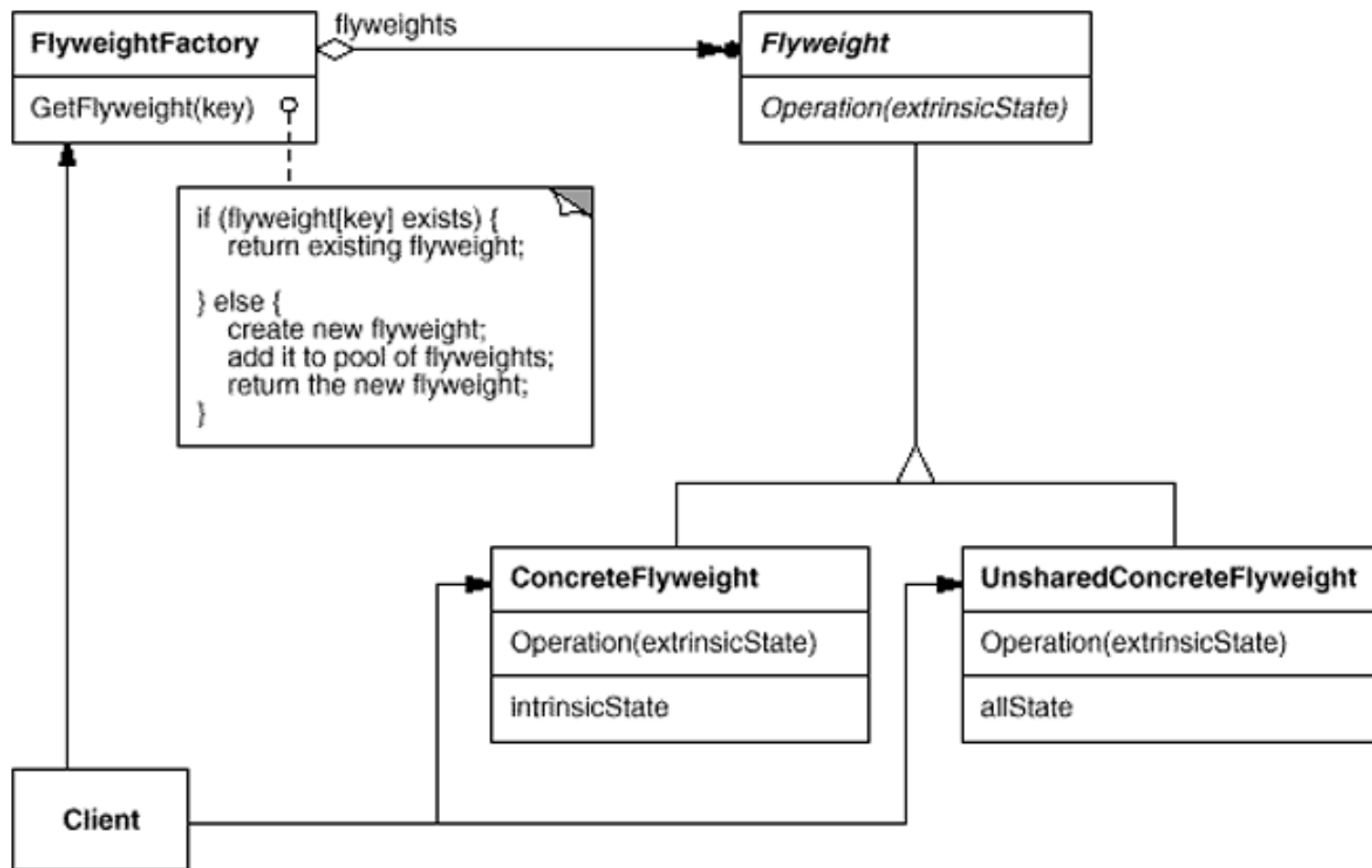
# Mẫu Flyweight



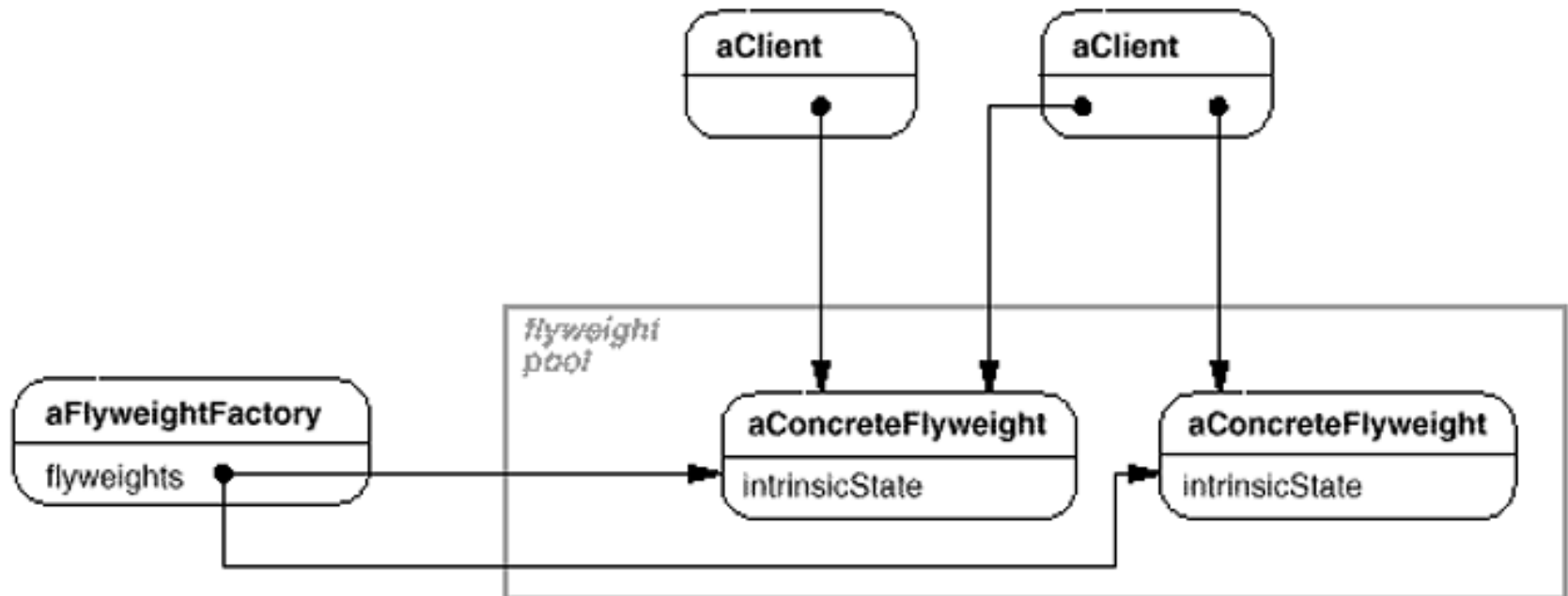
# Mẫu Flyweight



# Mẫu Flyweight



# Mẫu