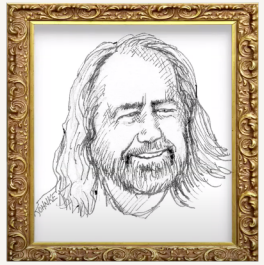
Clean Code



Gary Booch

- Simple & Direct
- Reads as well-written prose

Bjarne Stroustrup

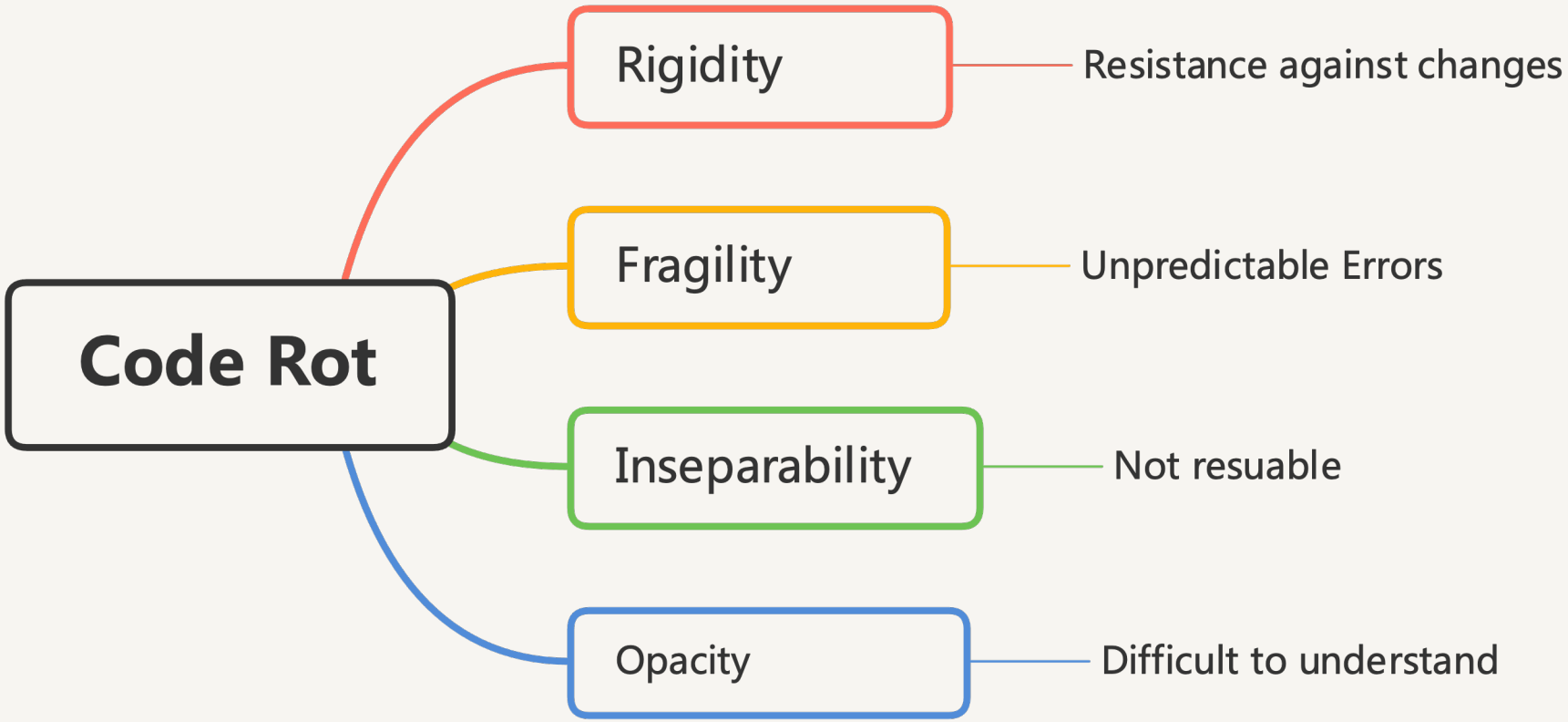
- Elegant & Efficient.
- Should do one thing

