Design Defects & Restructuring

Week 13: 26 Nov 2022

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Chain of Responsibility
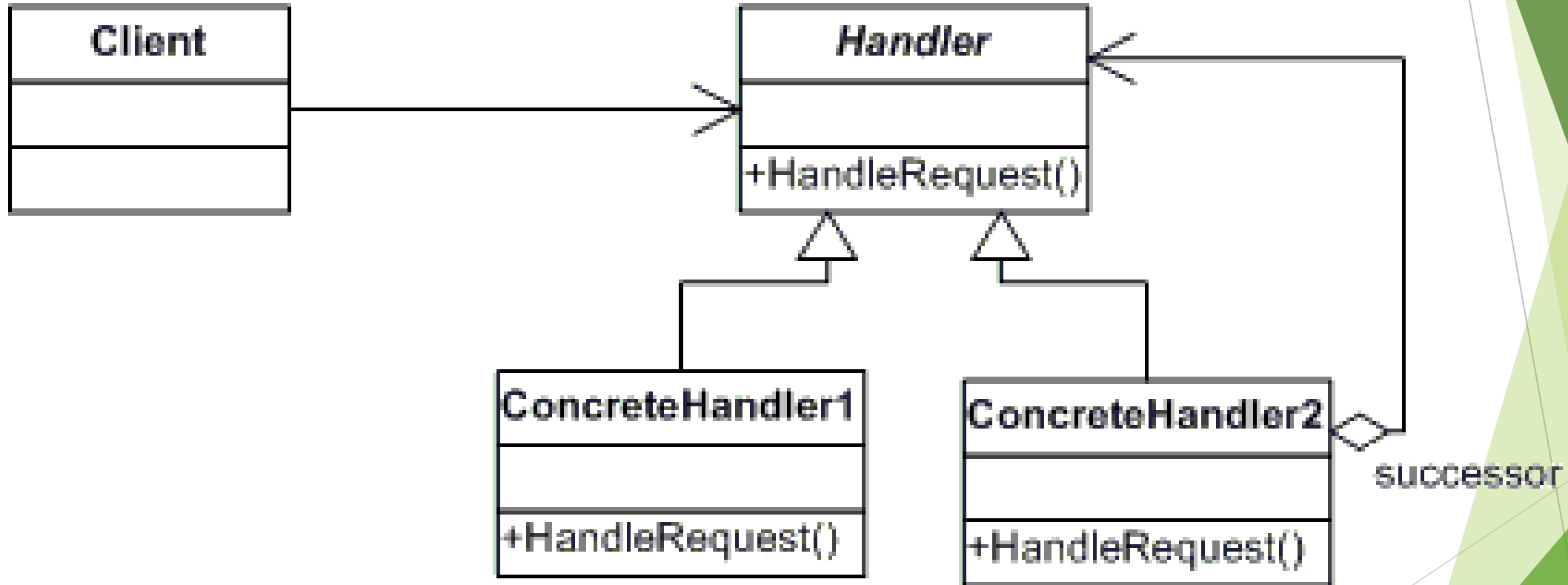
- Intent
    - Avoid coupling the sender of a request to its receiver by giving more than one object a chance to handle the request
    - Chain the receiving objects and pass the request along the chain until an object handles it
