

Software Analysis and Design

CSE 460

Observer Design Pattern

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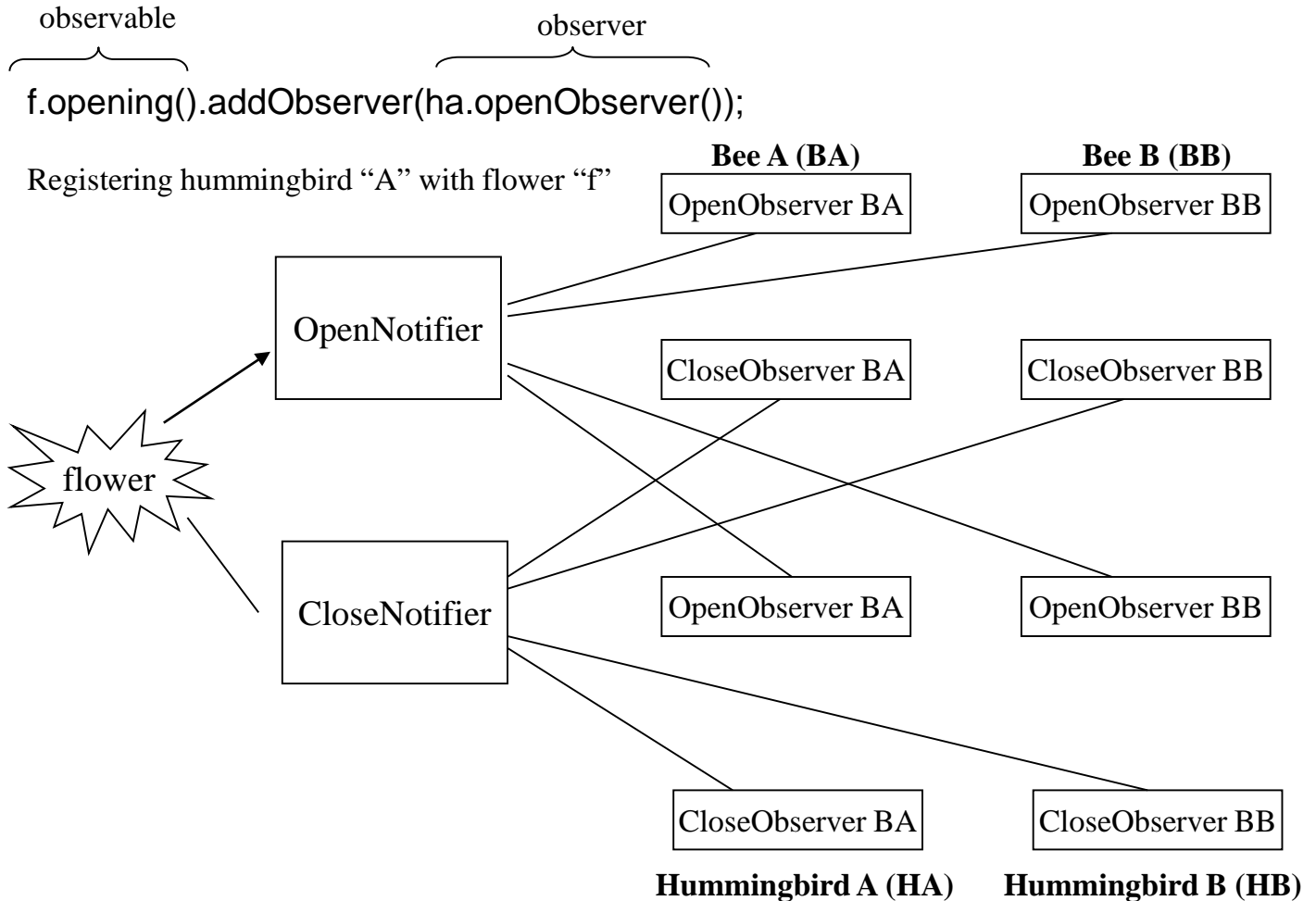