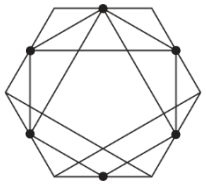
Ward Cunnigham

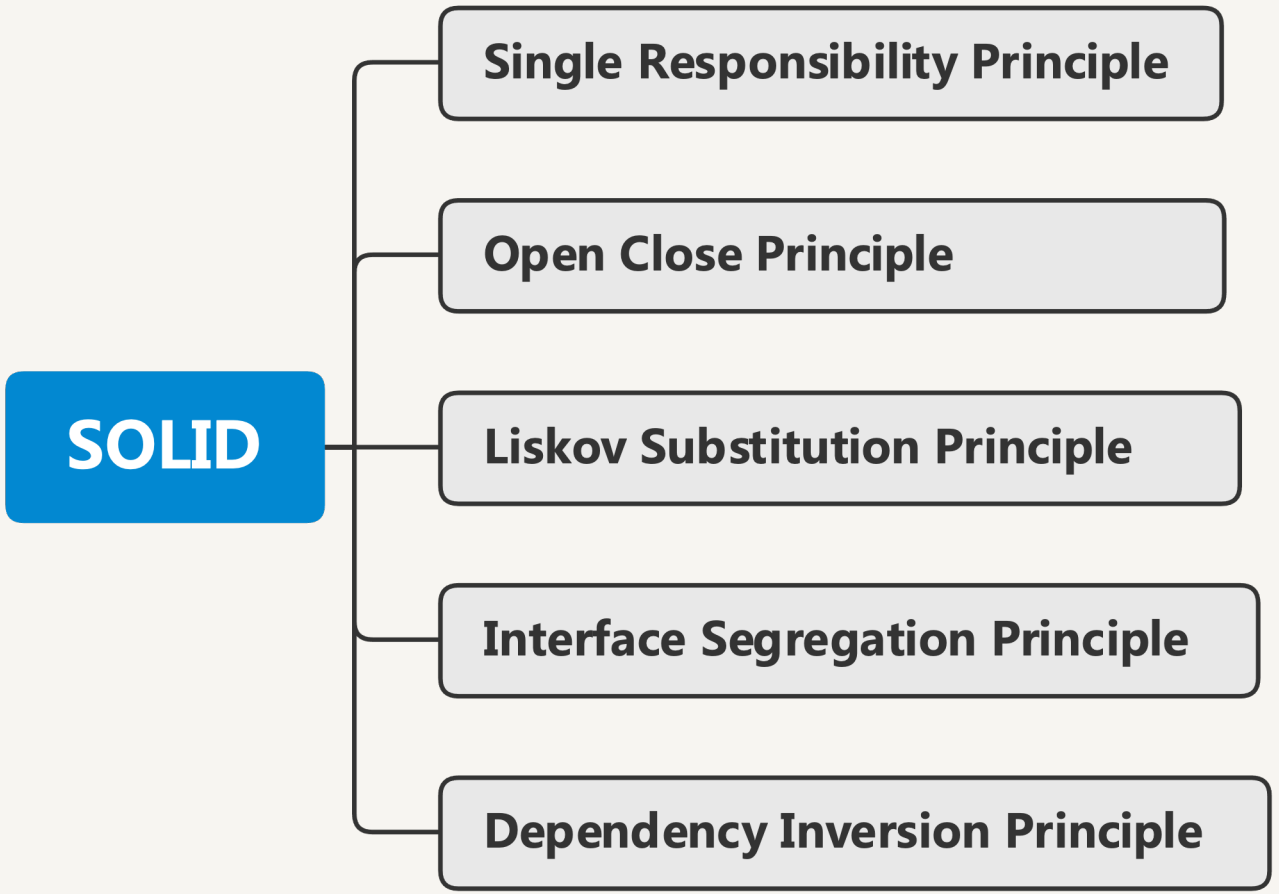
- Every Routine is pretty much what you expected

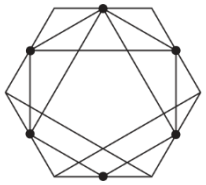
Michael Feathers

- Written by someone who cares









OPEN CLOSE PRINCIPLE

- Software artifacts (classes, modules, function,etc)
- Should be open for extnsions
- But closed for change

OPEN CLOSE PRINCIPLE

- More simply: It should be possible to
- modify the behavior of objects
- or introduce new kinds of objects
- Without touching the exisiting code

OPEN CLOSE PRINCIPLE

- More concretely: Implementation
- against interface
- Not concrete classes

OPEN CLOSE PRINCIPLE

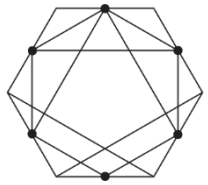
- More concretely:
- Use of method overriding (polymorphy)
- Instead of if or switch statements

OPEN CLOSE VIOLATION I

```
switch (each.getMovie ().getPriceCode ()) {
   case Movie.REGULAR:
      thisAmount += 2;
      if (each.getDaysRented () > 2)
         thisAmount += (each.getDaysRented () - 2) * 1.5;
      break;
   case Movie.NEW_RELEASE:
      thisAmount += each.getDaysRented () * 3;
      break;
   case Movie.CHILDRENS:
      thisAmount += 1.5;
      if (each.getDaysRented () > 3)
         thisAmount += (each.getDaysRented () - 3) * 1.5;
      break;
}
```

OPEN CLOSE VIOLATION II

```
if (figure instanceof Triangle)
        drawTraingle() ;

else if (figure instanceof Square)
        drawSquare() ;

else
        Console.WriteLine(“Error Message“) ;

}
```