Flyweight

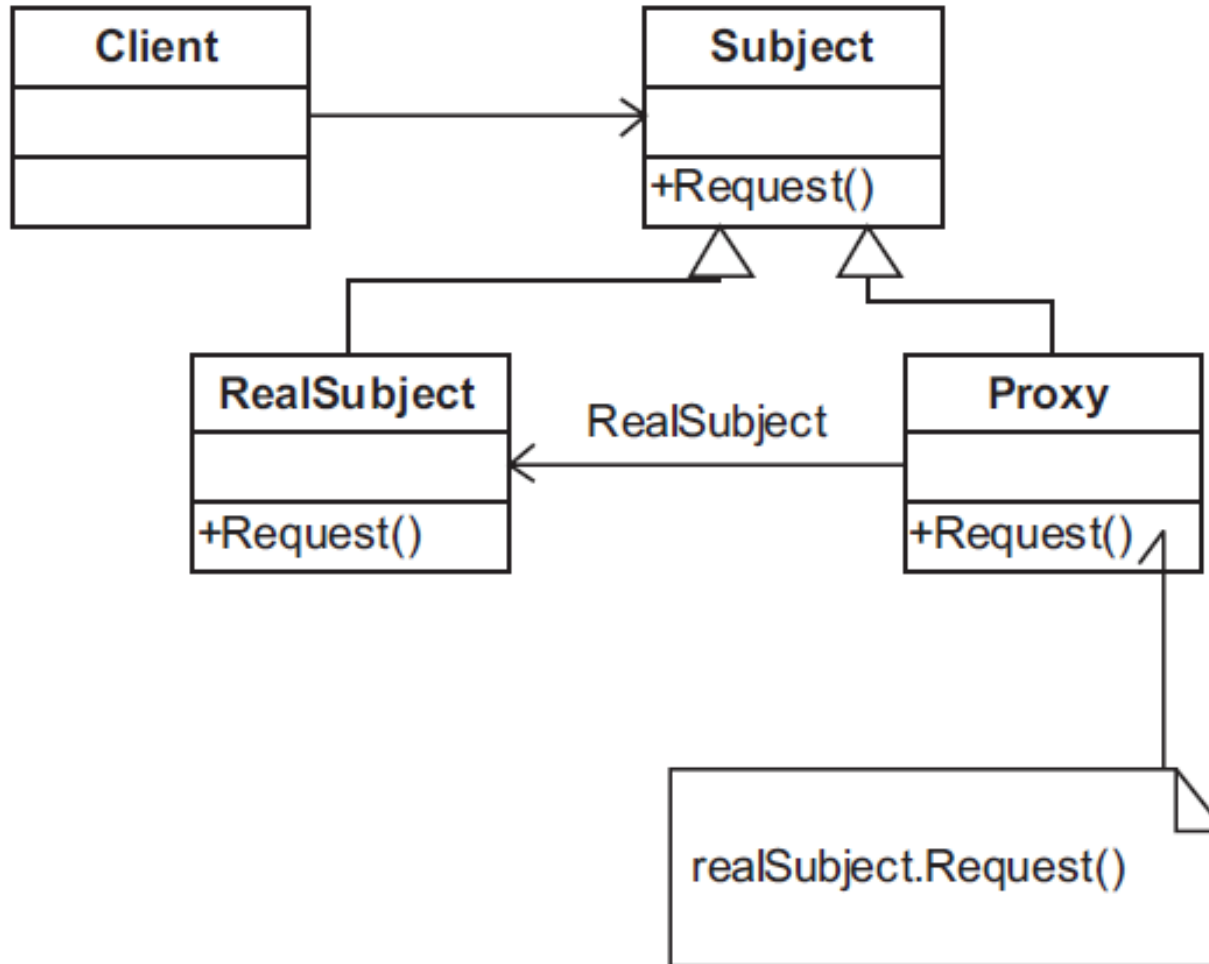


# Mẫu Flyweight

- Thảo luận
  - ▣ Bản chất của mẫu Flyweight?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Composite pattern
    - Factory pattern
    - Interpreter pattern
    - State pattern
    - Strategy pattern
    - Template pattern

