

# Use Case Diagram

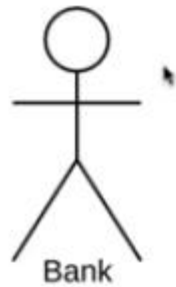
Systems

Actors

Use Cases

Relationships

Systems, Actors, Use Cases, and Relationships.



# Primary Actors

Initiates the use of the system

# Secondary Actors

Reactionary

does the Bank engage with our system to provide the balance.

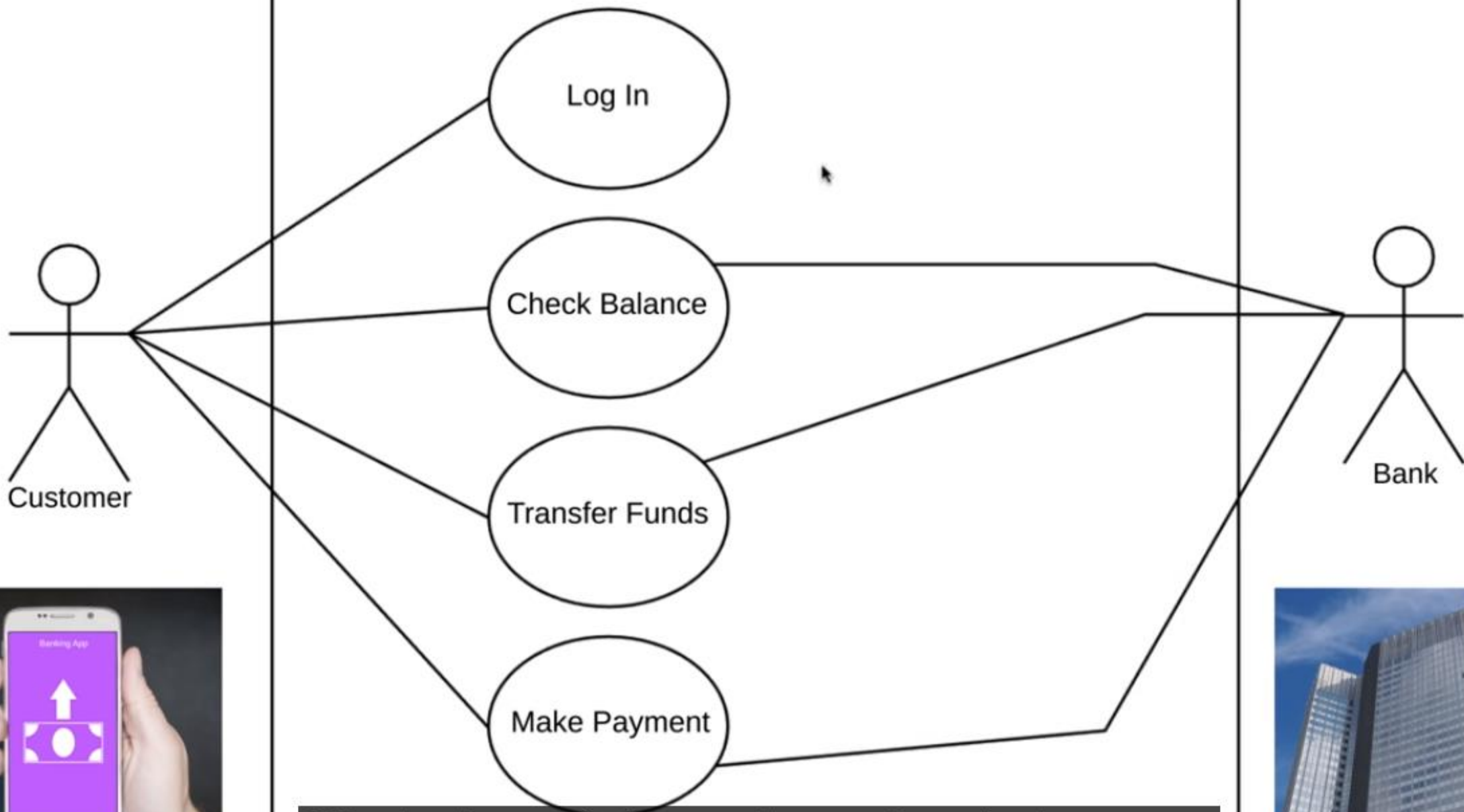
# Use Case



The next element is a Use Case and this is where you really start to describe what your



You can see that each of these Use Cases starts with a verb and reinforces an action that



We don't need draw a line to Log In, because that process happens within the Banking App.



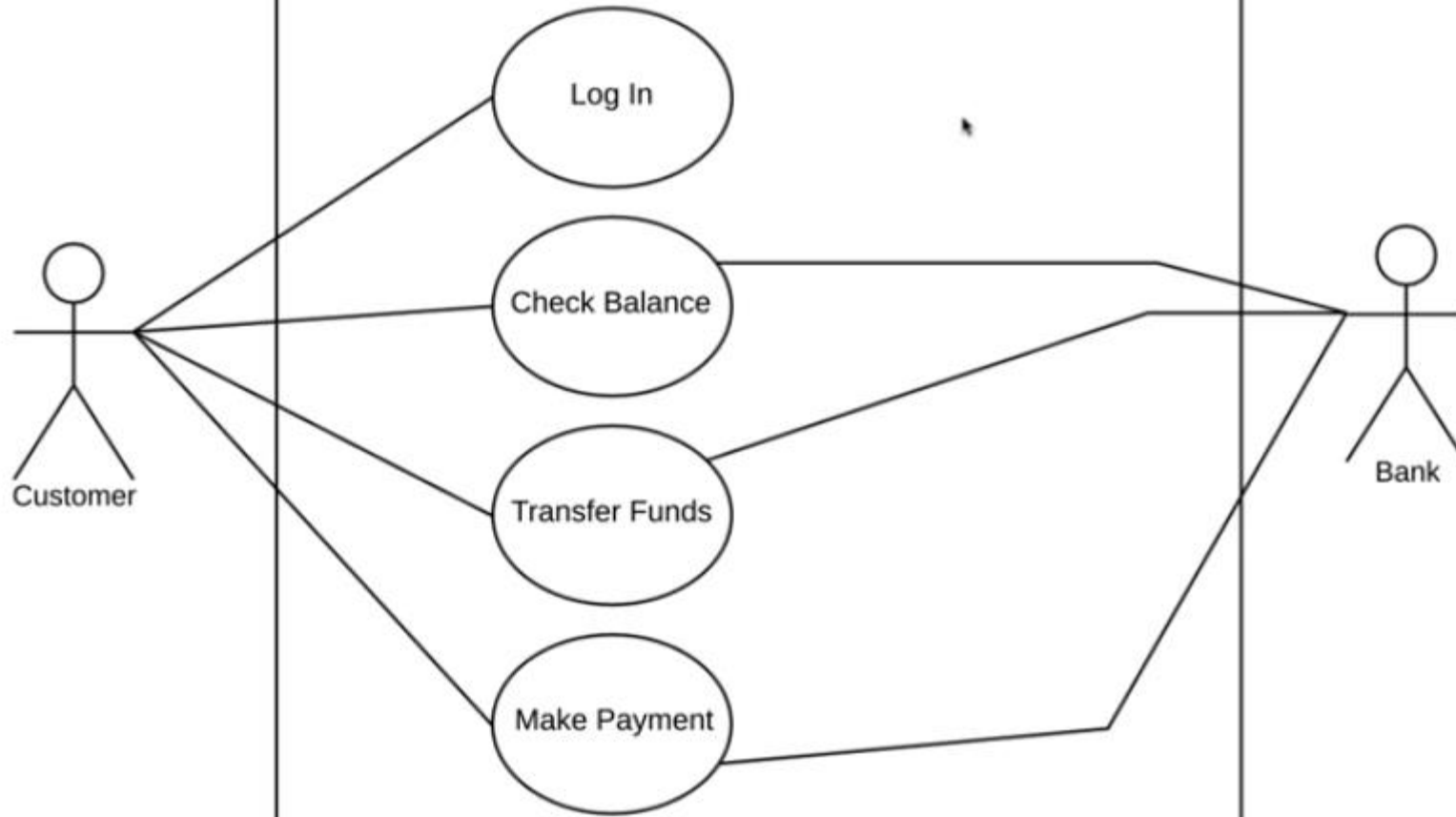
# Relationships

Association

Include

Extend

Generalization



of relationships.