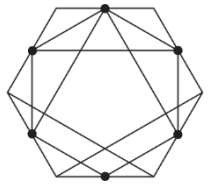


OPEN CLOSE VIOLATION III

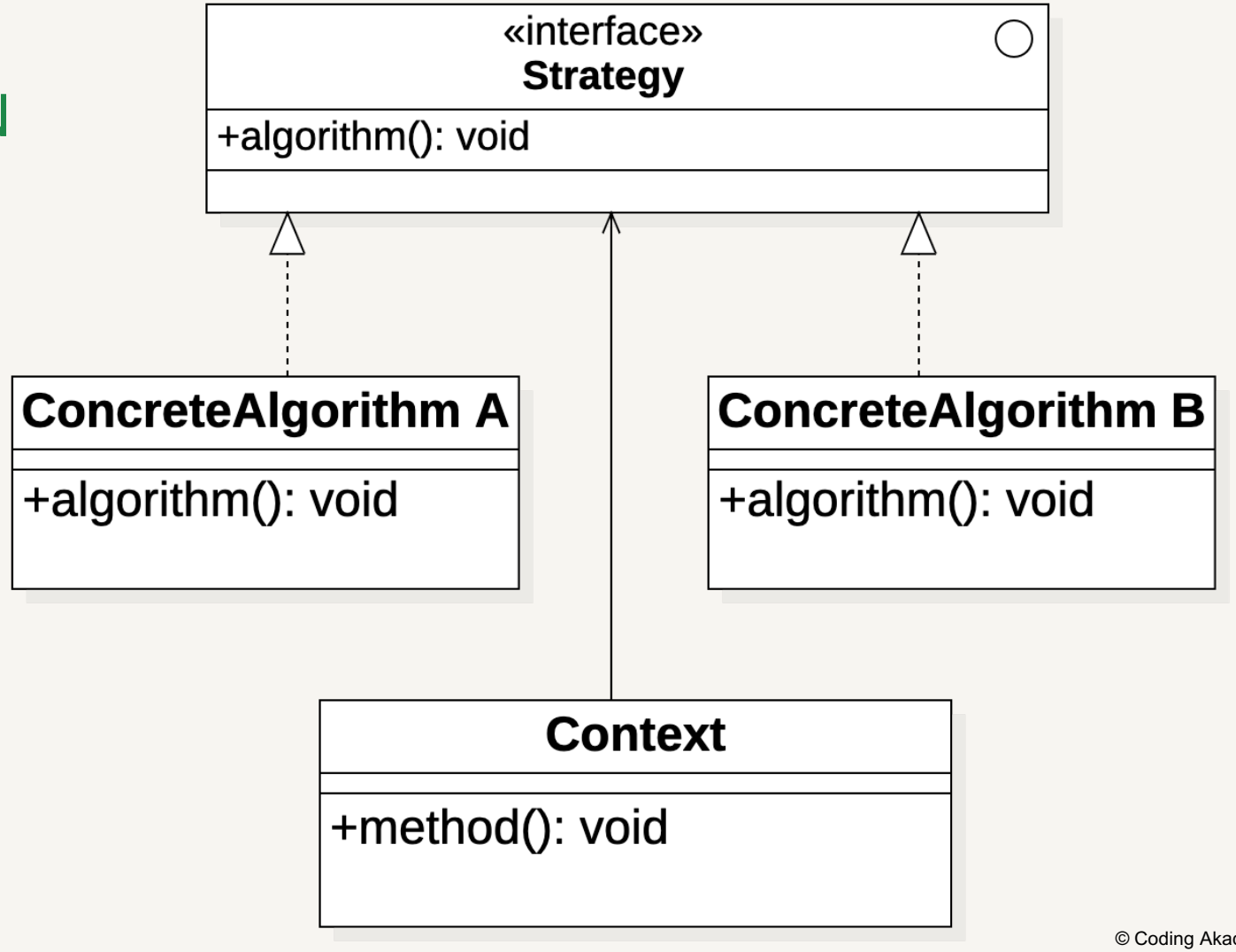
```
if  (loadBalancer.algorithm == Algorithm.ROUND_ROBIN)
        executeRoundRobinAlgorithm() ;

else if (loadBalancer.algorithm == Algorithm.WEIGHTED.ROUND_ROBIN)
        executeWeightedRoundRobinAlgorithm() ;

else
        throwException() ;

}
```

COOLER KUNDE!

- New Requirments:
- Least Connections Algorithm
- Weighted Least Connections



STRATEGY PATTERN



OPEN CLOSE VIOLATION I

```
switch (each.getMovie ().getPriceCode ()) {
   case Movie.REGULAR:
      thisAmount += 2;
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      break;
   case Movie.NEW_RELEASE:
      thisAmount += each.getDaysRented () * 3;
      break;
   case Movie.CHILDRENS:
      thisAmount += 1.5;
      if (each.getDaysRented () > 3)
         thisAmount += (each.getDaysRented () - 3) * 1.5;
      break;
}
```
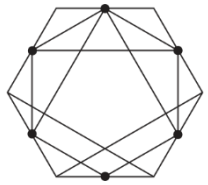
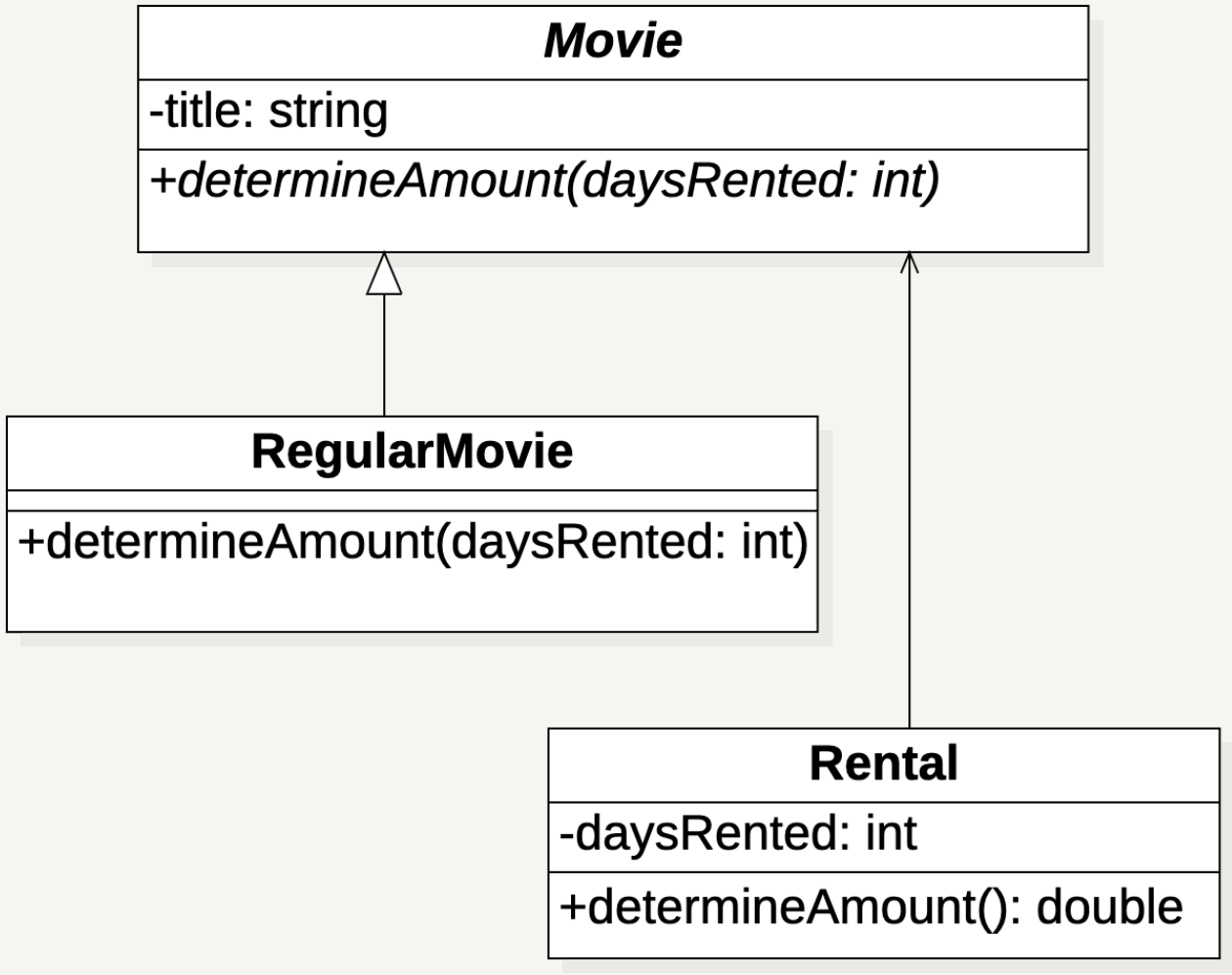
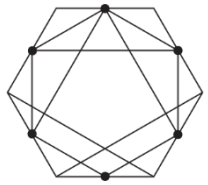



