Inheritance

“Is a relationship”

Recap

- Difference between interpreted and compile language
- A c++ compiler, e.g. g++, compiles the code and creates an executable
- Each C++ application requires a main function
- A class …
  - … can be viewed as a blueprint for an object
  - ... contains members; methods (= function) and fields (= variables)
  - … can be used as a type
- ‘Has a relationship’; a class can contain fields (=variables).
  - Examples of standard types are int, float and char.
  - An example of a self defined type is a class. *E*

    E.g. The class Speaker has a Tweeter and a Woofer object.

Recap

Speaker

Tweeter tweeter;
Woofer woofer

has a

Tweeter

float diameter;
float coilPosition;
…

Woofer

float diameter
float coilPosition;
…

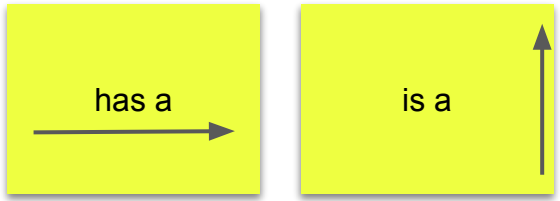
TEASER - “has a” vs. “is a”

1. Noteer op 1 kleur post-it
   1 class per post-it!

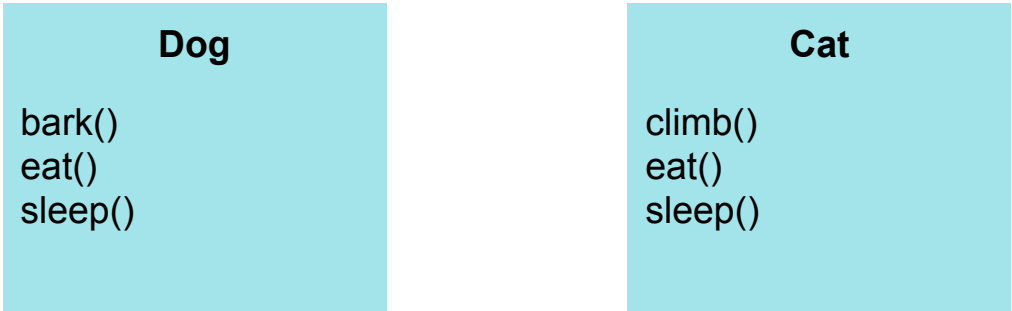
- Dog
- Cat
- Person
- ElectronicDevice
- Student
- Teacher
- Pet
- Animal
- Laptop
- MobileDevice

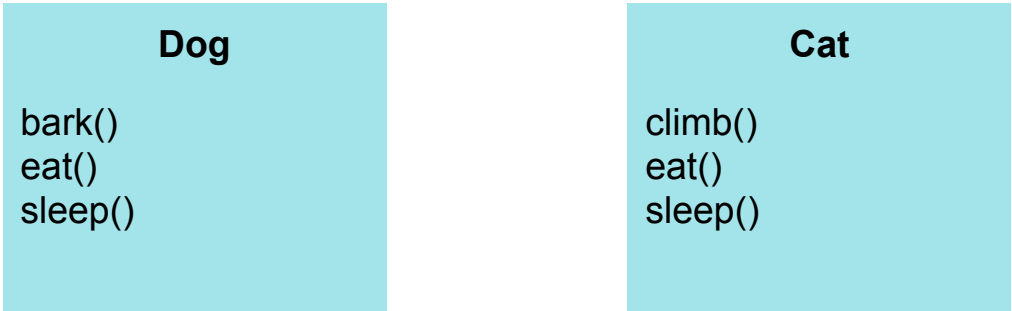
2. Orden de post-its én duid met een andere kleur post-it de relatie:

- “has a”
- “is a”



3. Voeg ev. extra classes toe.


Dog
bark()
eat()
sleep()
Cat
climb()
eat()
sleep()


Dog
bark()
eat()
sleep()
Cat
climb()
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sleep()

Duplicate code!

Dog	Cat
bark()	climb()
eat()	eat()
sleep()	sleep()

Duplicate code… is dat erg?