# Include



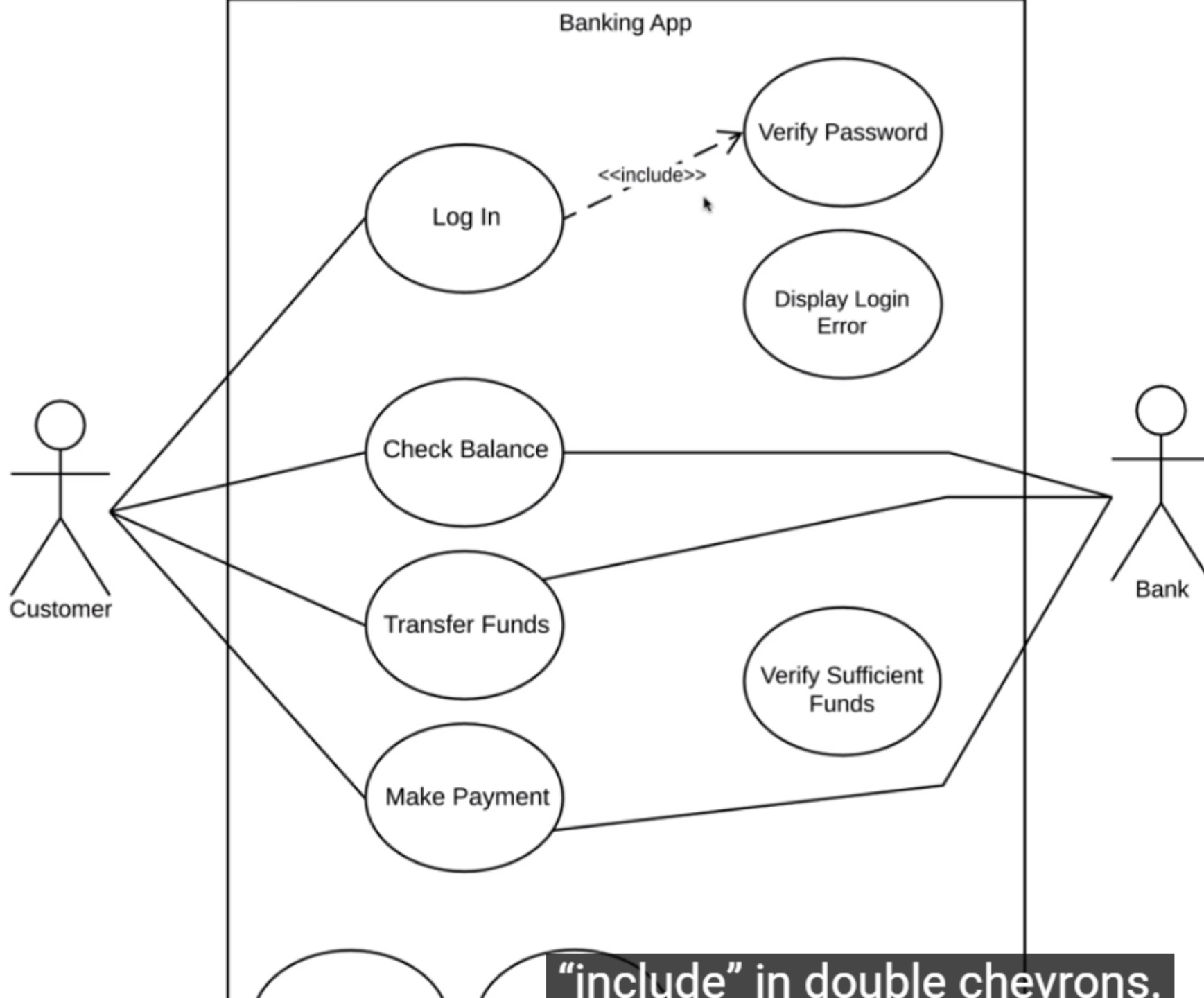
An Include relationship shows dependency between a base use case and an included use case.



# Include



towards the included use case.



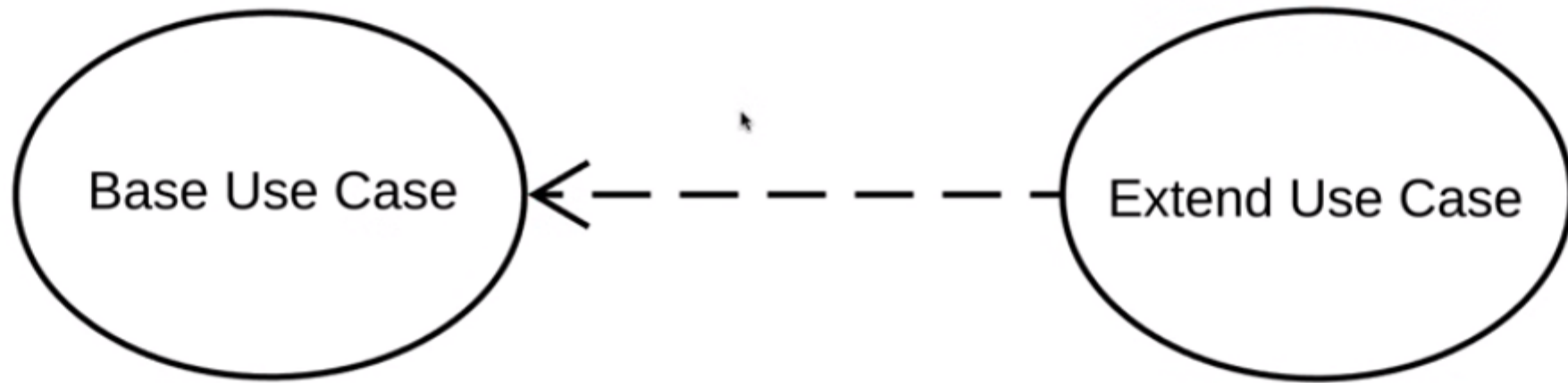
"include" in double chevrons.