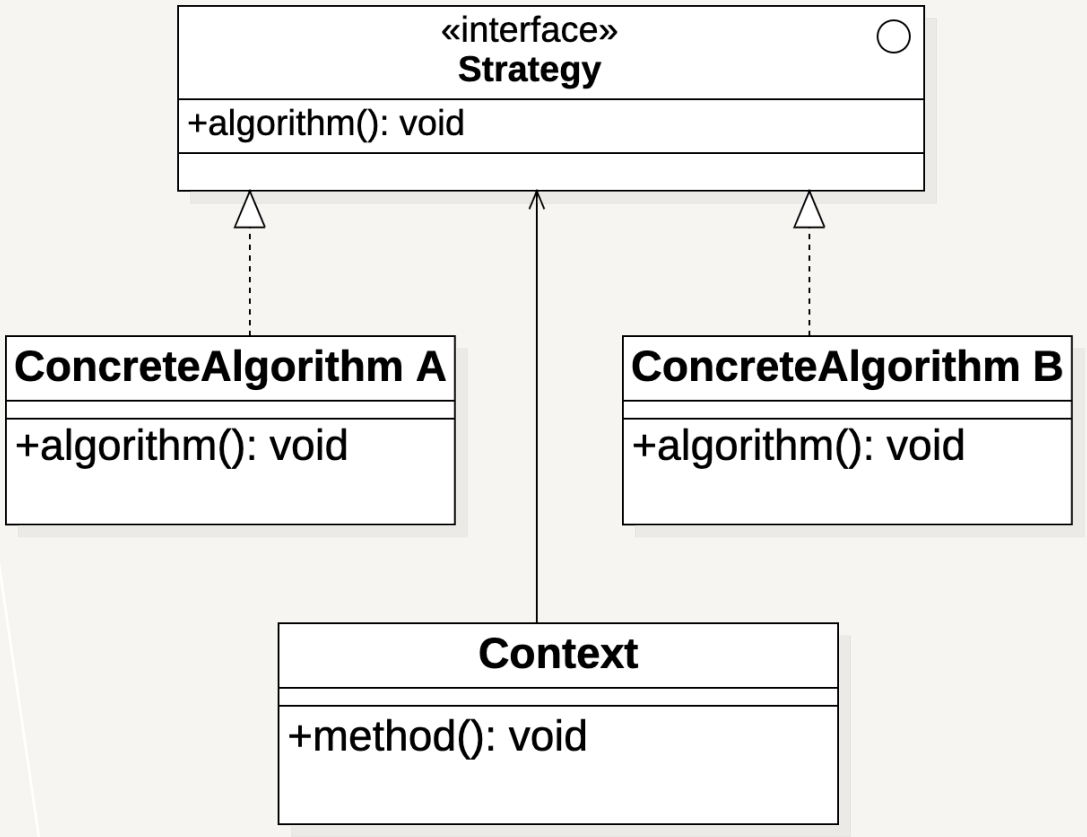
STRATEGY PATTERN

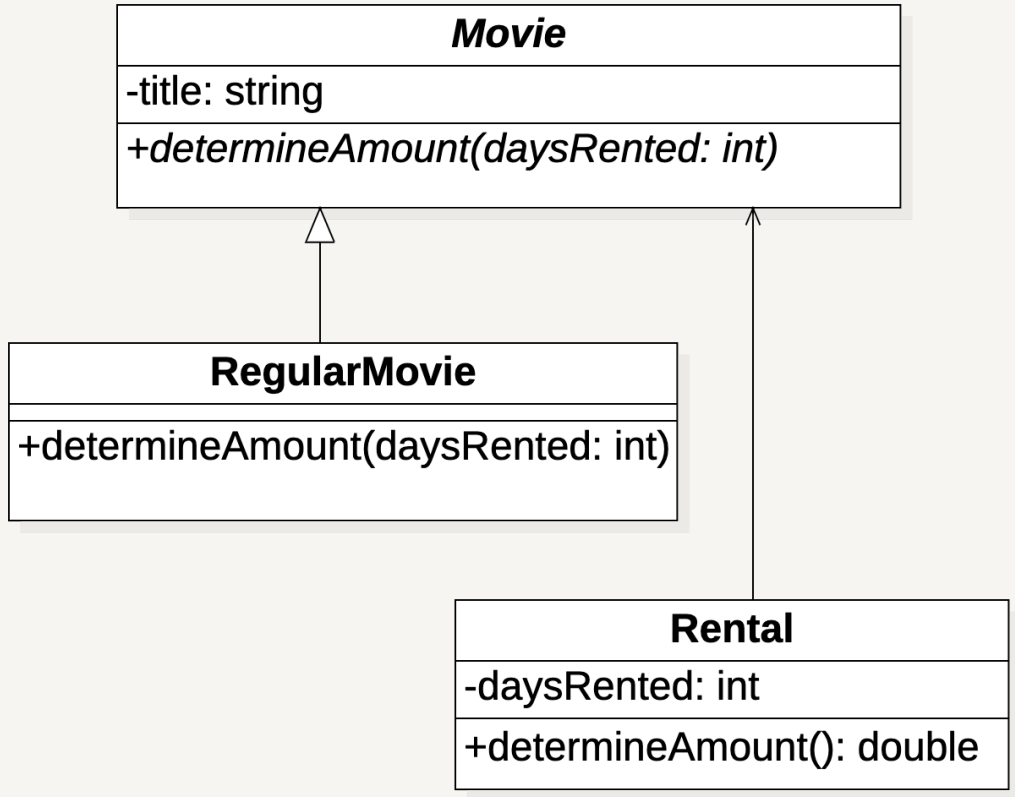


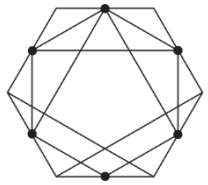
OPEN CLOSE PRINCIPLE WORKSHOP