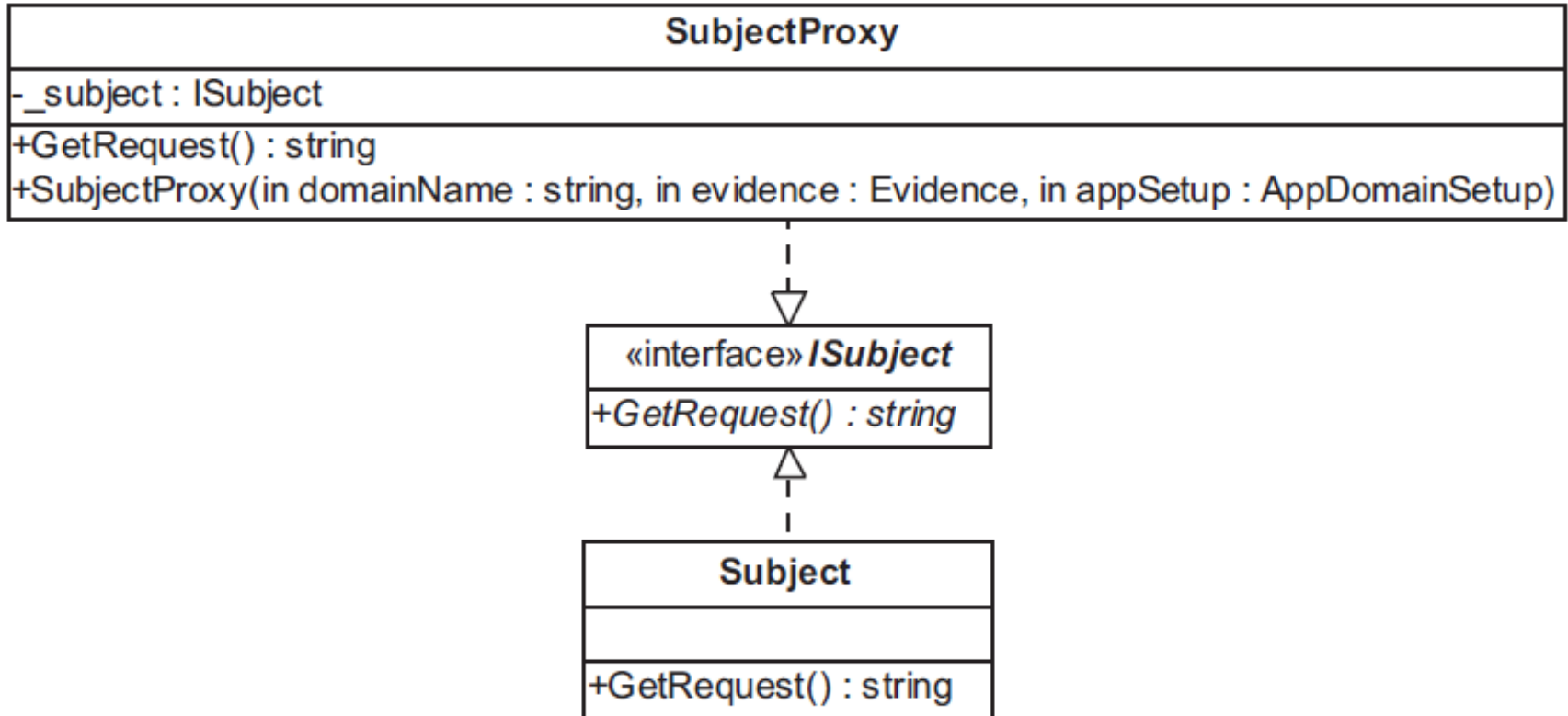


# Mẫu Proxy

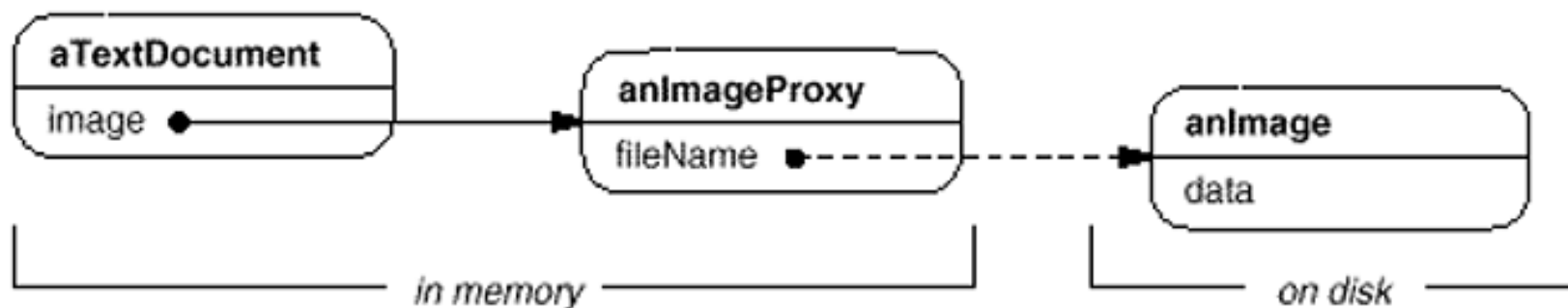




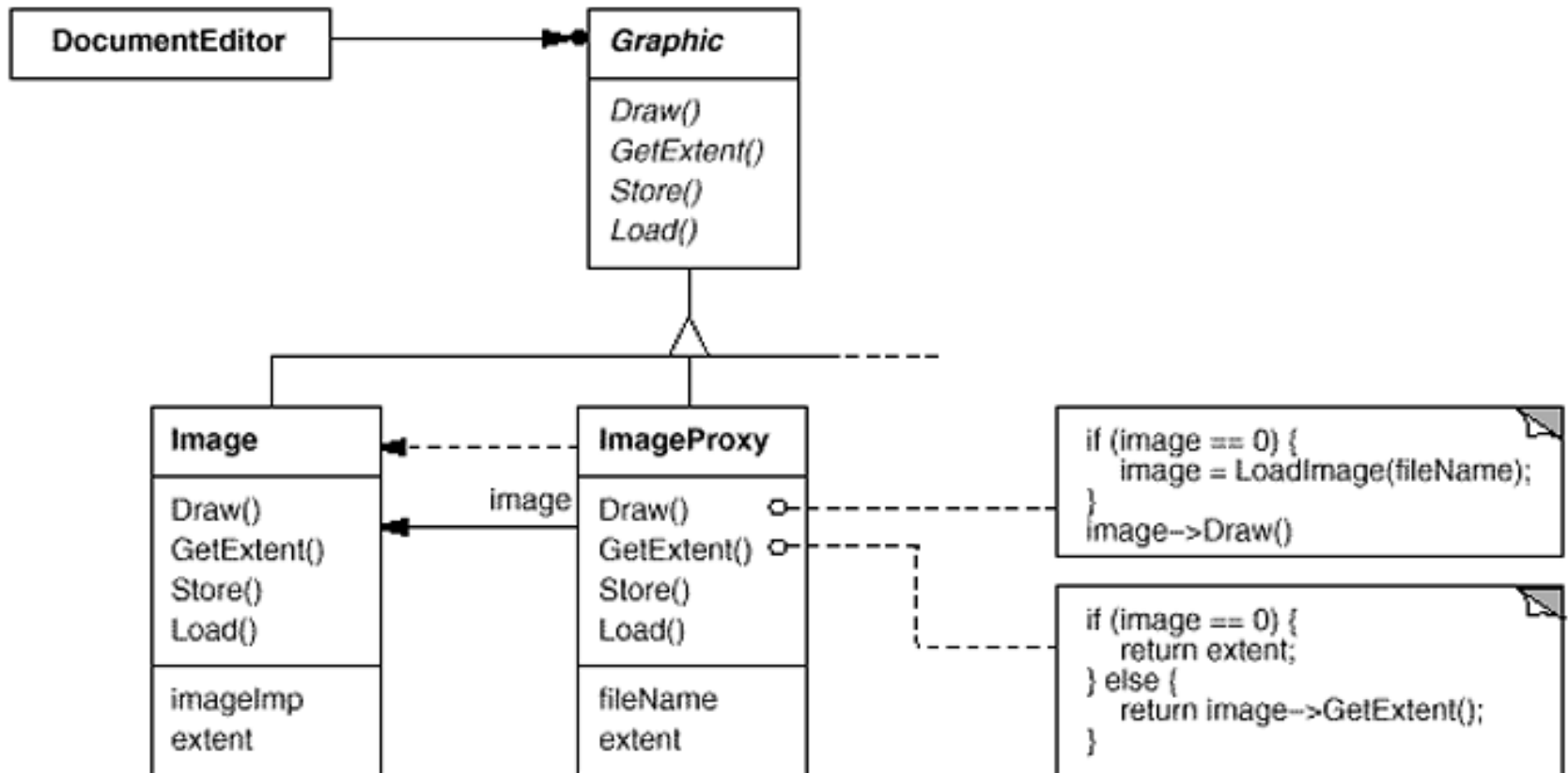