- Applicability
    - More than one object may handle a request, and the handler isn't known a priori
        - The handler should be ascertained automatically
    - You want to issue a request to one of several objects without specifying the receiver explicitly
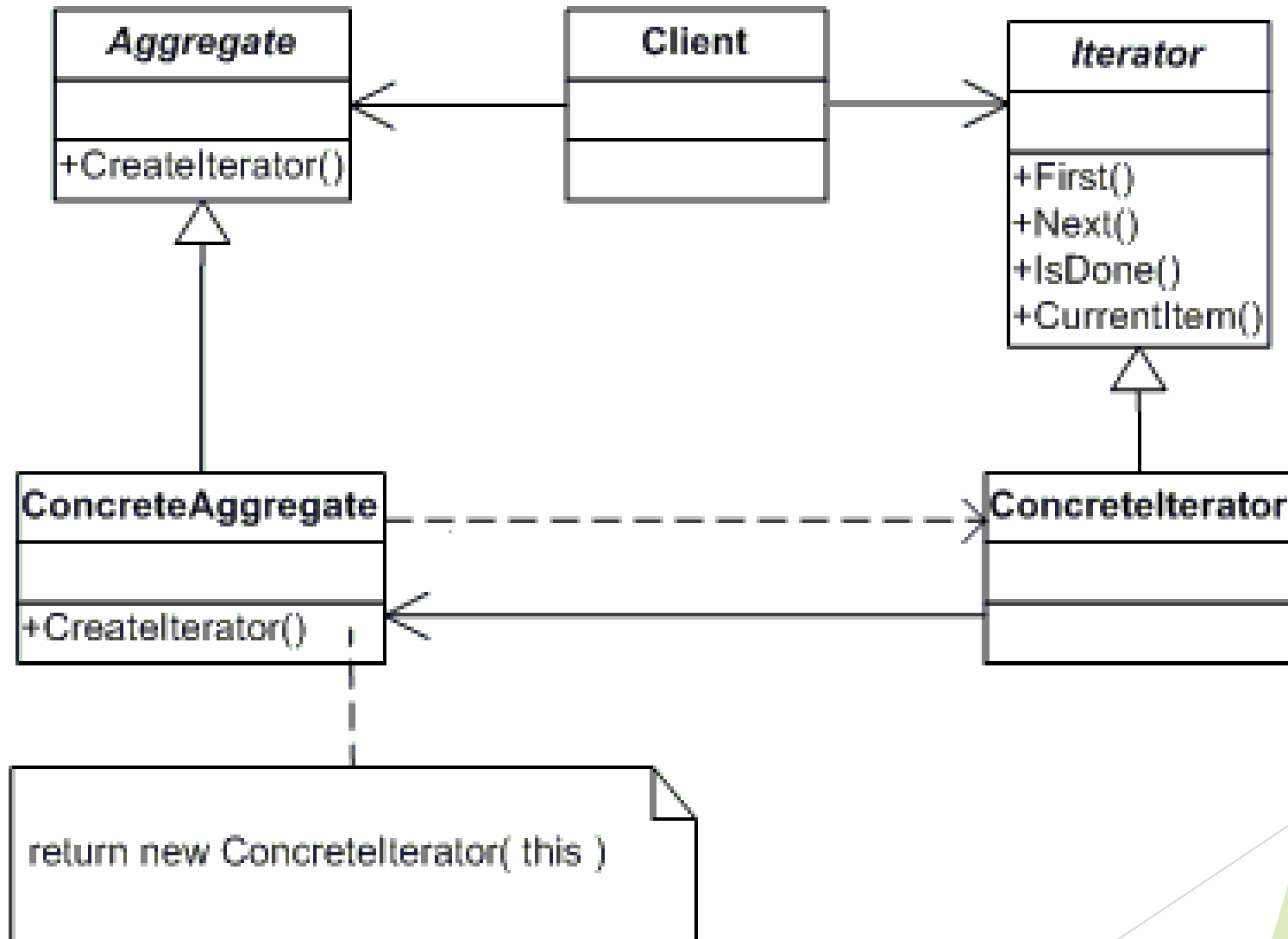   - The set of objects that can handle a request should be specified dynamically