- WORKSHOP

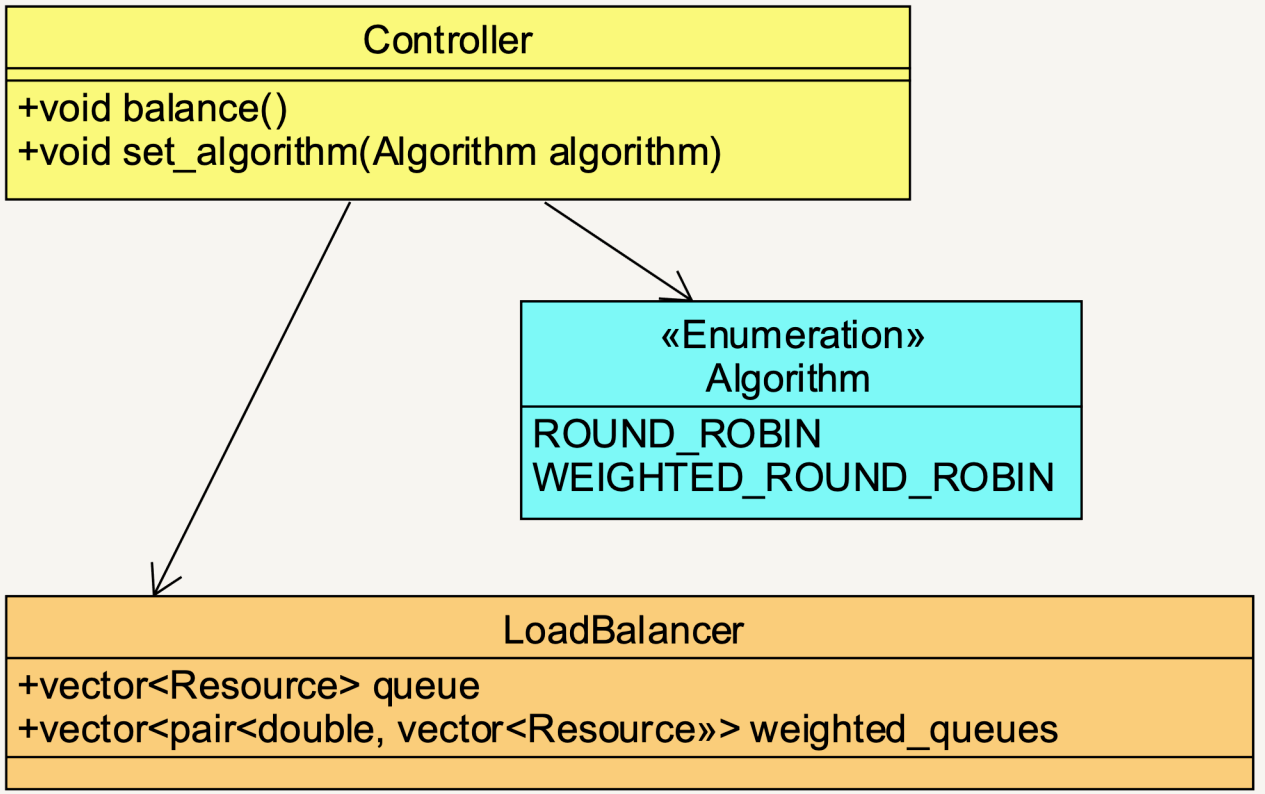


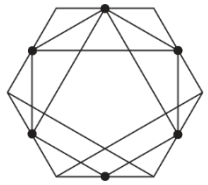




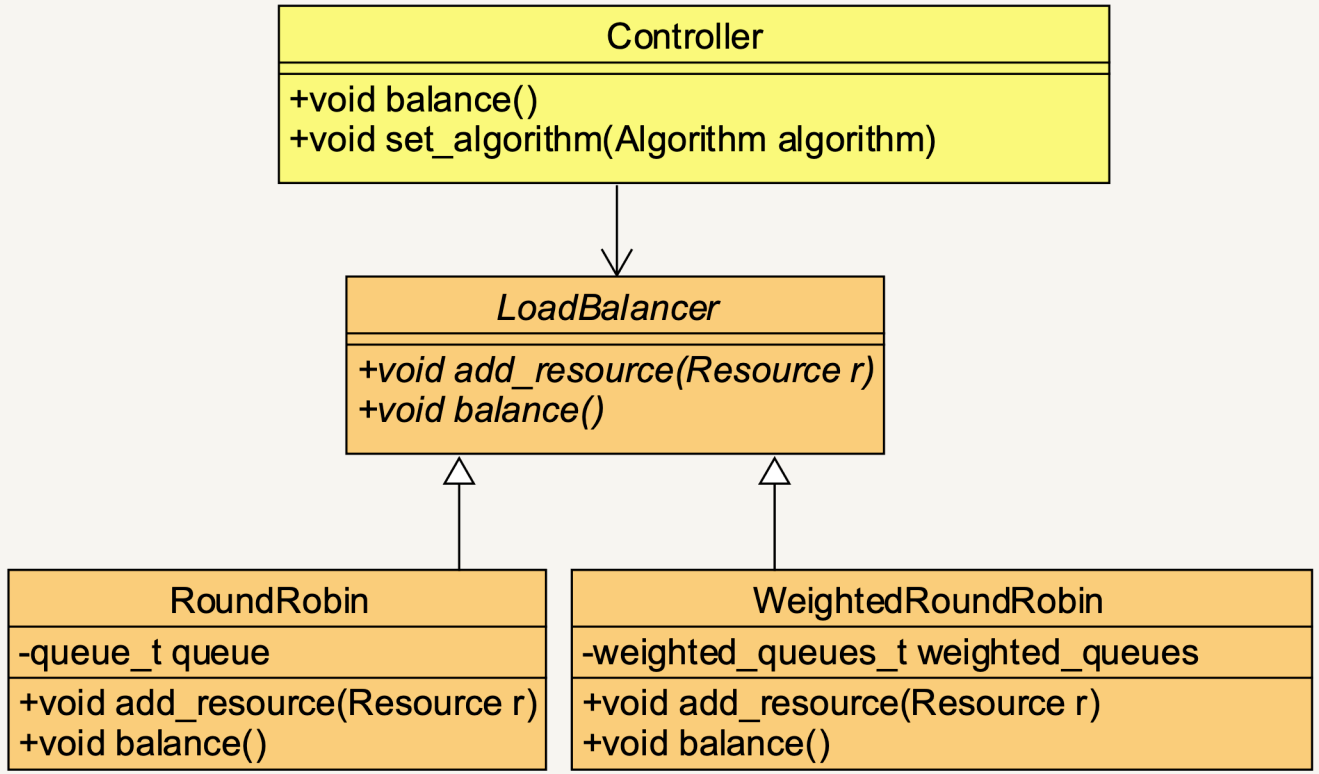


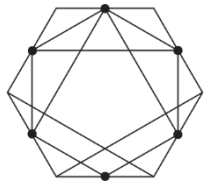