# Extend

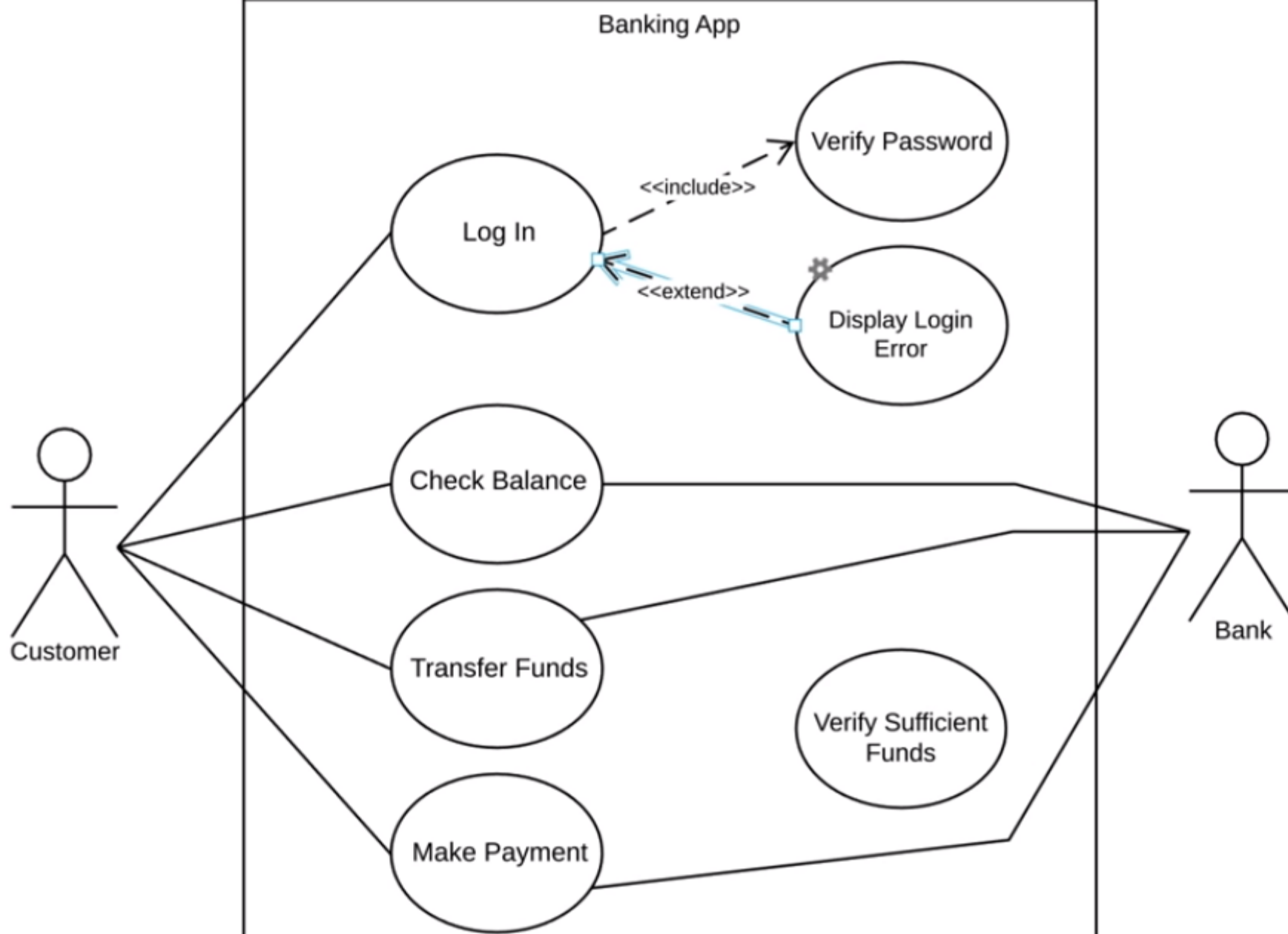


**An extend relationship has a base use case  
and an extend use case.**

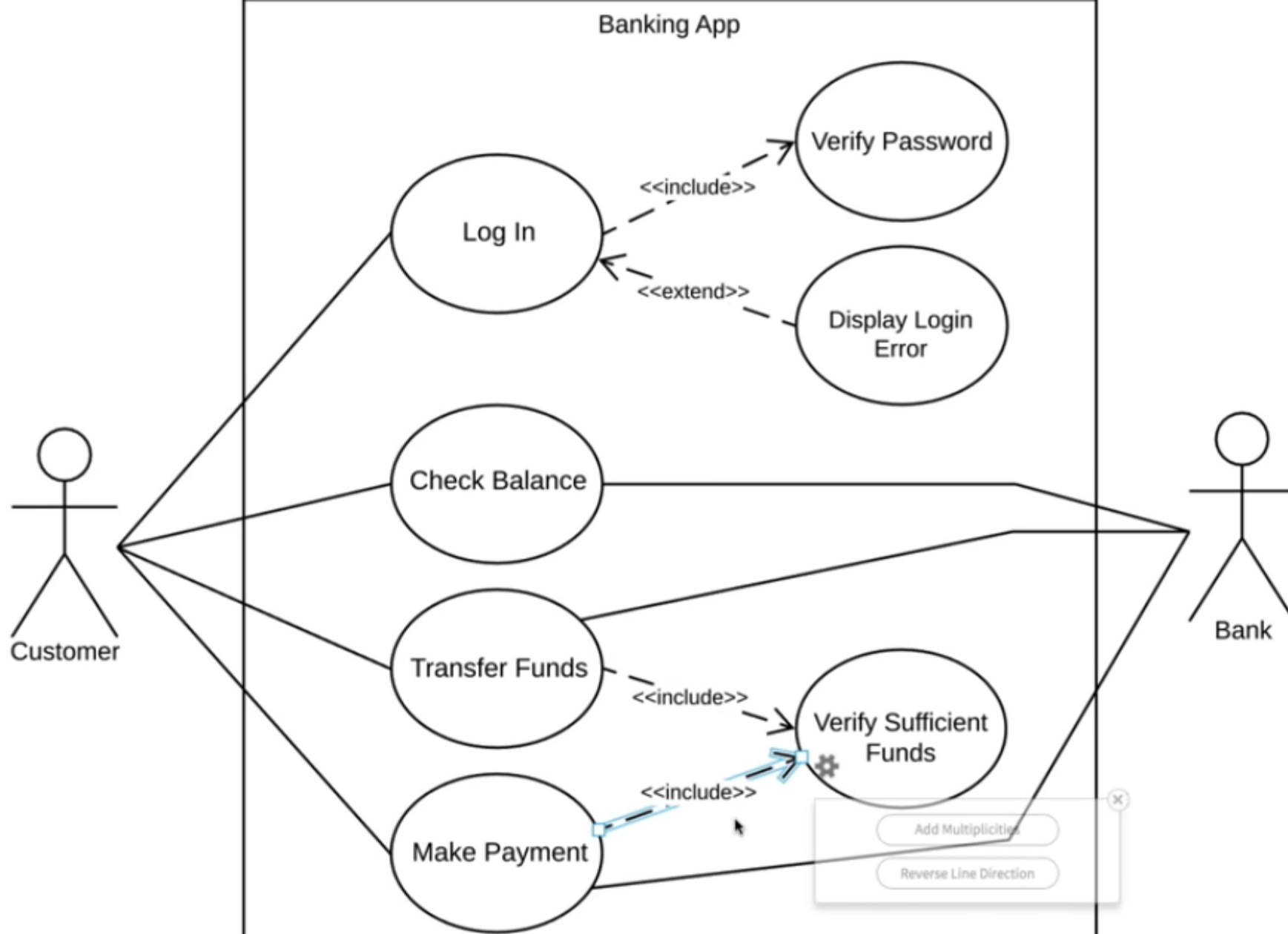
# Extend



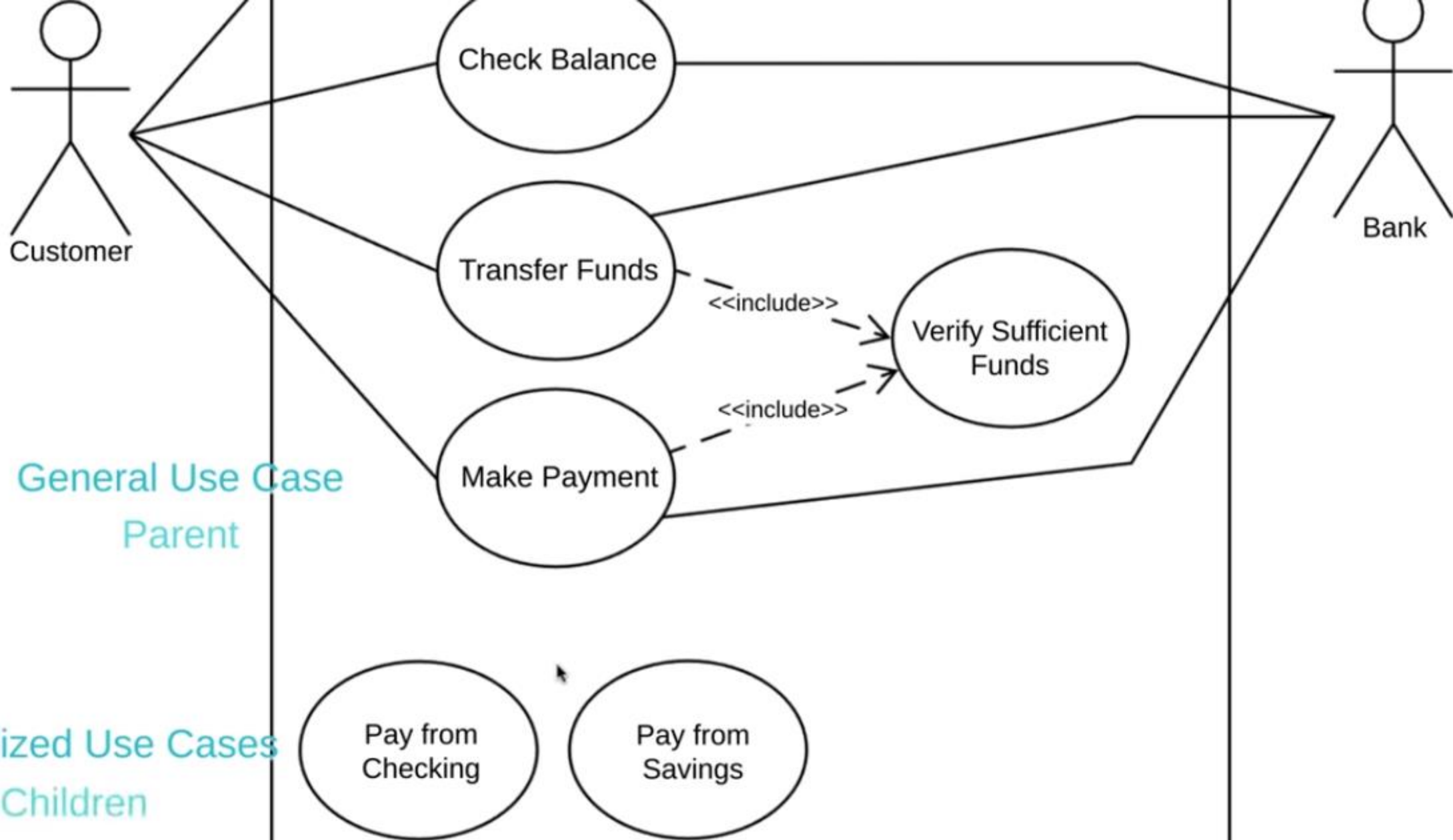
towards the base use case.