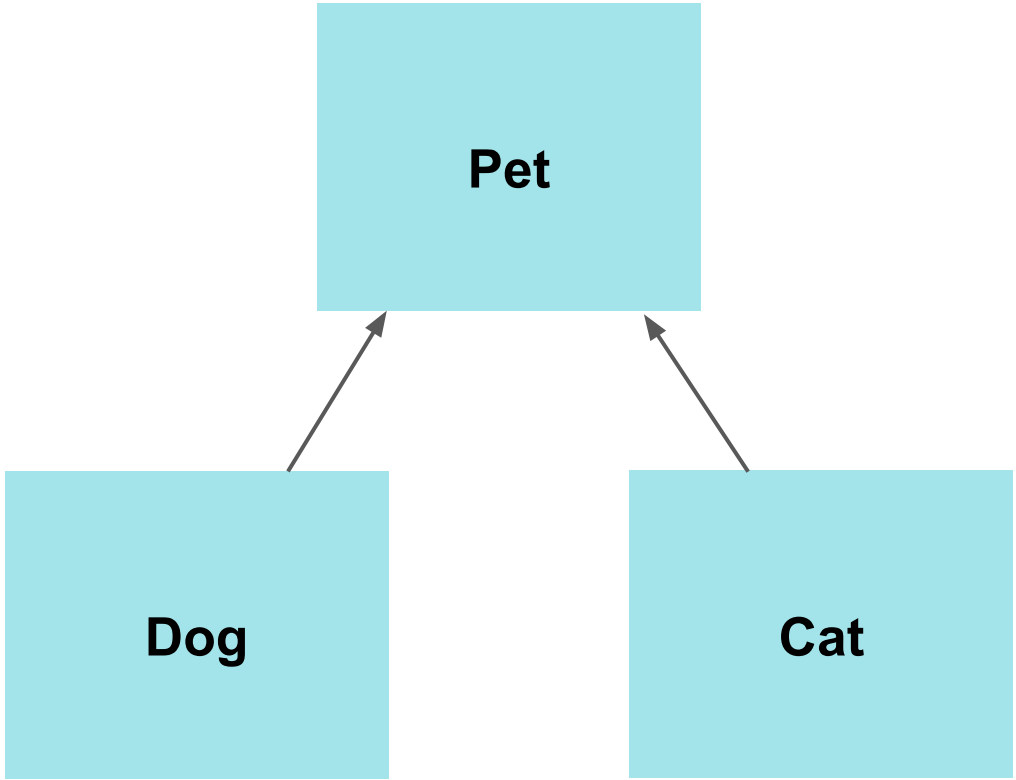
Dog

bark()
eat()
sleep()

Cat

climb()
eat()
sleep()