LOAD BALANCER I



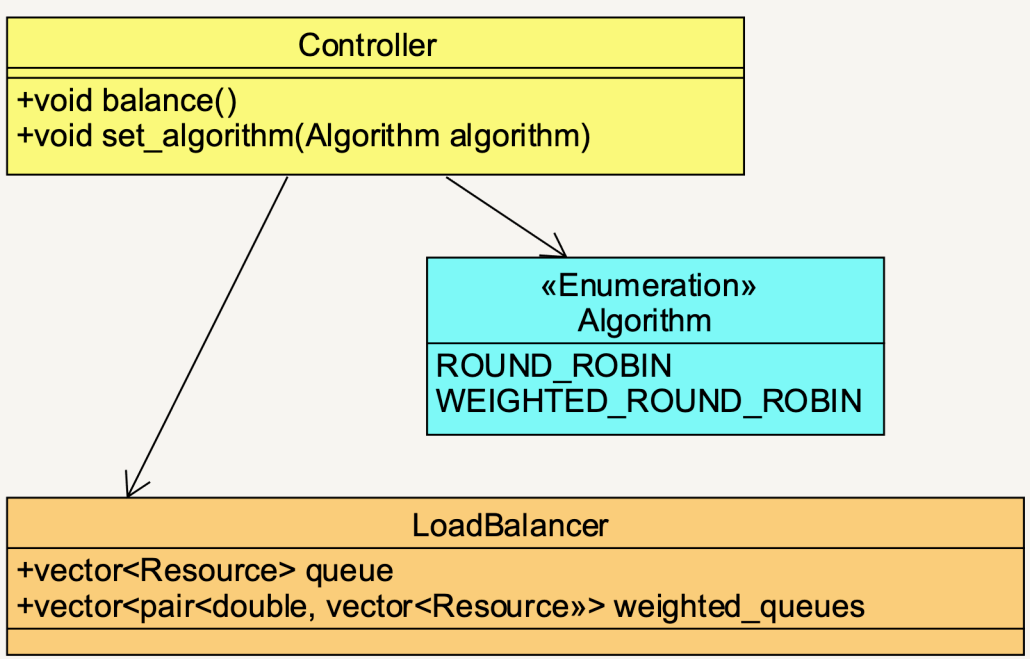


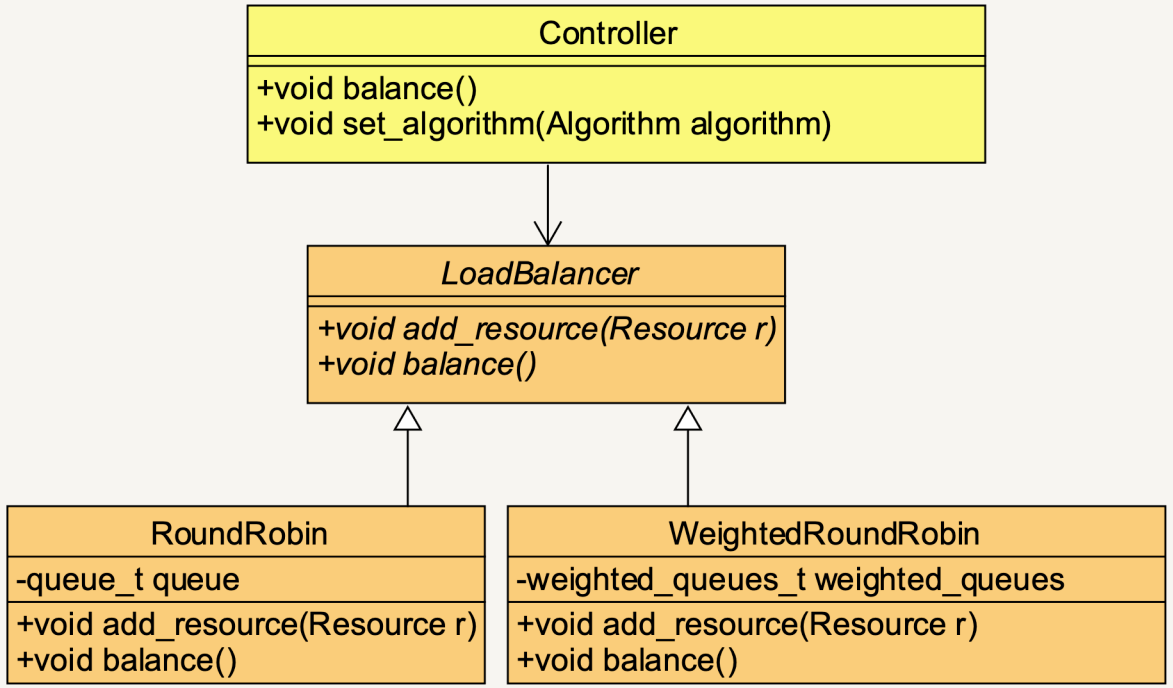
LOAD BALANCER II





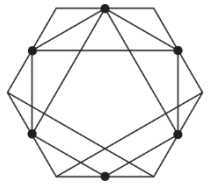