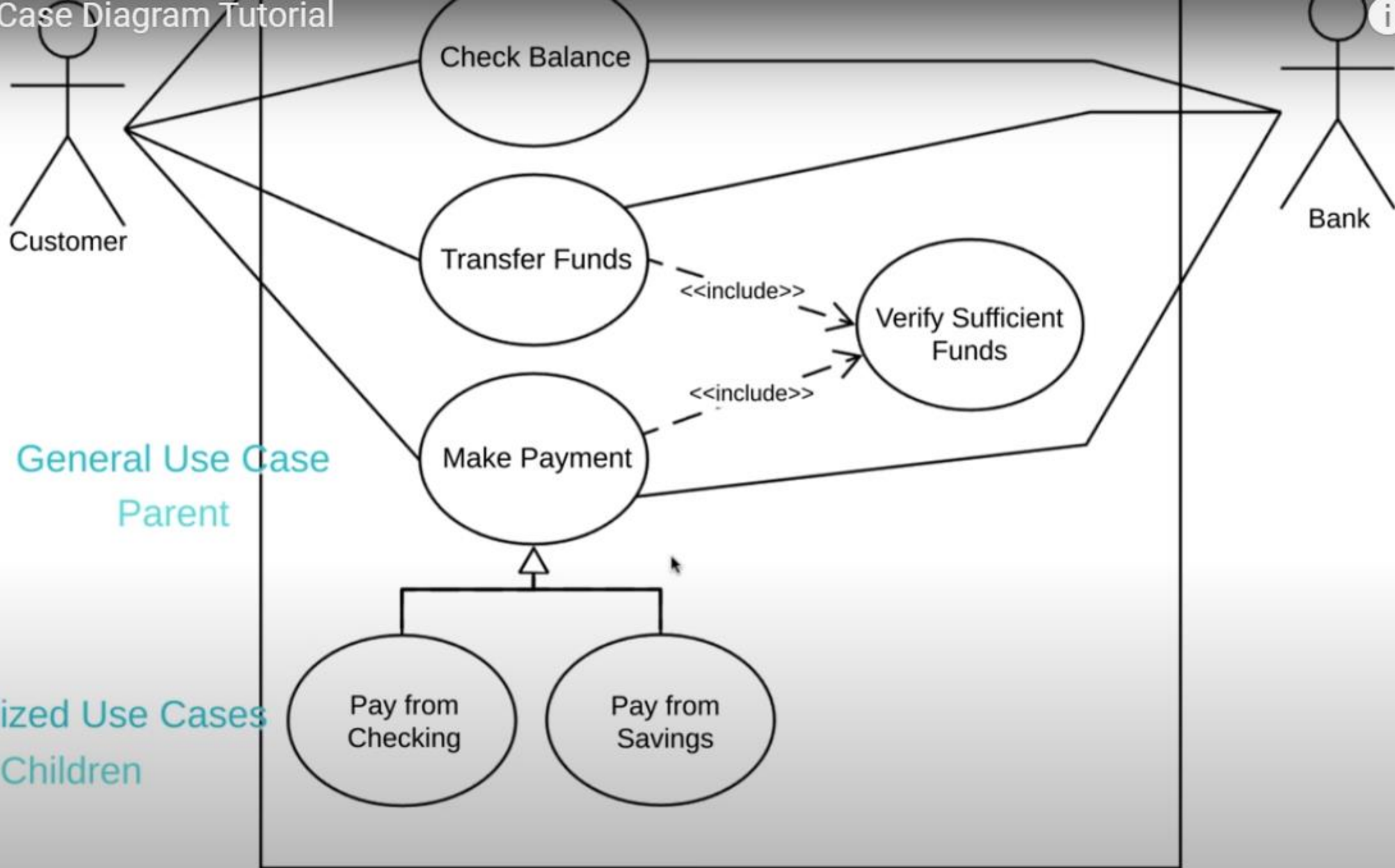
the base use case and write “extend” between double chevrons.



We want our Banking App to make this check every time either of these base use cases



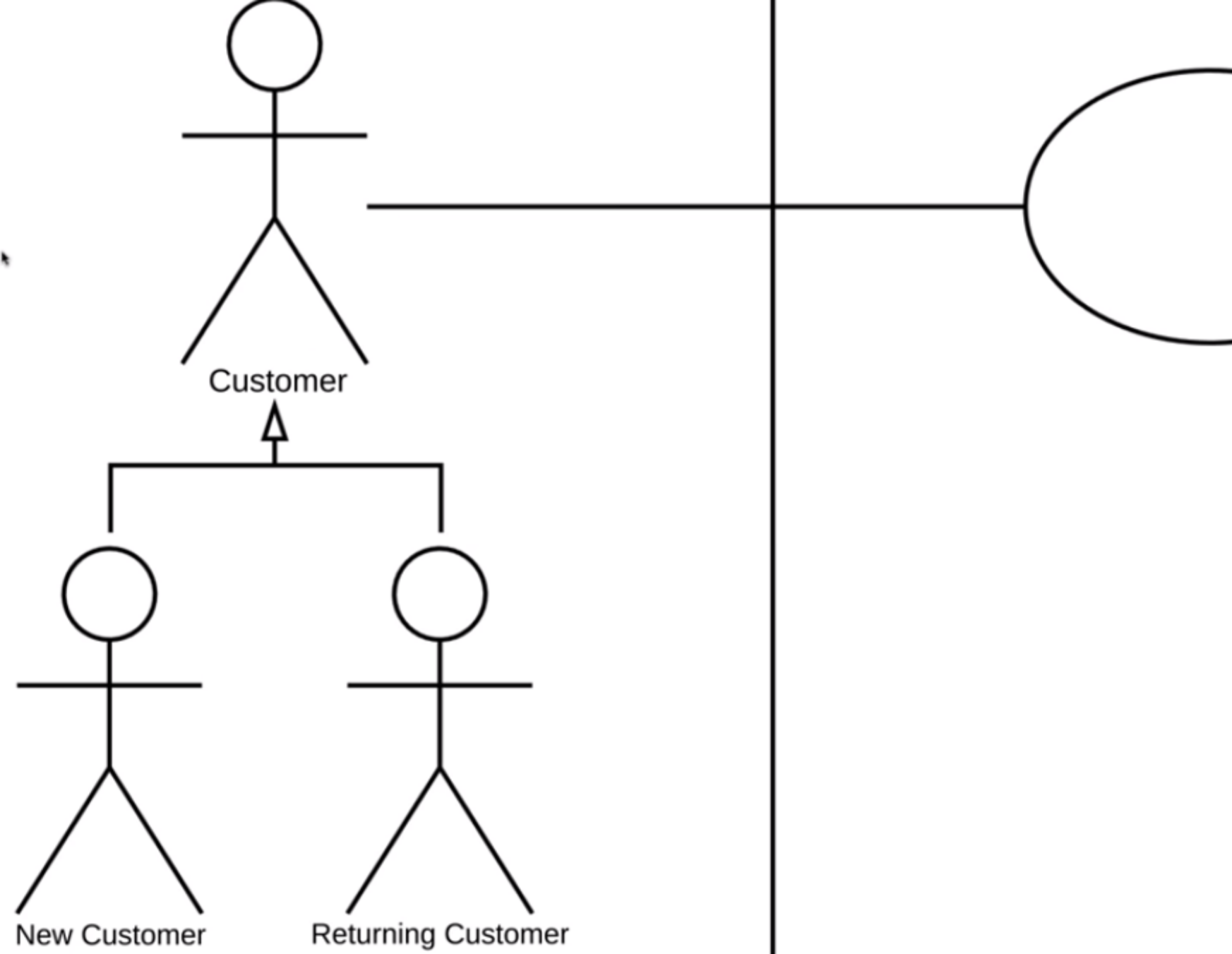
Each child shares the common behaviors of the parent, but each child adds something