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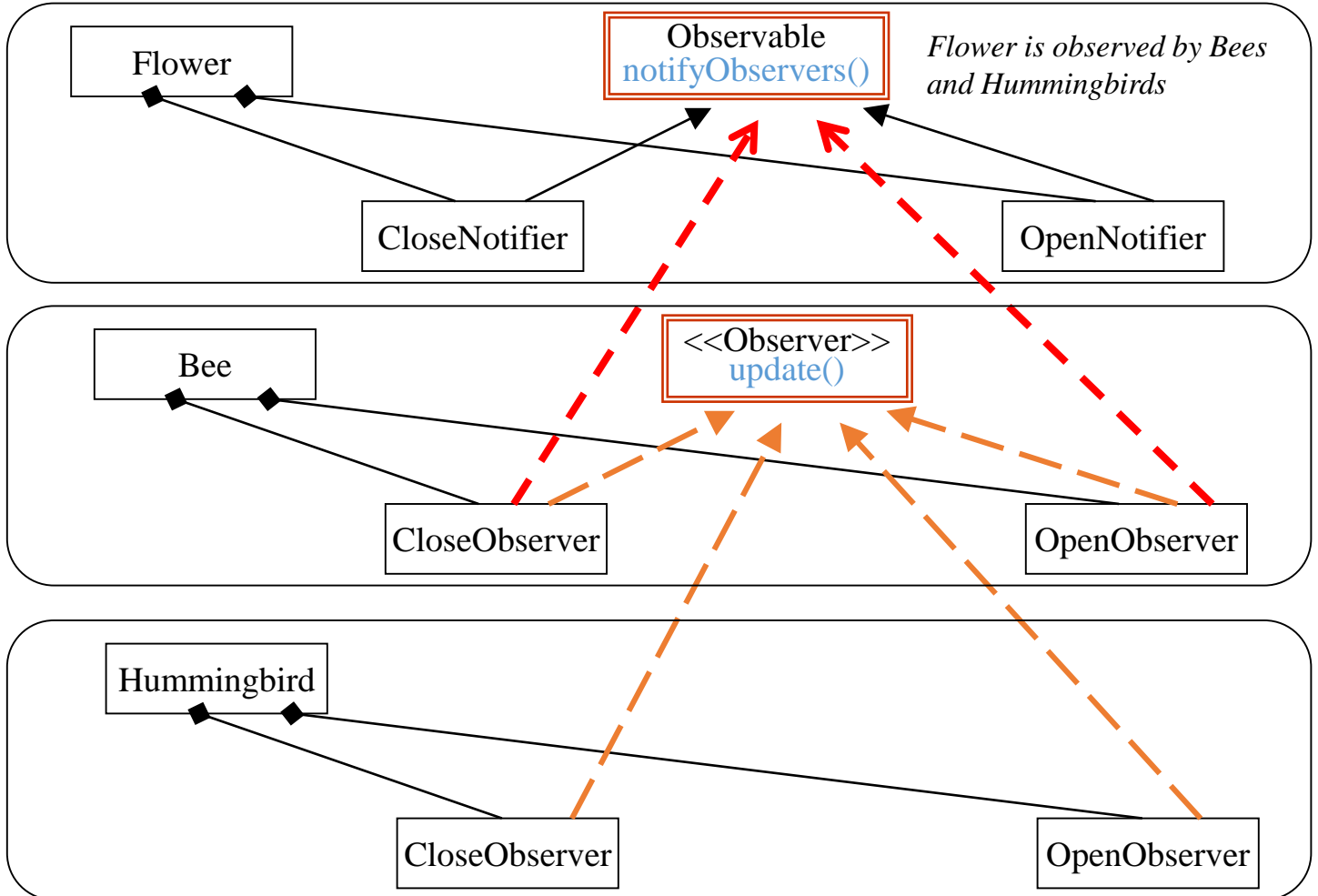
Ira A. Fulton School of Engineering

