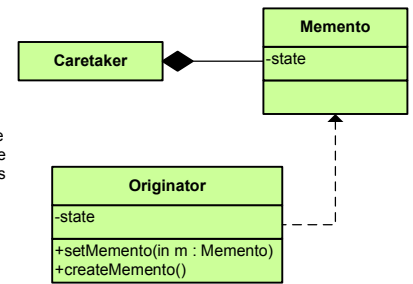


## Memento

**Type:** Behavioral

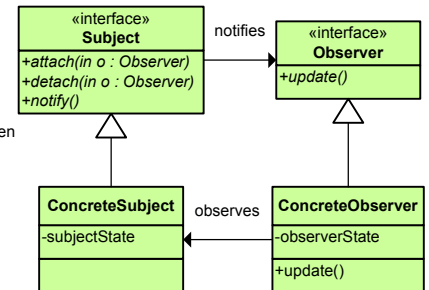
**What it is:**  
 Without violating encapsulation, capture and externalize an object's internal state so that the object can be restored to this state later.



## Observer

**Type:** Behavioral

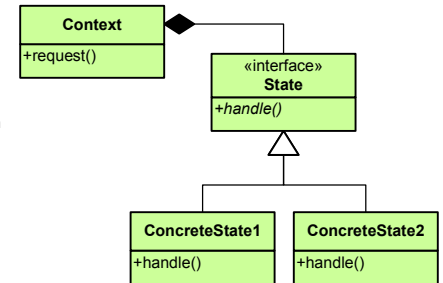
**What it is:**  
 Define a one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically.



## State

**Type:** Behavioral

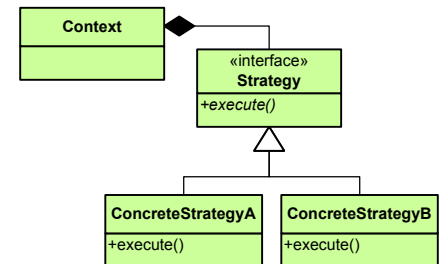
**What it is:**  
 Allow an object to alter its behavior when its internal state changes. The object will appear to change its class.



## Strategy

**Type:** Behavioral

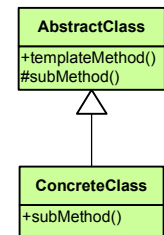
**What it is:**  
 Define a family of algorithms, encapsulate each one, and make them interchangeable. Lets the algorithm vary independently from clients that use it.



## Template Method

**Type:** Behavioral

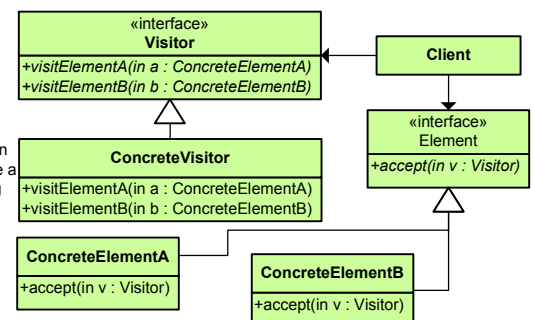
**What it is:**  
 Define the skeleton of an algorithm in an operation, deferring some steps to subclasses. Lets subclasses redefine certain steps of an algorithm without changing the algorithm's structure.

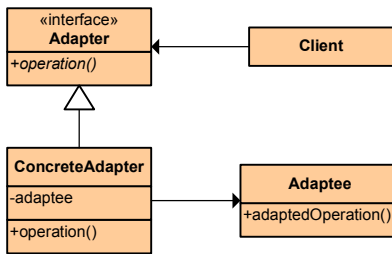


## Visitor

**Type:** Behavioral

**What it is:**  
 Represent an operation to be performed on the elements of an object structure. Lets you define a new operation without changing the classes of the elements on which it operates.

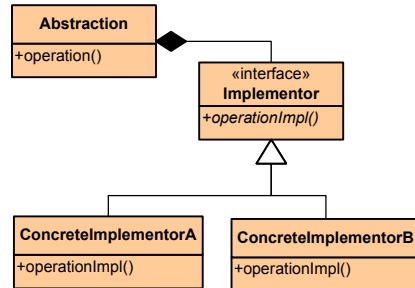




## Adapter

Type: Structural

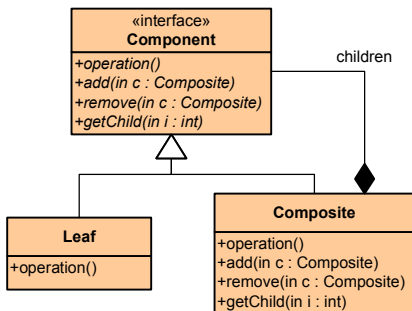
**What it is:**  
Convert the interface of a class into another interface clients expect. Lets classes work together that couldn't otherwise because of incompatible interfaces.