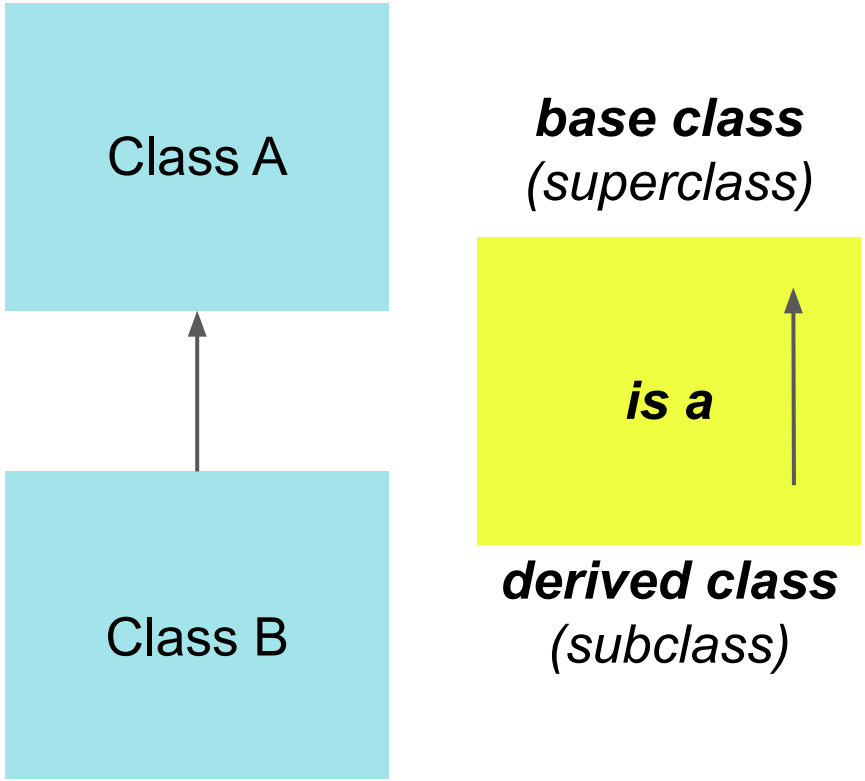
Inheritance



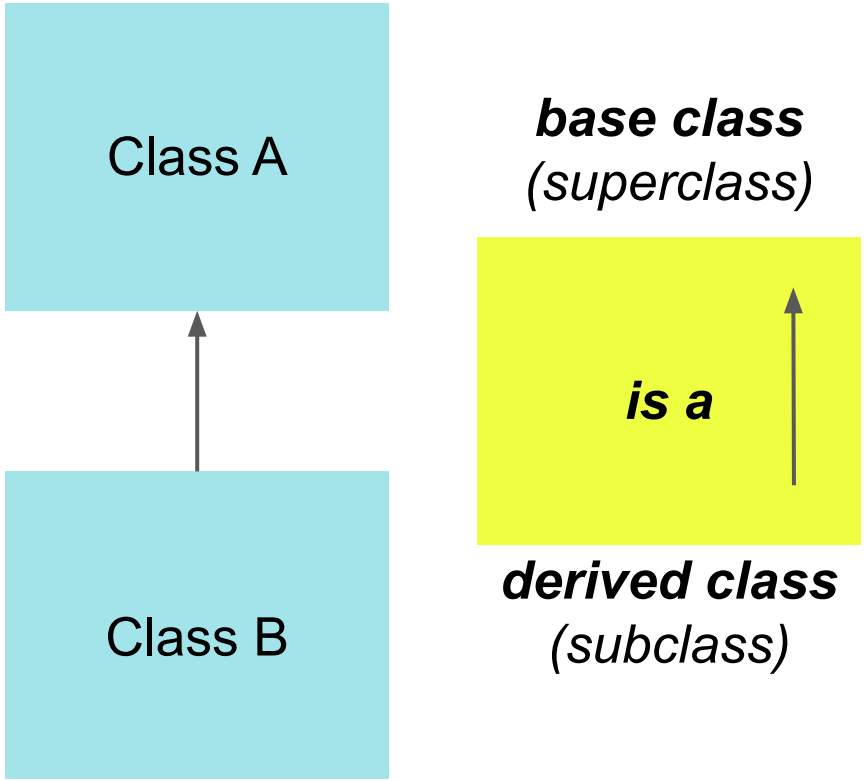
base class
(superclass)

derived classes
(subclasses)

Inheritance



Waarom staat die pijl naar boven en niet naar beneden gericht?