Arizona State University, Tempe, AZ, USA

Observer Pattern Concept



Observer Pattern Class Diagram



Linking Observer with Observable

Registering hummingbird A's "open observer" with flower "f"; specific for when HA is willing to get updates from observable

observable observer

f.opening().addObserver(ha.openObserver());
f.opening().addObserver(ha.closeObserver());

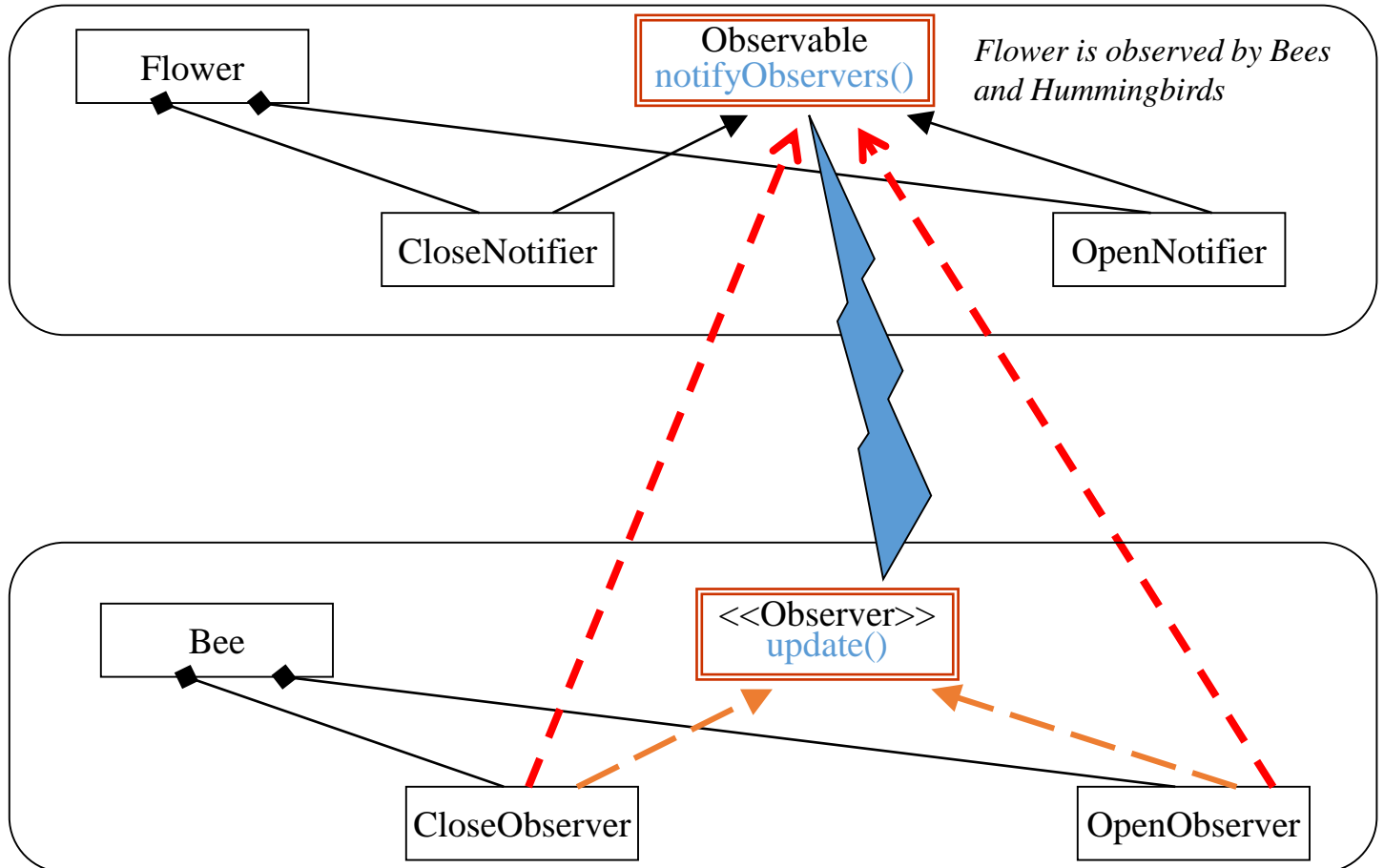
Preventing an observer from getting notified

observable observer

f.opening().deleteObserver(ha.openObserver());
f.opening().deleteObserver(hb.closeObserver());