# Mẫu Proxy



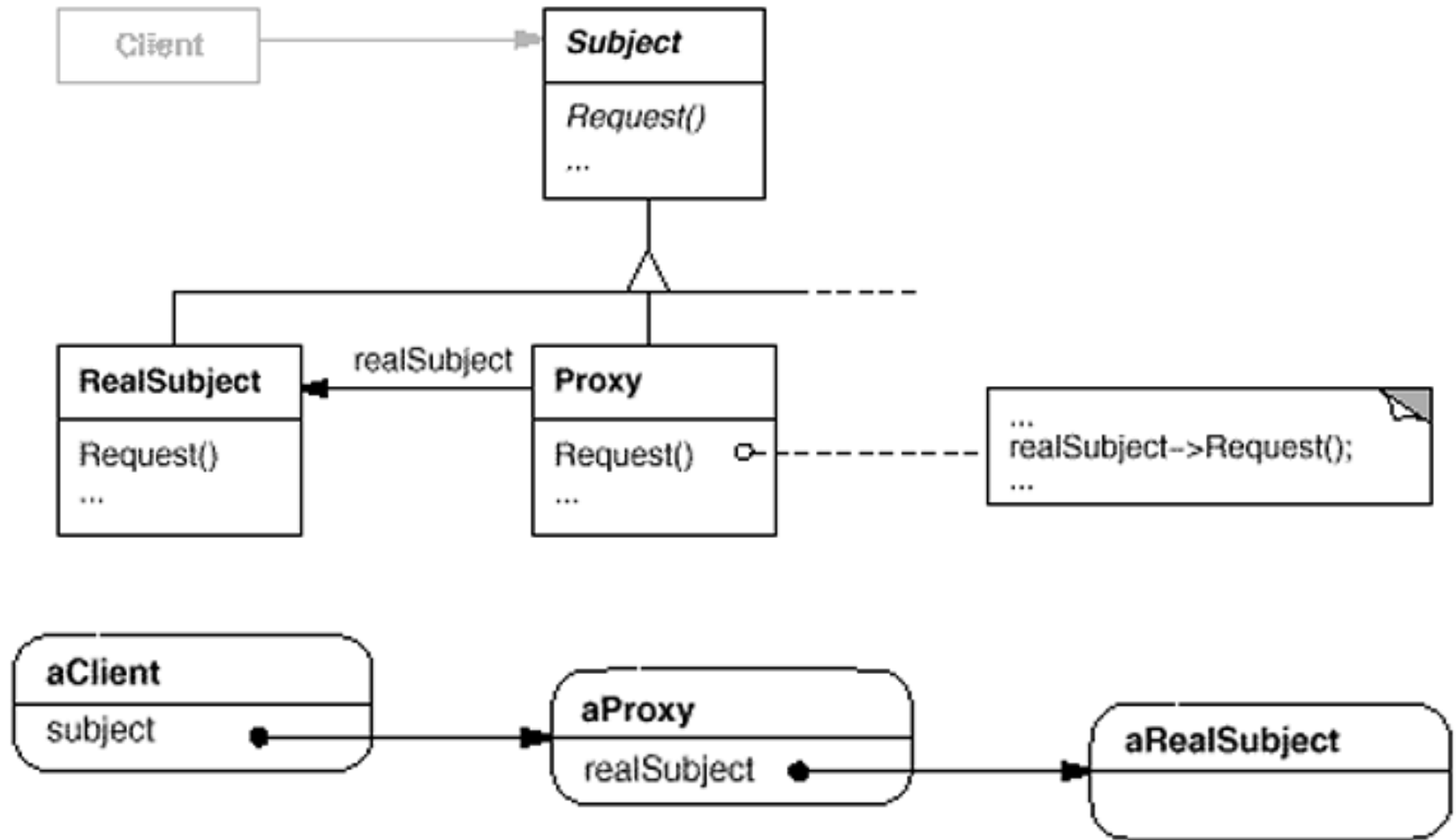
# Mẫu Proxy



# Mẫu Proxy



# Mẫu Proxy



# Mẫu Proxy

- Thảo luận
  - ▣ Bản chất của mẫu Proxy?
  - ▣ Những tình huống sử dụng
  - ▣ So sánh với các mẫu liên quan
    - Adapter pattern
    - Bridge pattern
    - Facade pattern