Chain of Responsibility

Iterator

- Intent
  - Provide a way to access the elements of an aggregate object sequentially without exposing its underlying representation

- Applicability
  - To access an aggregate object's contents without exposing its internal representation
  - To support multiple traversals of aggregate objects
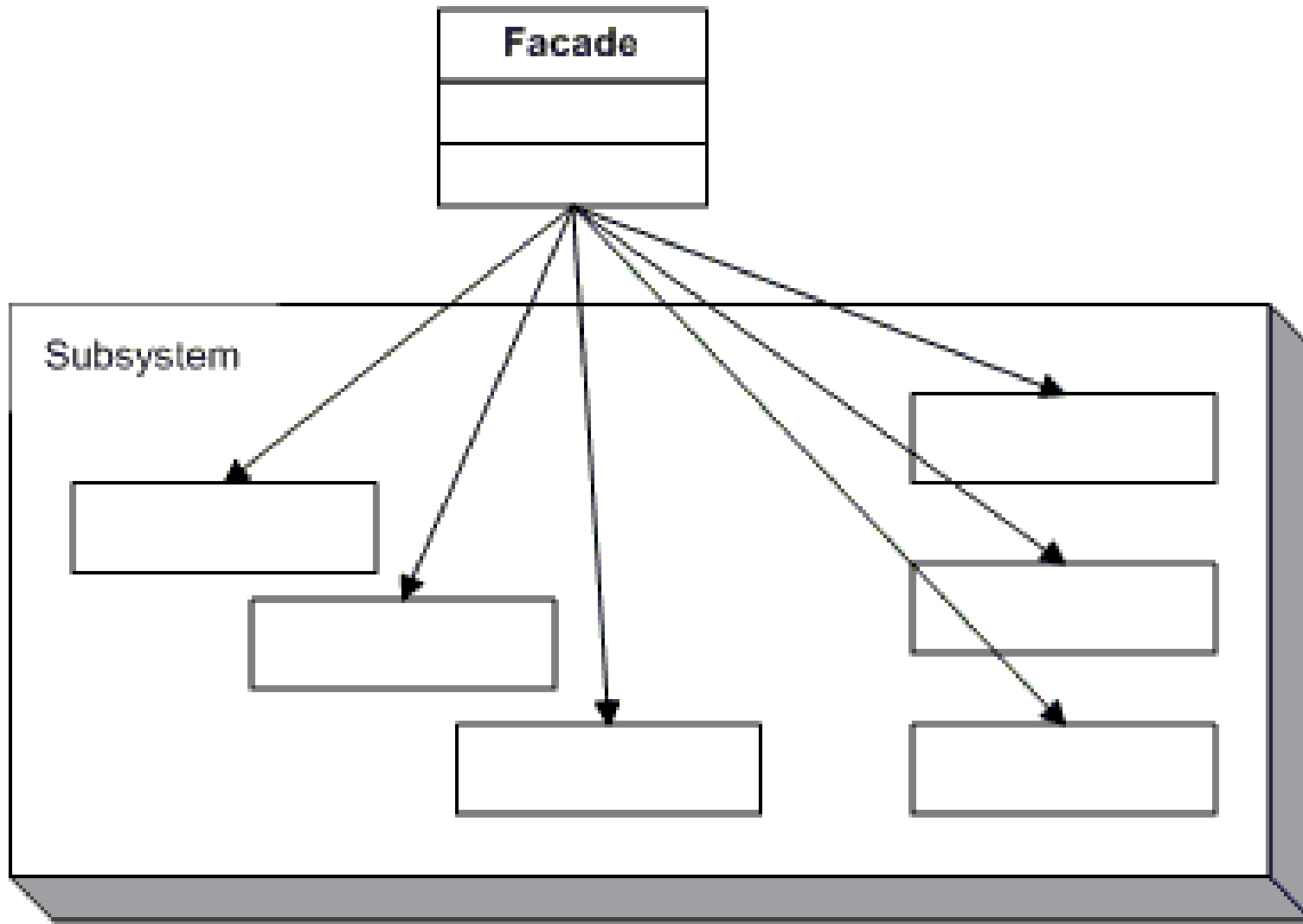 - To provide a uniform interface for traversing different aggregate structures (to support polymorphic iteration)

Iterator

Façade

- Intent
  - Provide a unified interface to a set of interfaces in a subsystem
  - Façade defines a higher-level interface that makes the subsystem easier to use
- Applicability
  - You want to provide a simple interface to a complex subsystem
  - There are many dependencies between clients and the implementation classes of an abstraction
    - Introduce a facade to decouple the subsystem from clients and other subsystems, thereby promoting subsystem independence and portability
  - You want to layer your subsystems

Façade

Test Cases in Refactoring

Refactoring Tools

- https://blog.ndepend.com/top-10-visual-studio-refactoring-tips/

- https://www.youtube.com/watch?v=qod8aFrGSRE

- https://www.youtube.com/watch?v=G1S6NZfFvOg

- https://www.youtube.com/watch?v=WX8Rgqjny5A

- https://www.youtube.com/watch?v=WCMb3V7nxms

Today's Exercise