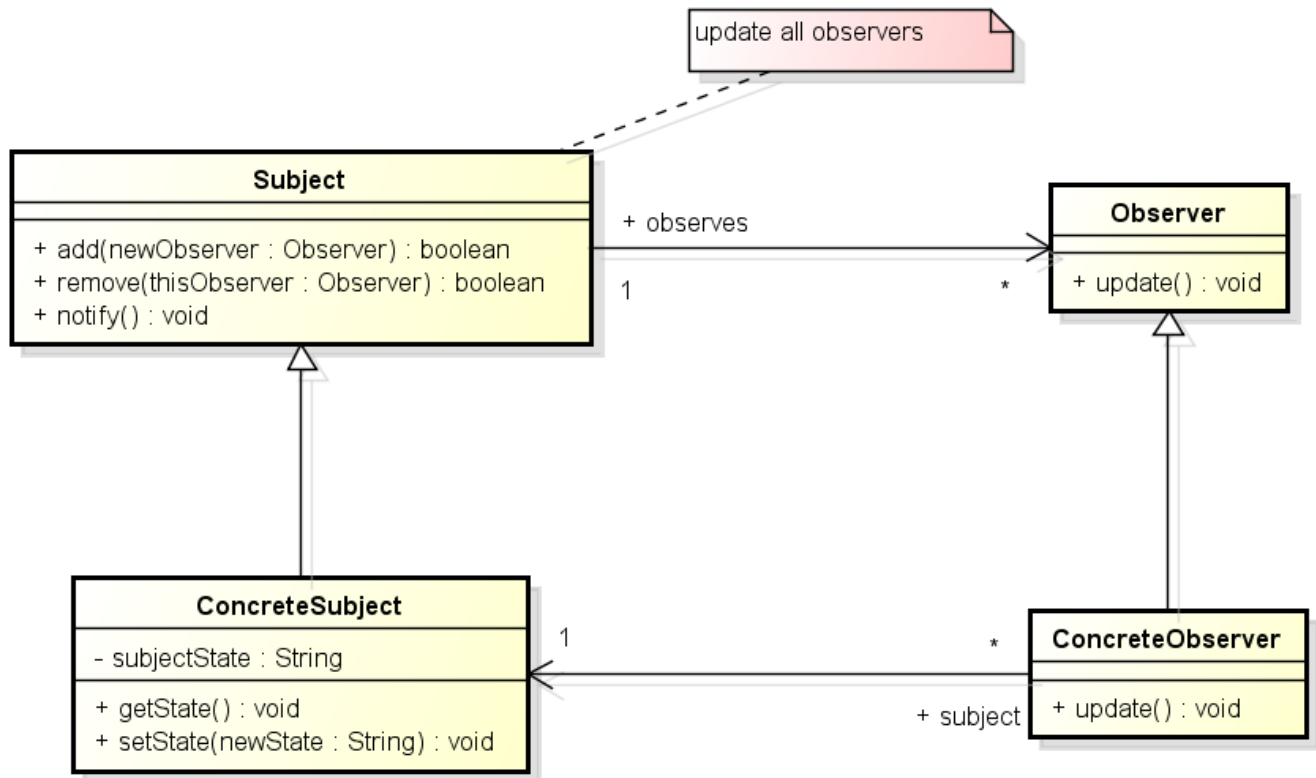
"Registration" style Callback is used

Observer Pattern Class Diagram



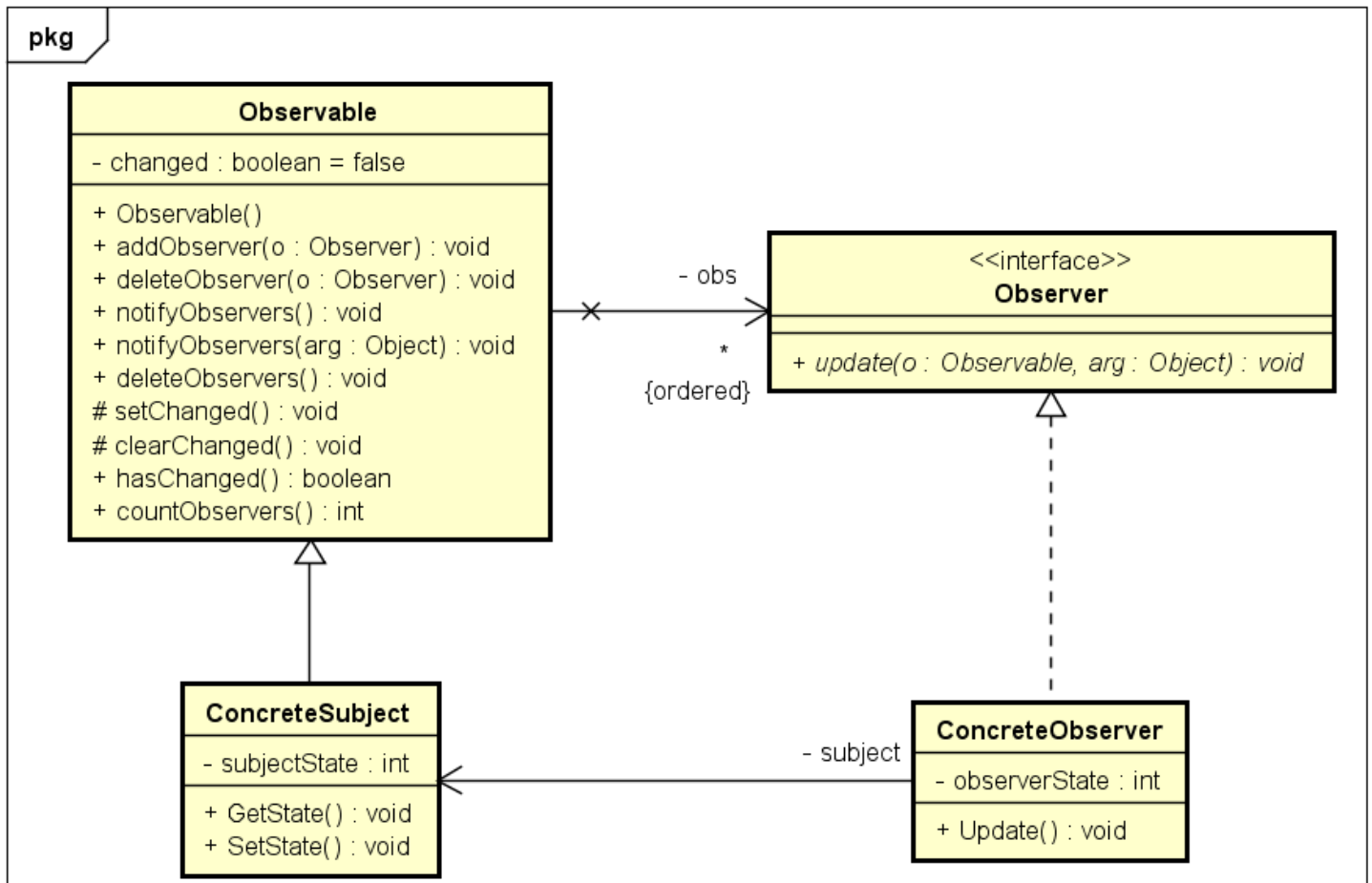
Observer Design Pattern - GoF

This class diagram specifies the participants of the Observer Design Pattern with their relationships. Consistency among the Subject and the Observer classifiers is defined which in turn drive consistency among ConcreteSubject and Concrete Observer classifiers.