LOAD BALANCER I VS. II

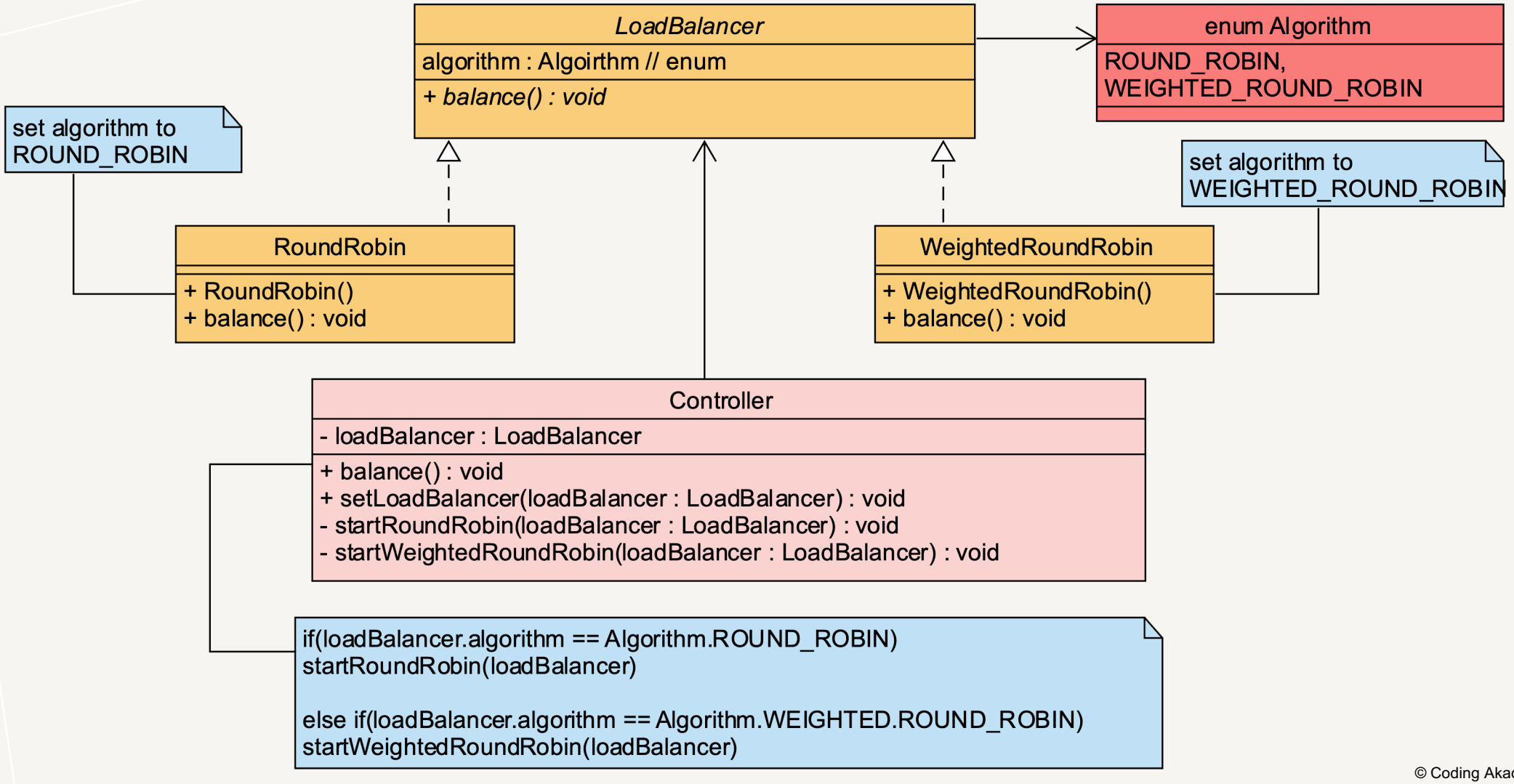




OPEN CLOSE PRINCIPLE WORKSHOP

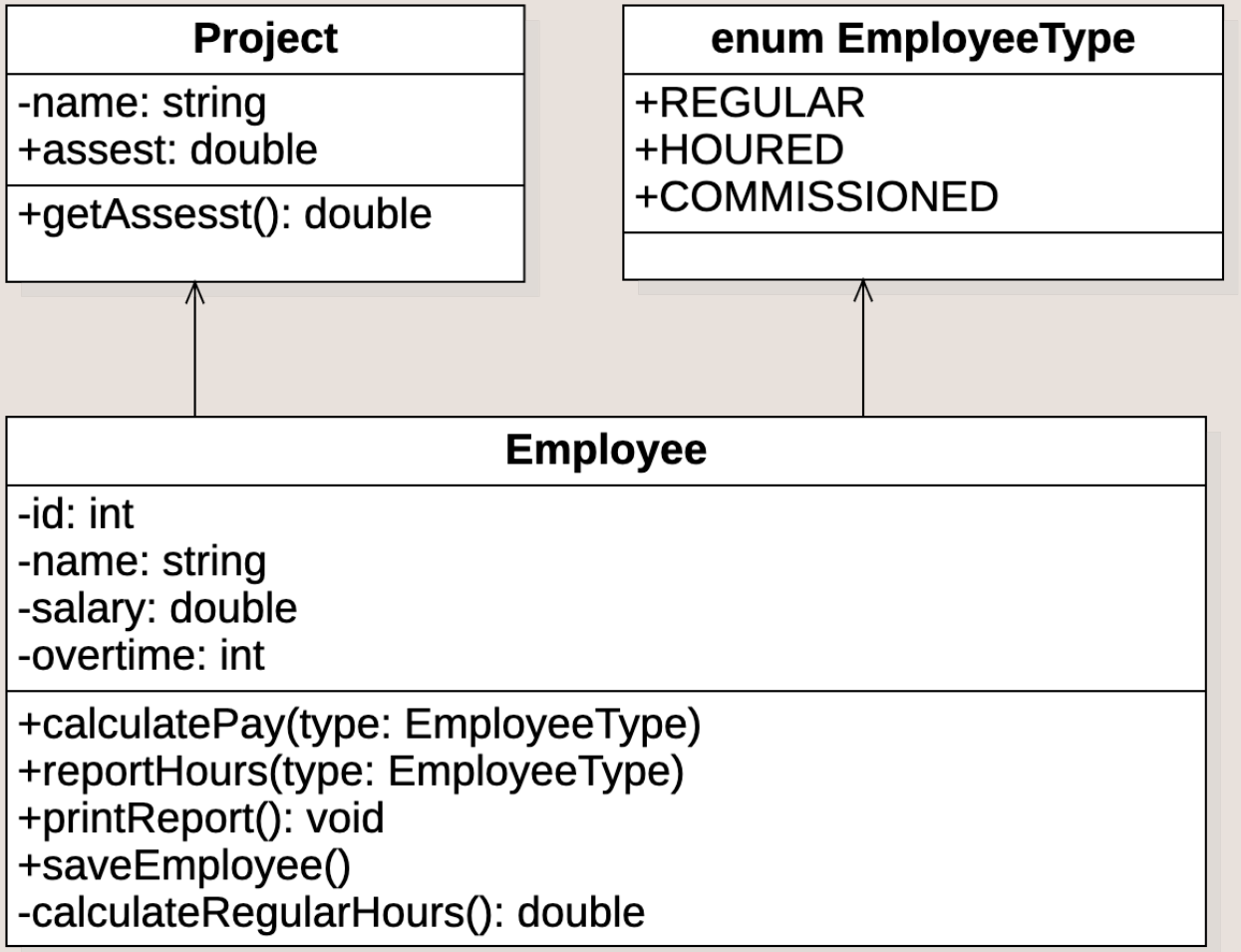
- WORKSHOP





OPEN CLOSE PRINCIPLE WORKSHOP

- WORKSHOP



OCPBESTEHENDES DESIGN

- Design breaks OCP !
- Re-Design it to pass SRP
- Implements the new Design ?

ÖSUNGEN UND DISKUSSIONEN

VIELEN DANK FÜR IHRE AUFMERKSAMKEIT.