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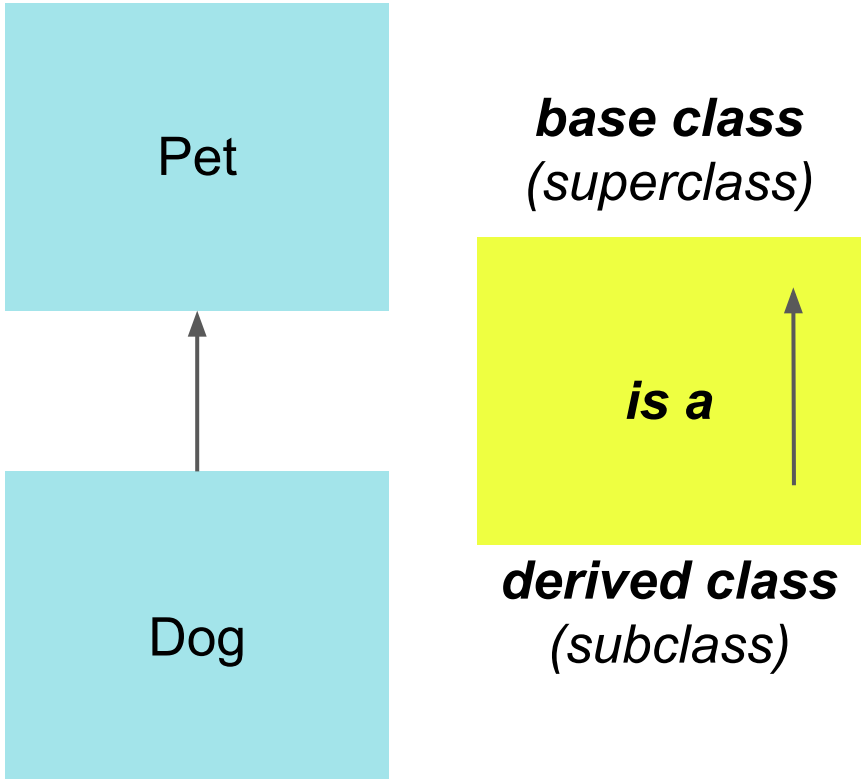
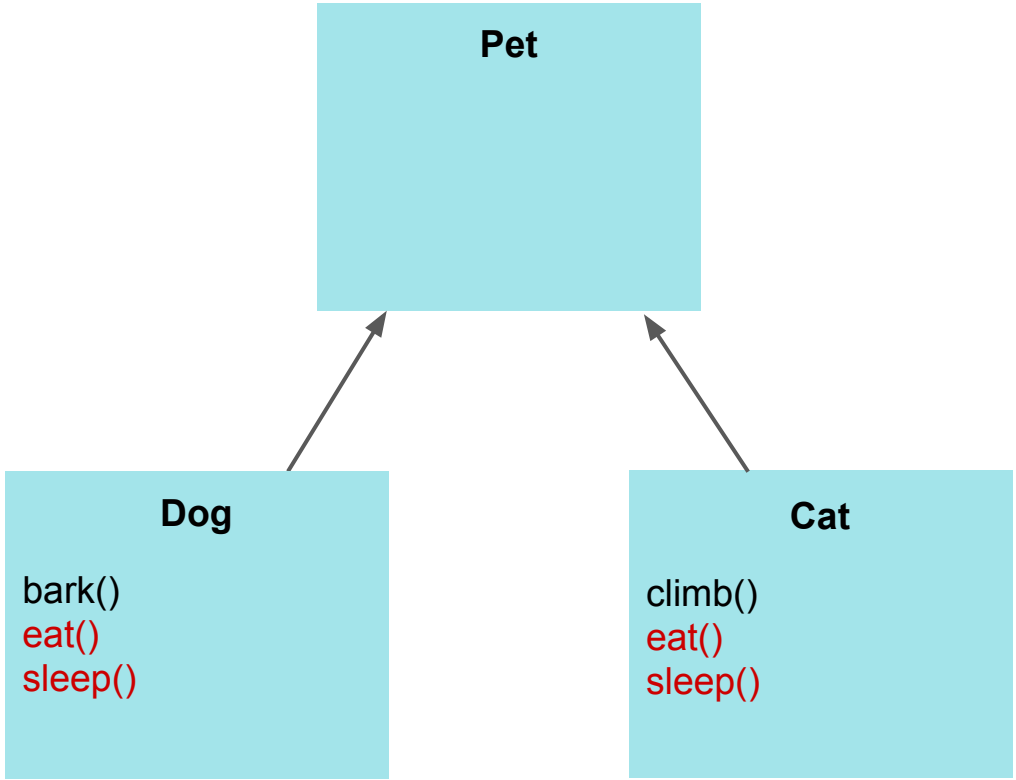