General Use Case  
Parent

Specialized Use Cases  
Children





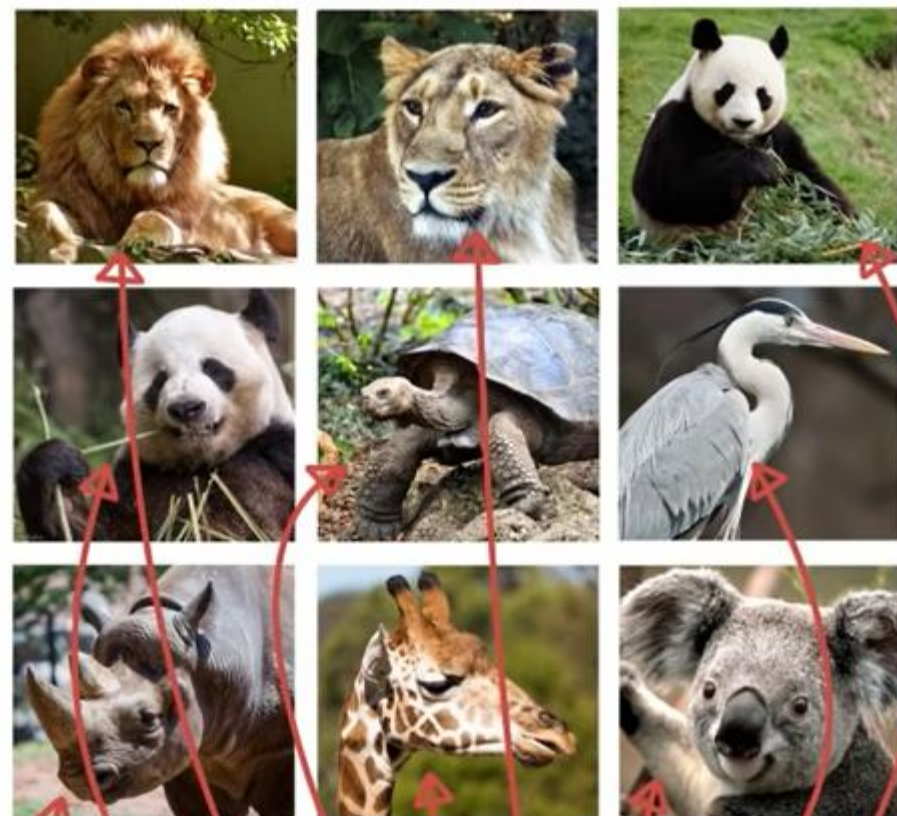
# Zoo System

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Class

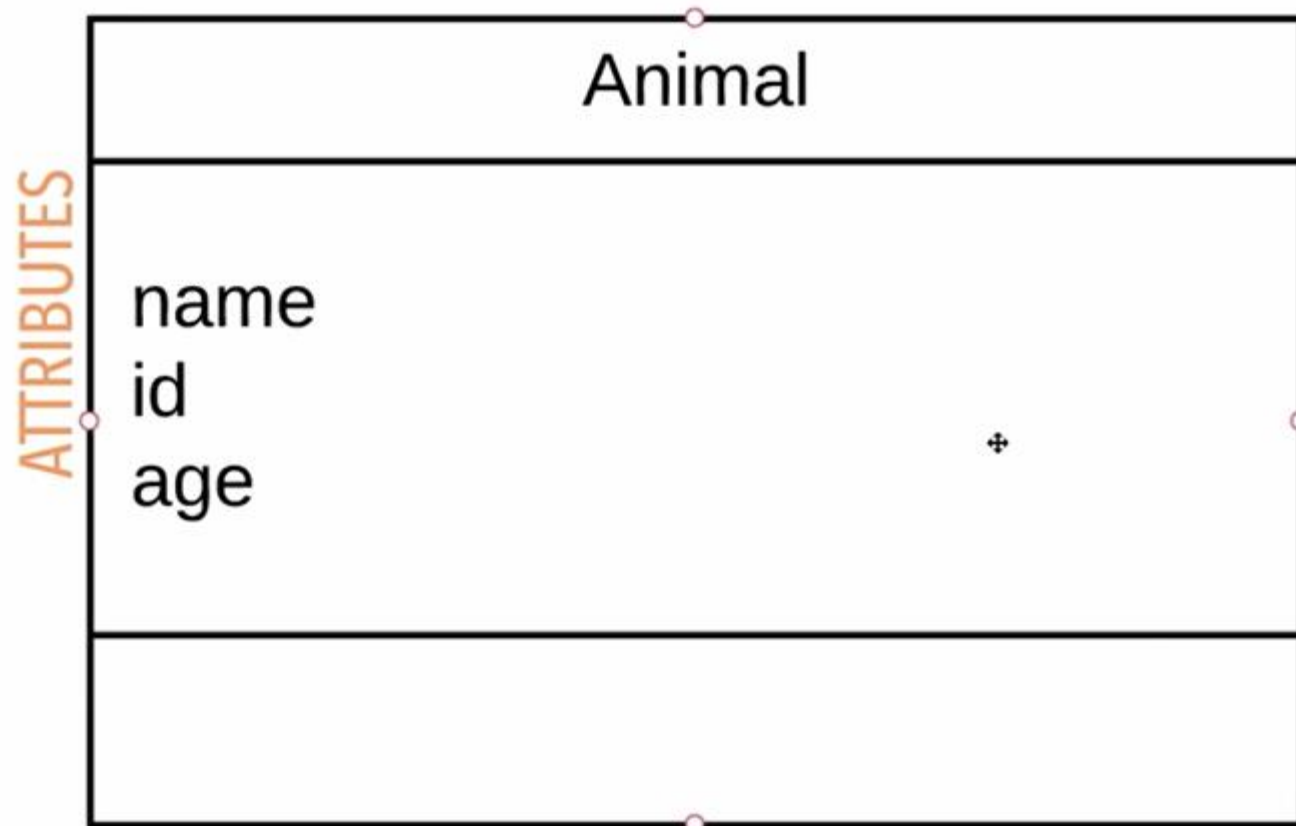
# Zoo System

Animal

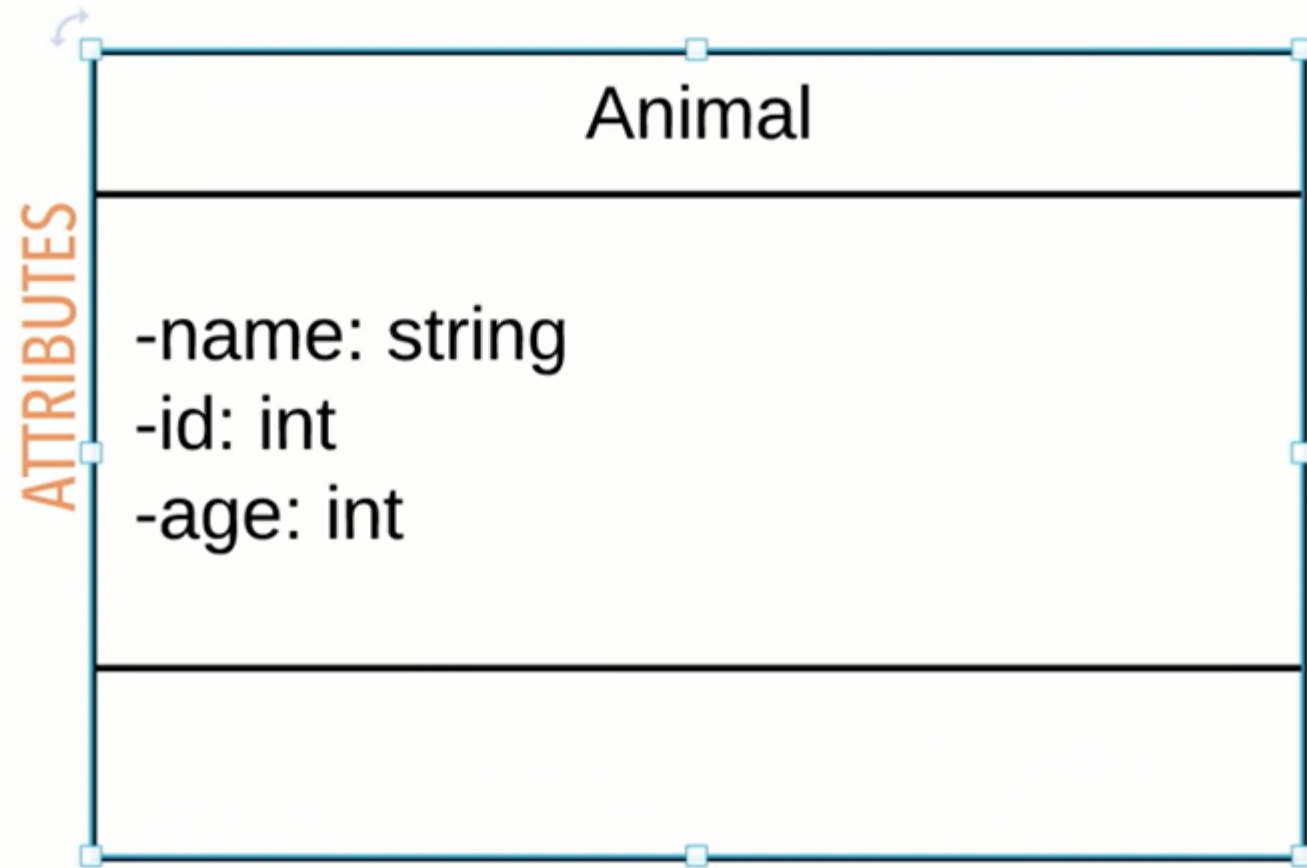


Instances of Animal class

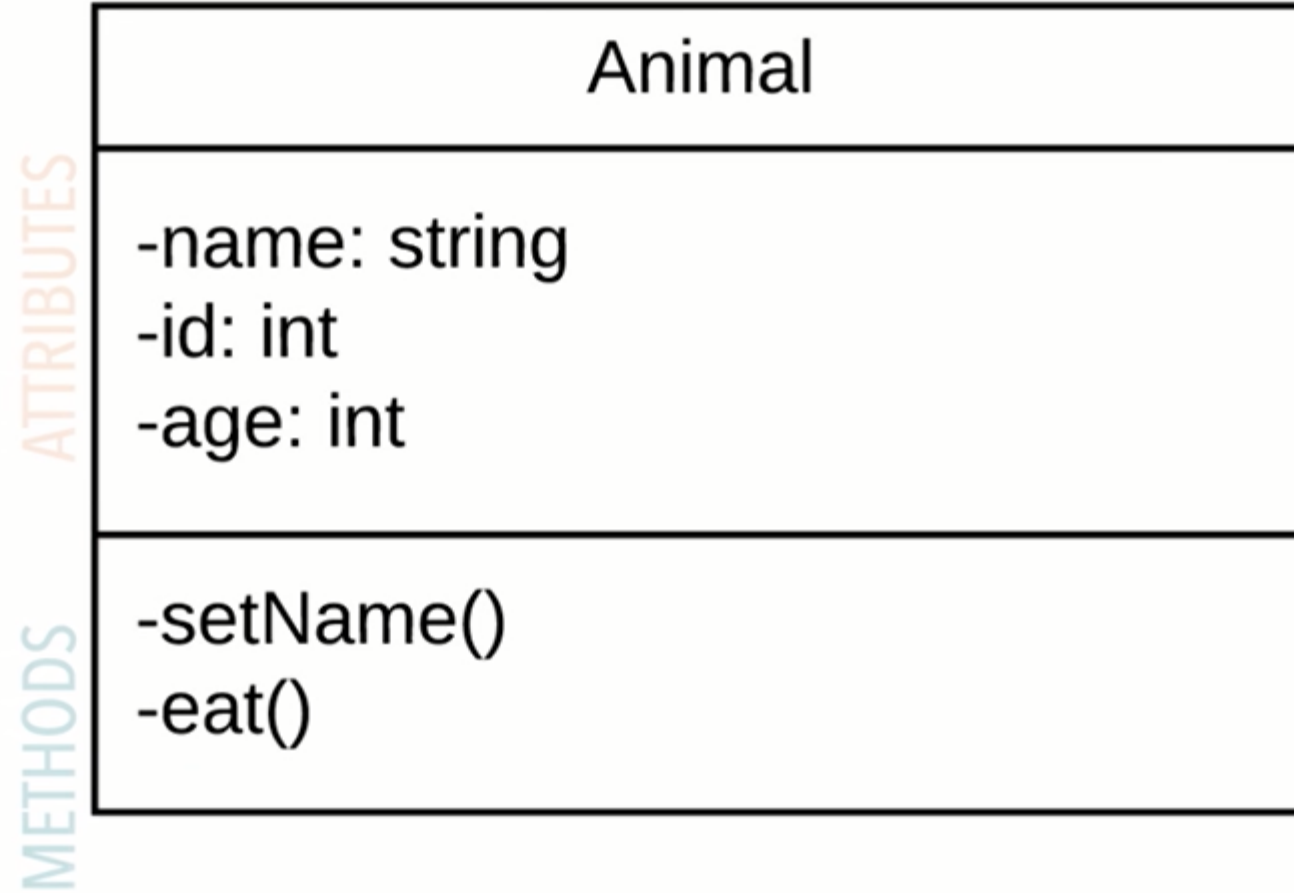
# Zoo System



# Zoo System

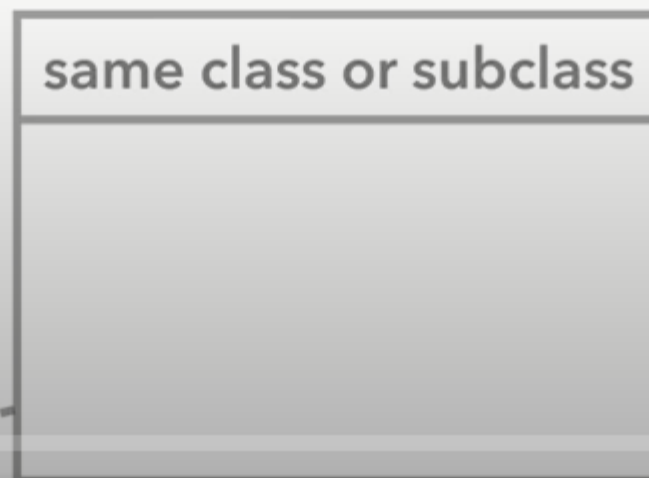