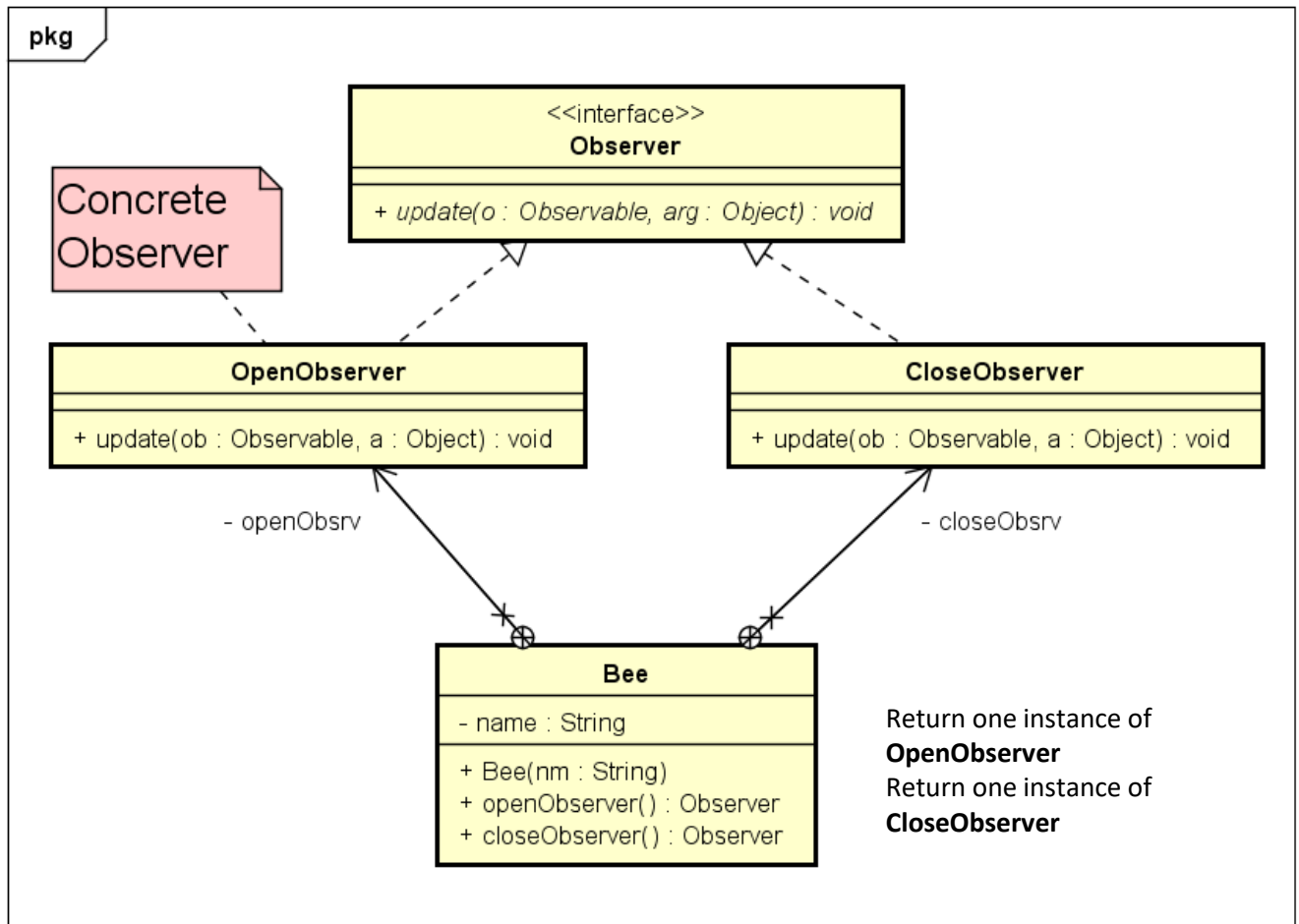
Observer Design Pattern – GoF / Java

This class diagram specifies the Observer Design pattern using Java (JDK 10). The Observer classifier is defined as an interface.