Inheritance



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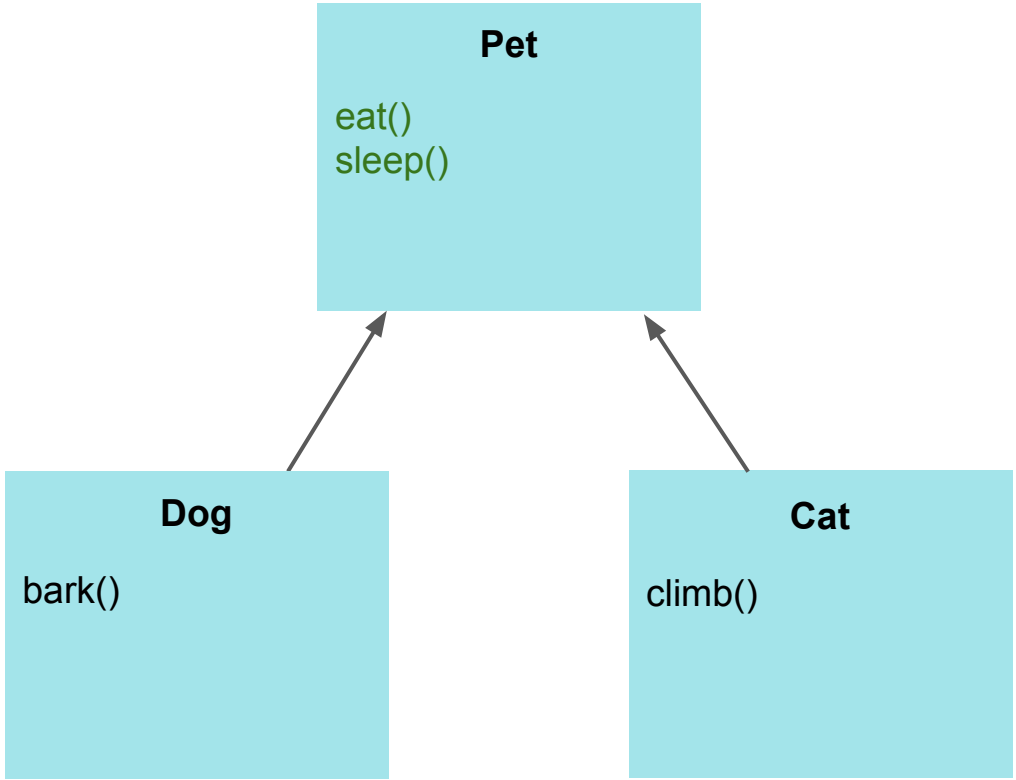
Inheritance



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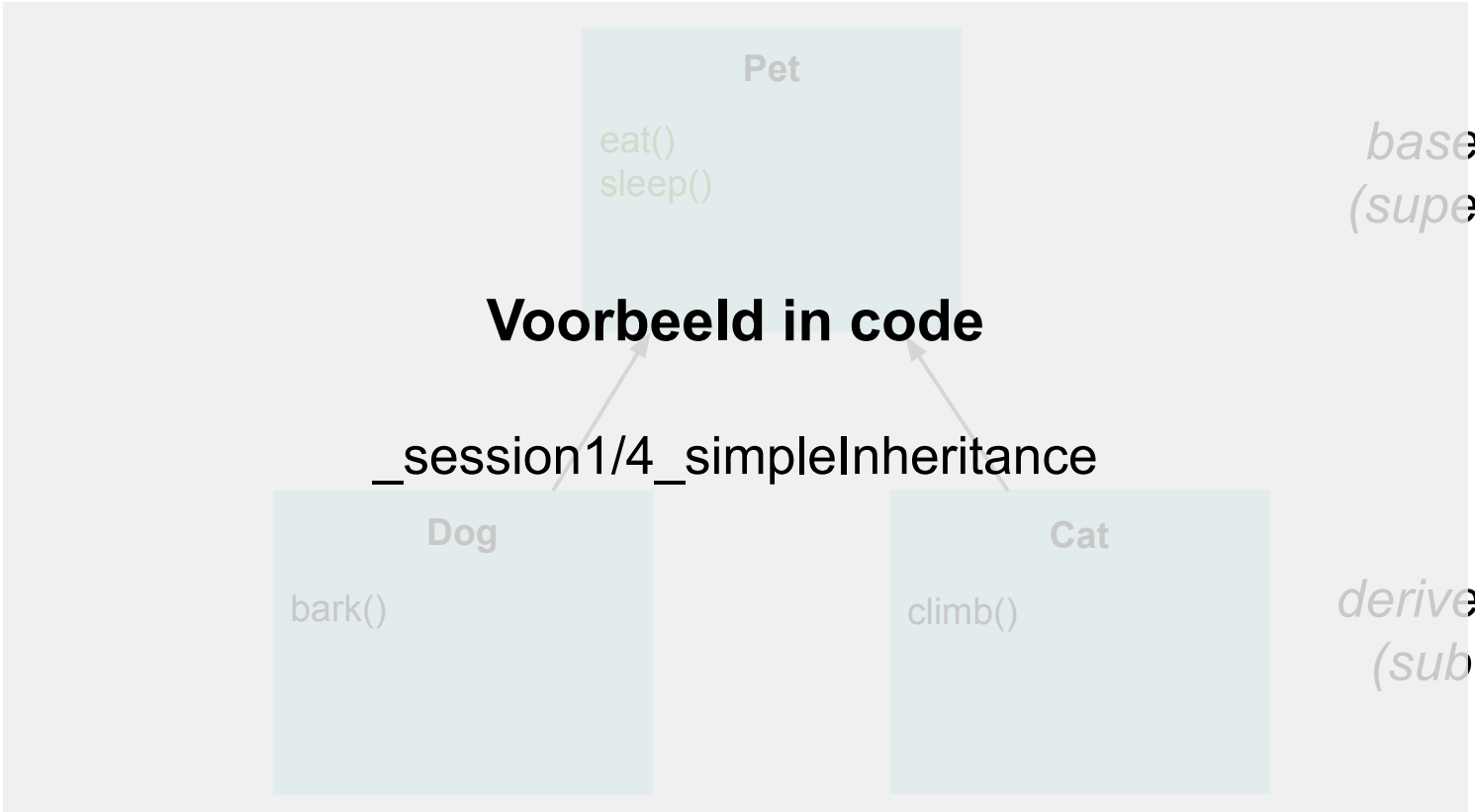
Inheritance