## Bridge

Type: Structural

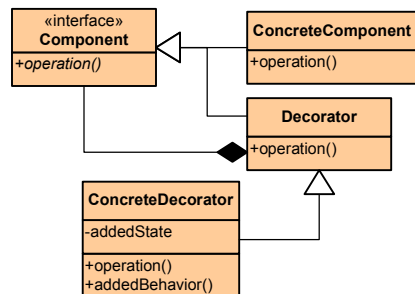
**What it is:**  
Decouple an abstraction from its implementation so that the two can vary independently.



## Composite

Type: Structural

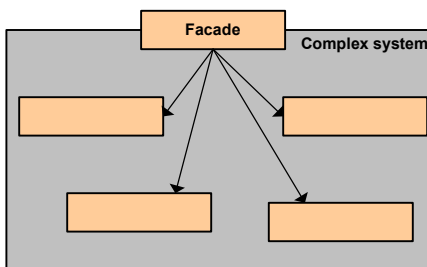
**What it is:**  
Compose objects into tree structures to represent part-whole hierarchies. Lets clients treat individual objects and compositions of objects uniformly.



## Decorator

Type: Structural

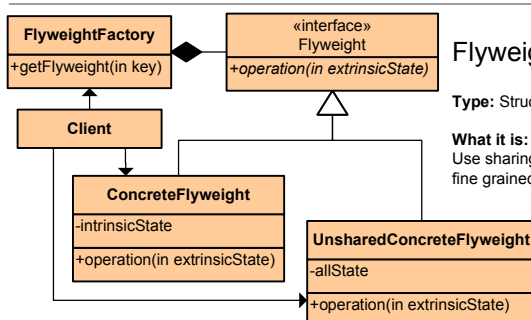
**What it is:**  
Attach additional responsibilities to an object dynamically. Provide a flexible alternative to sub-classing for extending functionality.



## Facade

Type: Structural

**What it is:**  
Provide a unified interface to a set of interfaces in a subsystem. Defines a high-level interface that makes the subsystem easier to use.



## Flyweight

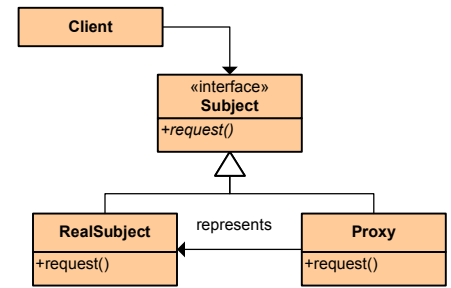
Type: Structural

**What it is:**  
Use sharing to support large numbers of fine grained objects efficiently.

## Proxy

Type: Structural

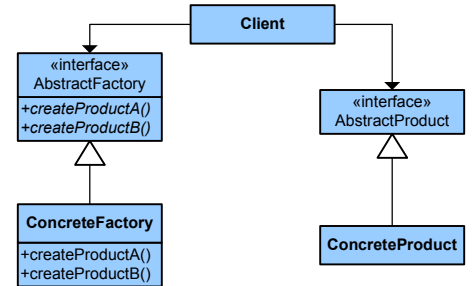
**What it is:**  
Provide a surrogate or placeholder for another object to control access to it.



## Abstract Factory

Type: Creational

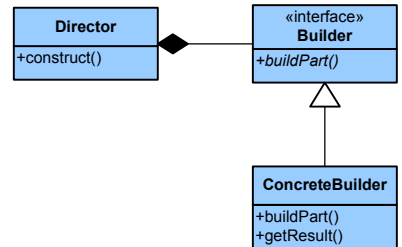
**What it is:**  
Provides an interface for creating families of related or dependent objects without specifying their concrete class.



## Builder

Type: Creational

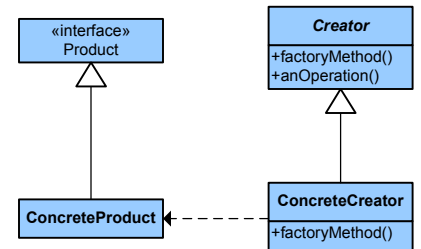
**What it is:**  
Separate the construction of a complex object from its representing so that the same construction process can create different representations.



## Factory Method

Type: Creational

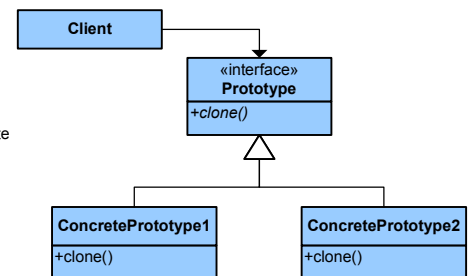
**What it is:**  
Define an interface for creating an object, but let subclasses decide which class to instantiate. Lets a class defer instantiation to subclasses.



## Prototype

Type: Creational

**What it is:**  
Specify the kinds of objects to create using a prototypical instance, and create new objects by copying this prototype.



## Singleton

Type: Creational

**What it is:**  
Ensure a class only has one instance and provide a global point of access to it.