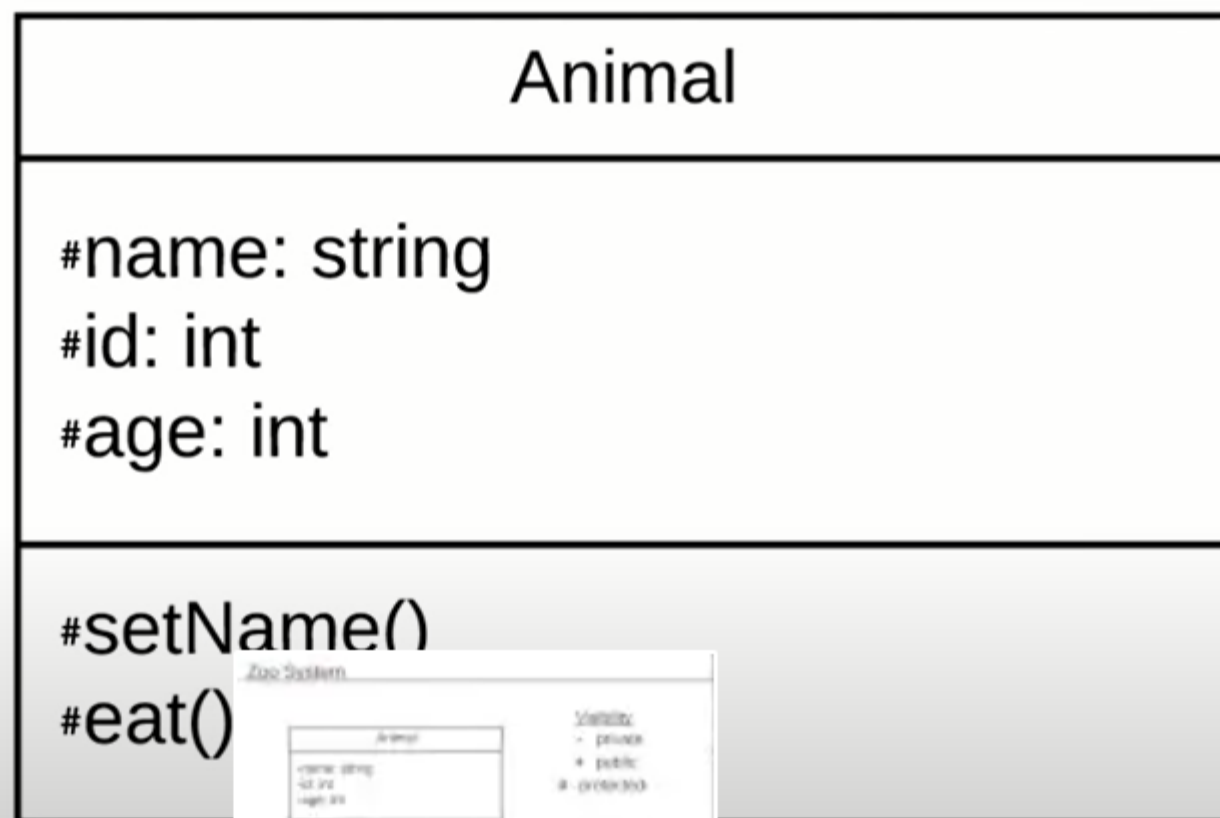


# Zoo System



## Visibility

- private
- + public
- # protected



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## Animal

-name: string  
-id: int  
-age: int

-setName()  
-eat()

## Employee

-name: string  
-employeeId: int  
-phone: string  
-department: string

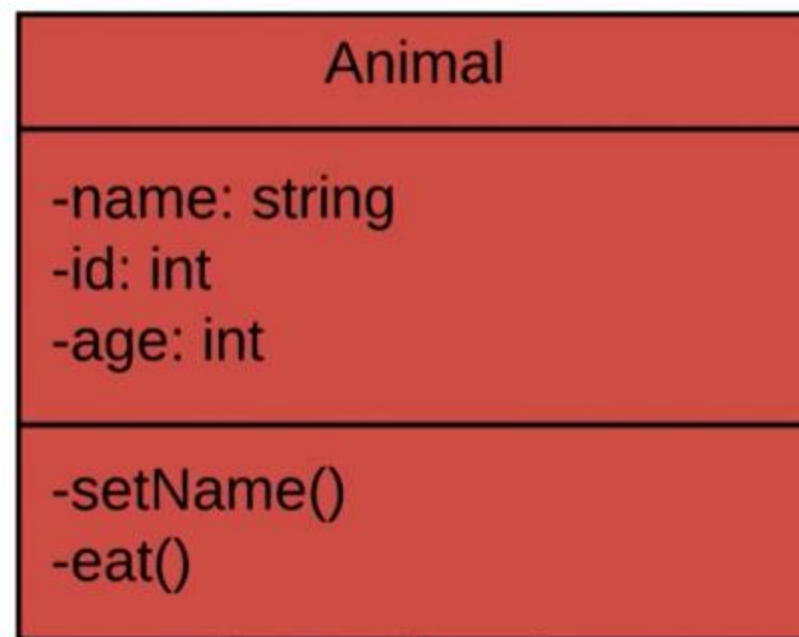
+updatePhone()