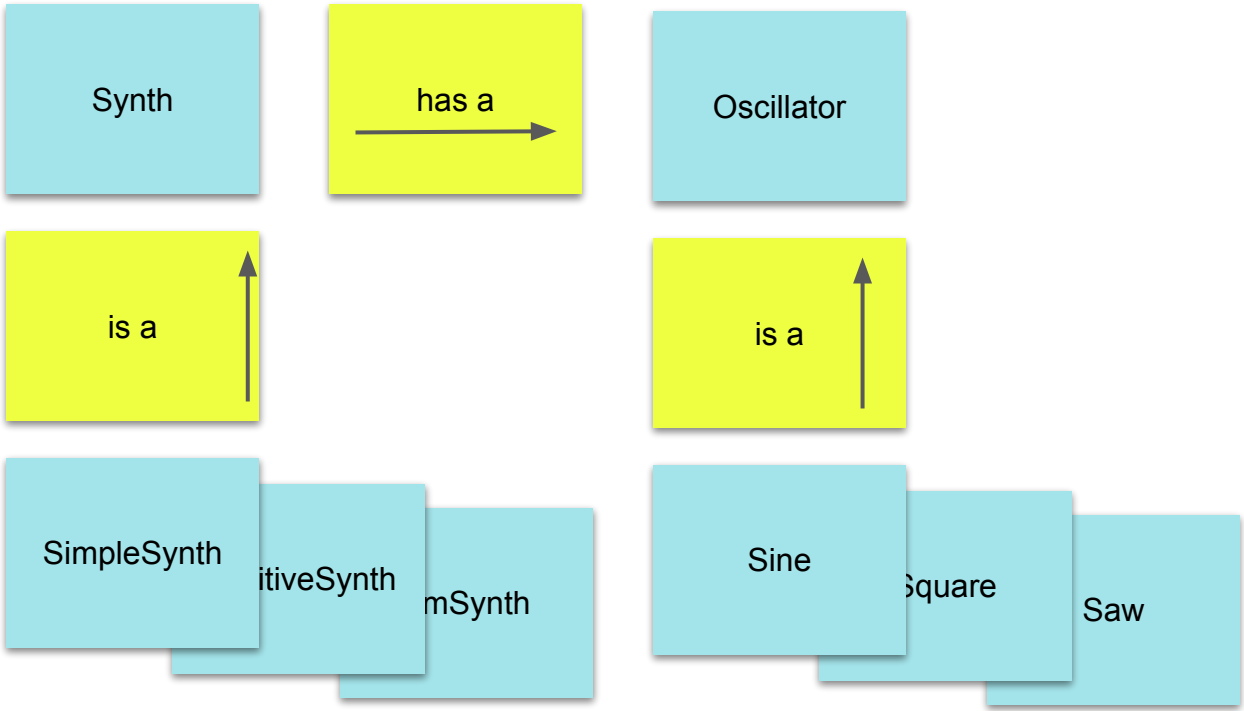


base class
(superclass)

Voorbeeld in code

_session1/4_simpleInheritance

derived class
(subclass)

Inheritance in een MT context

Synthesizer class voorbeeld