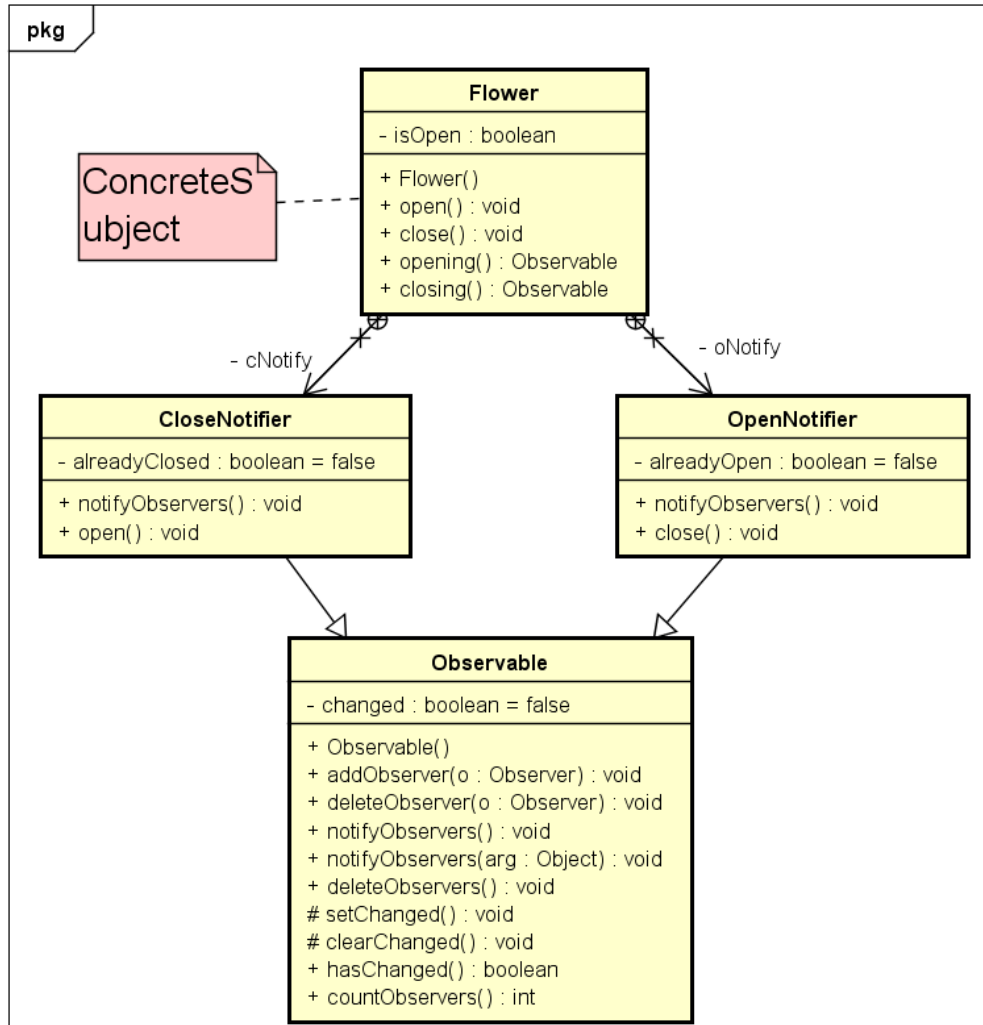
Observer - Bee

This class diagram specifies the class Bee where its inner classes implement the Observer update operation.