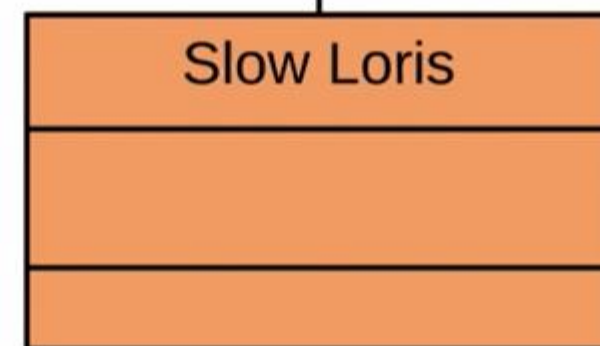
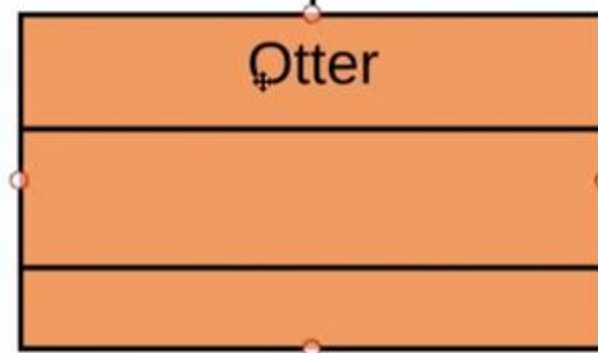
# Relationships

Inheritance →

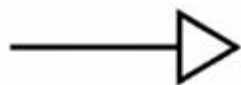
**Superclass**  
**Parent class**



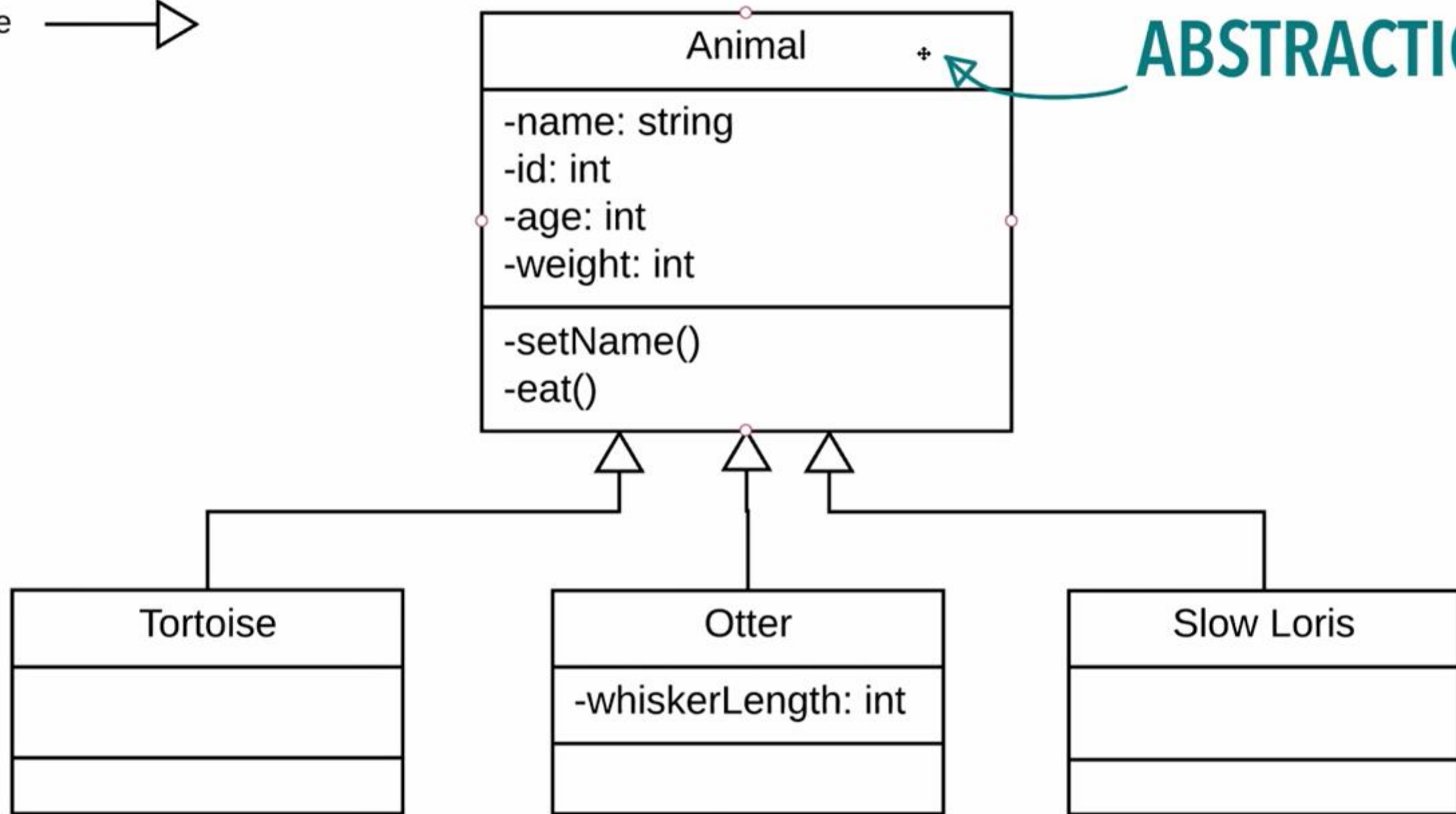
**Subclasses**  
**Child classes**

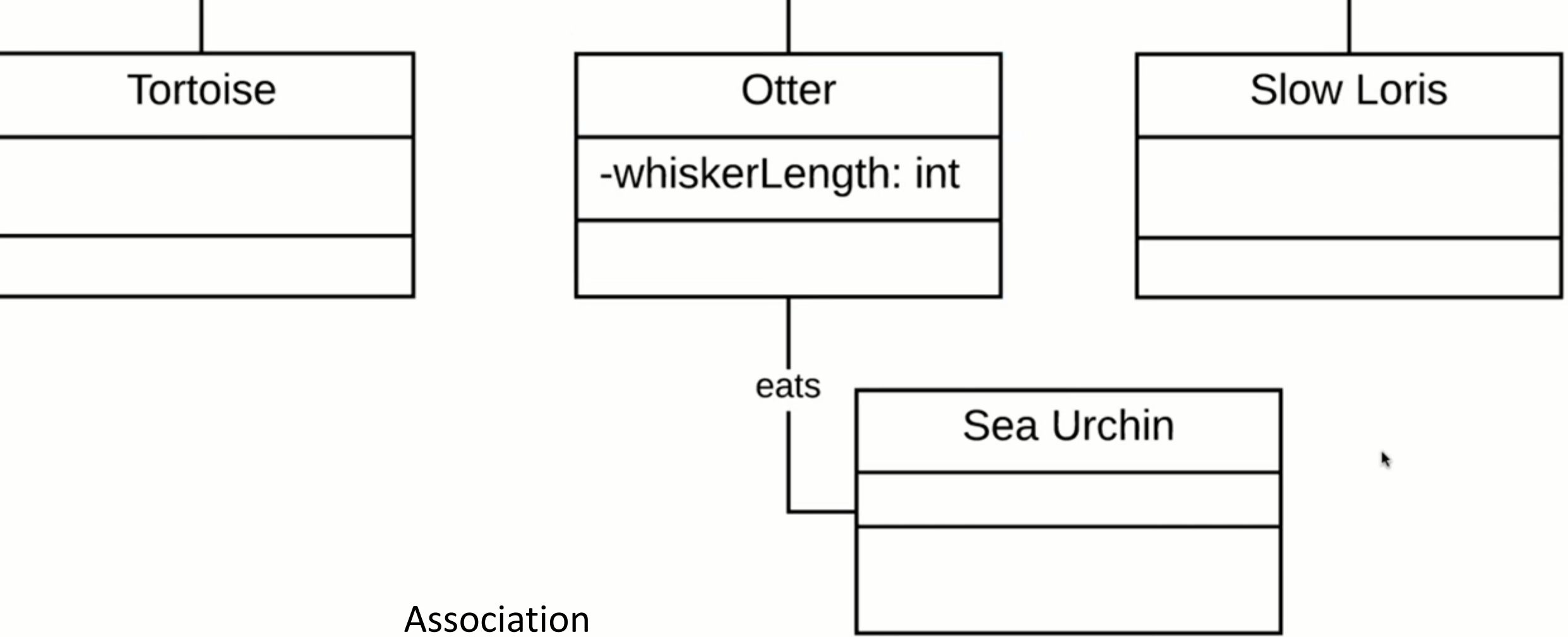


Inheritance



**ABSTRACTION**





Association

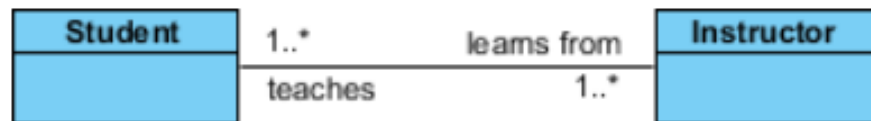
A single student can associate with multiple teachers:



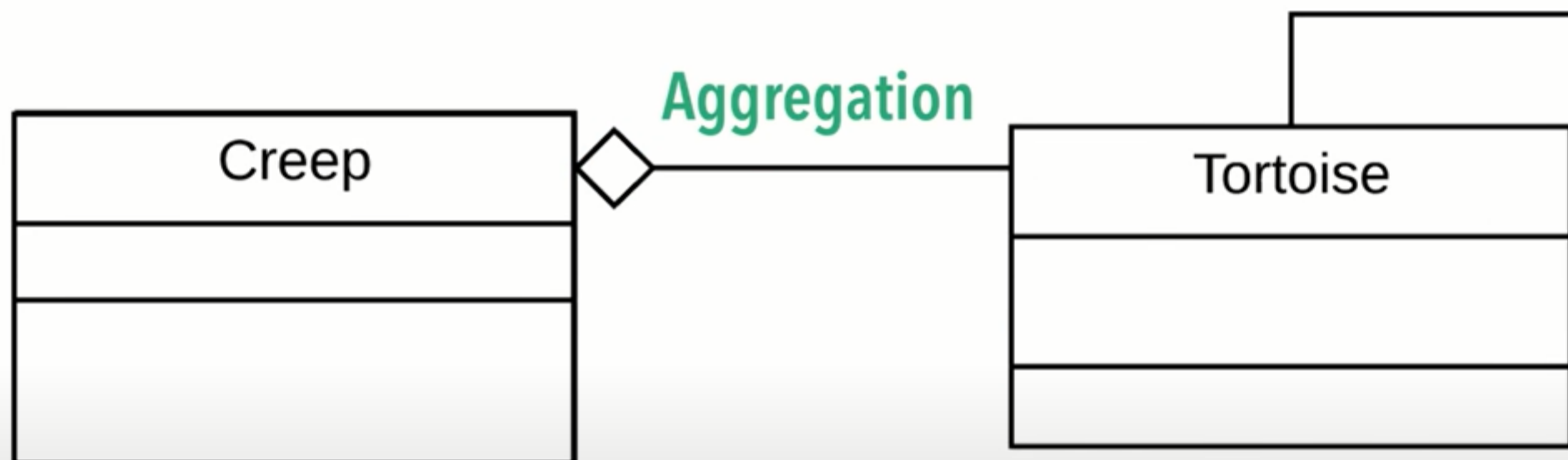
The example indicates that every Instructor has one or more Students:



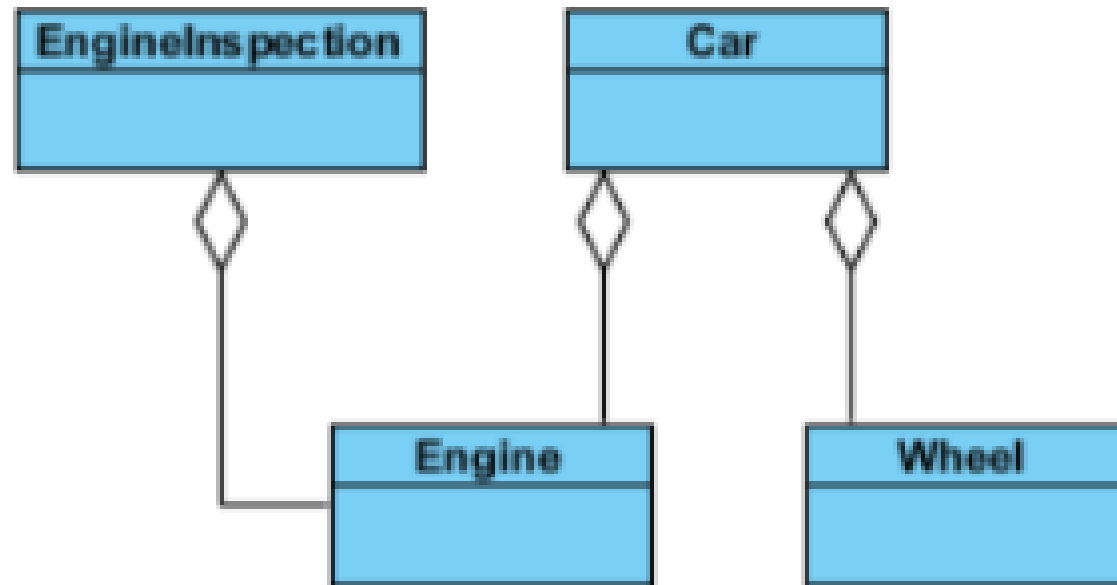
We can also indicate the behavior of an object in an association (i.e., the role of an object) using role names.

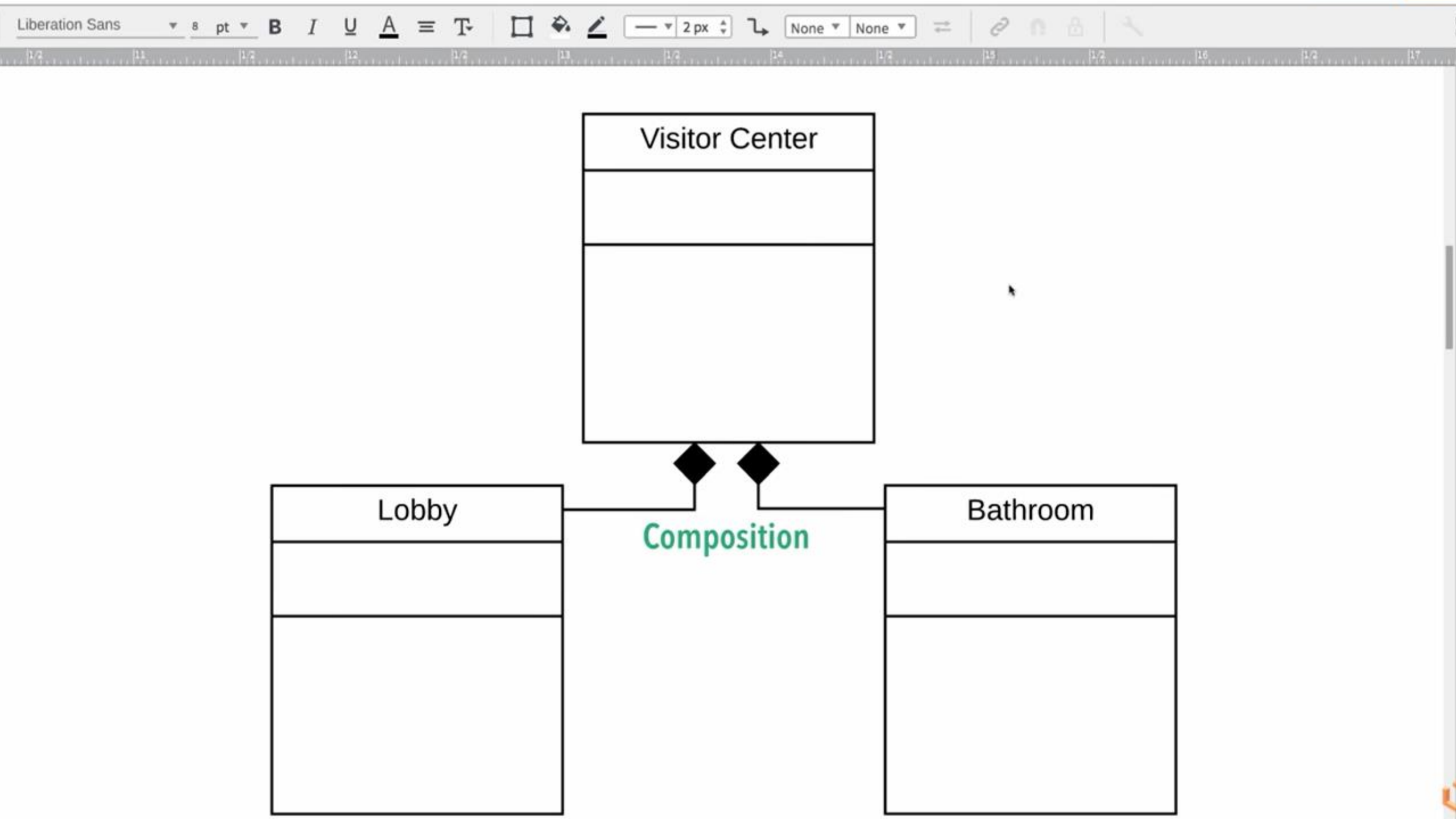


-eat



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# Multiplicity

0..1 zero to one (optional)

n specific number

0..\* zero to many

1..\* one to many

m..n specific number range