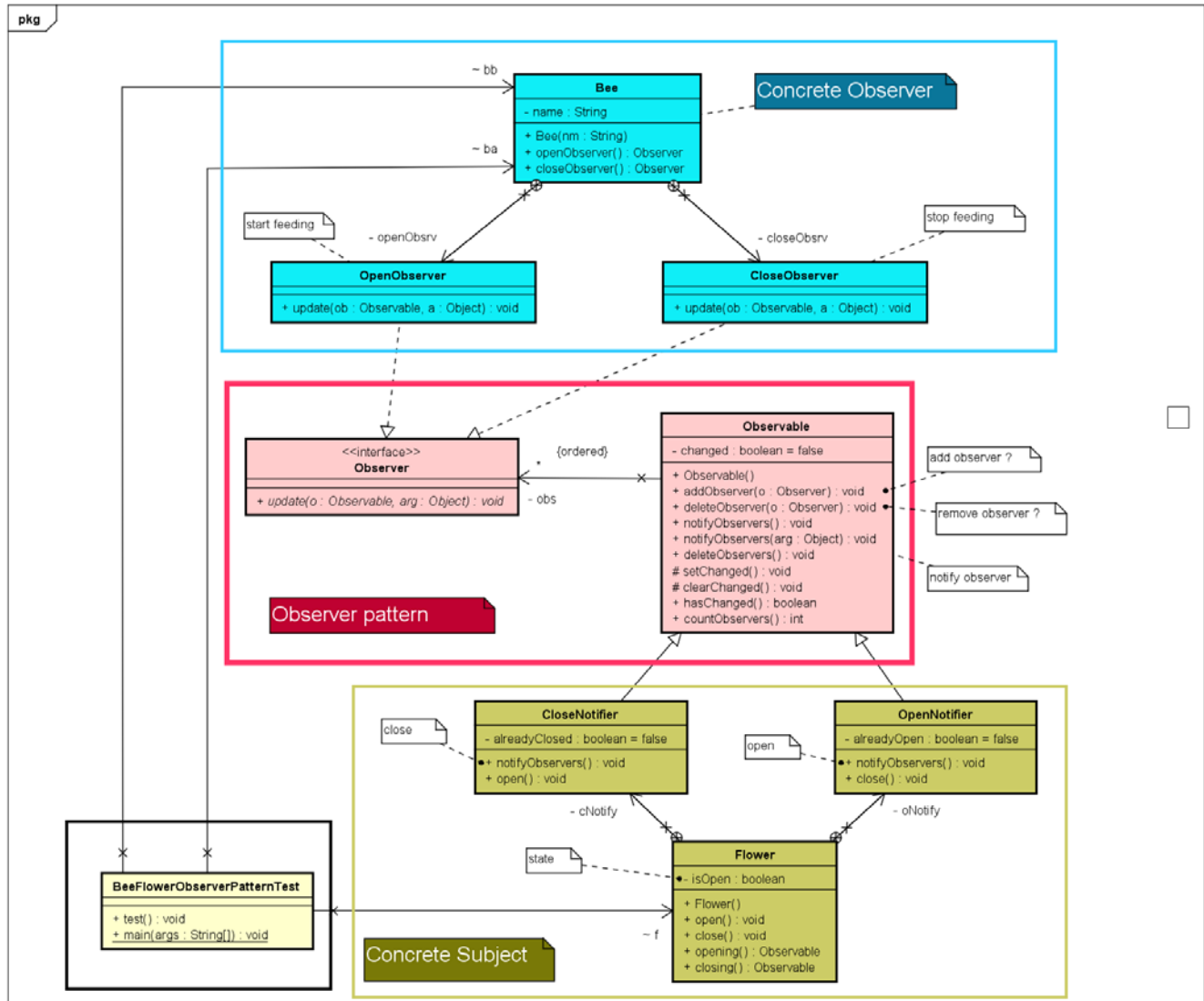


Subject (Observable) - Flower

This class diagram specifies the class Flower with two inner classes, each allowing observers to be added to them.



Flower-Bee Observer-Pattern Example



Flower-Bee Observer-Pattern

Example –simple classifier notation

