Static : Need for static
Static Attributes
Static methods

Instance Variable :
It is different for all object.

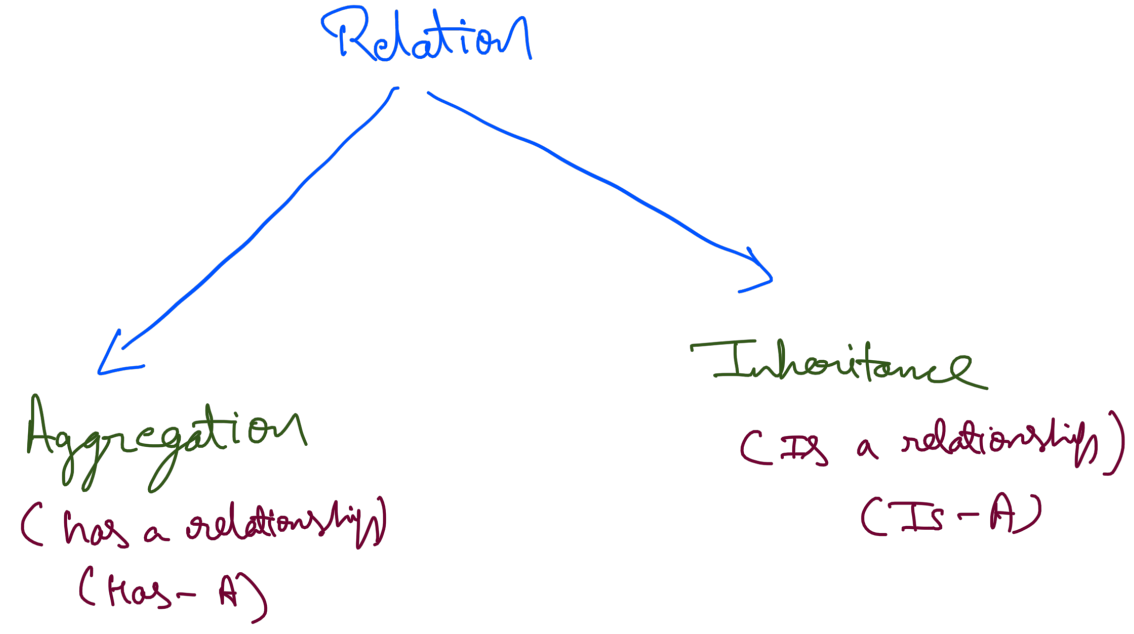
Static / class variable : value for all object is same

Static variable always created before or outside Constructor. To access static or class variable we use class name.

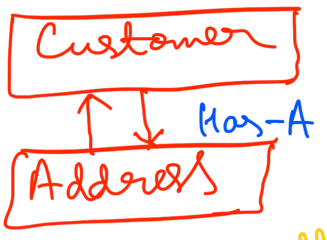
→ We can also make private static or class variable.
→ And make static get and set method to access and change but with my logic.
→ Static Method does not take self. we use decorator @staticmethod when we create static method inside class.
→ @staticmethod decorator signifies that these method do not need object to access.

→ Static method is a special method which we can access without any object. And it is required when we deal with static variable.

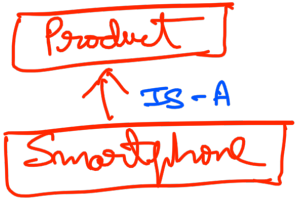
Relationship between classes



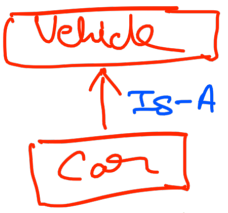
Ex:



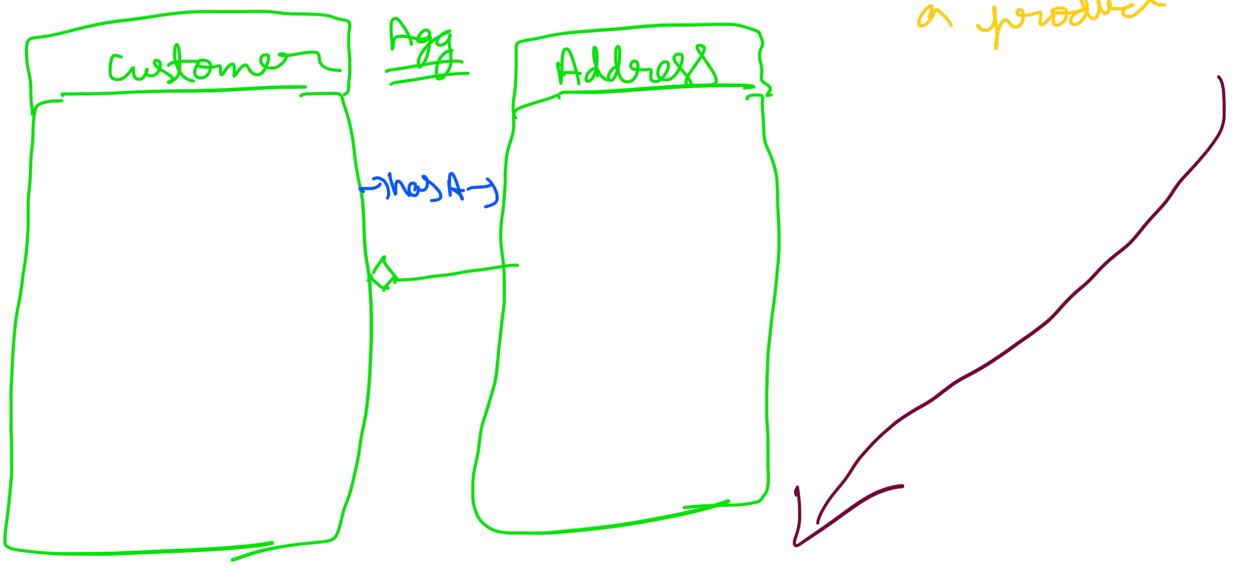
Customer has a address



Smartphone is a product.

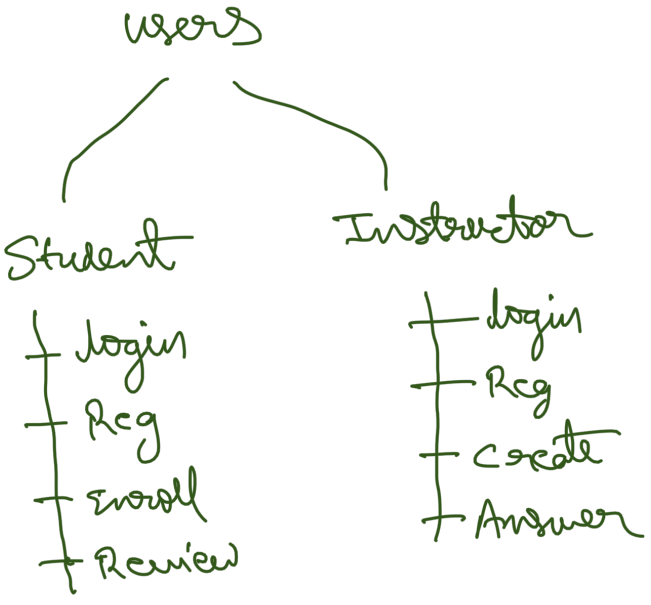


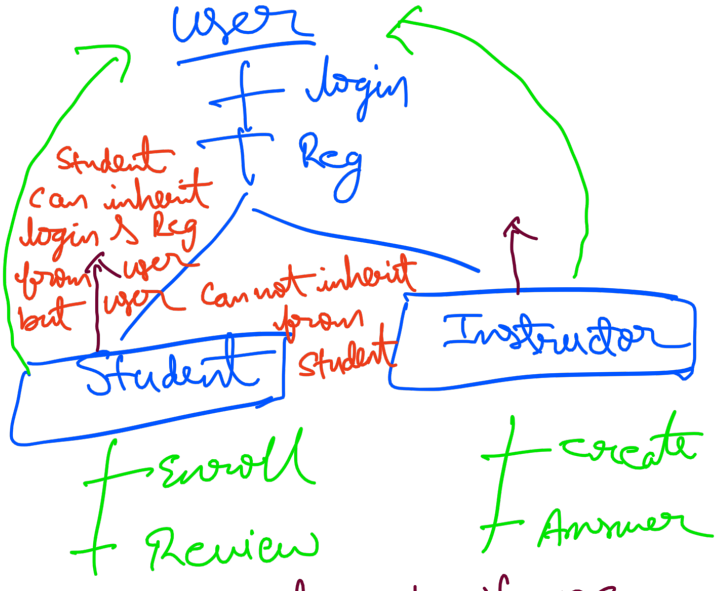
Car is a vehicle



Inheritance

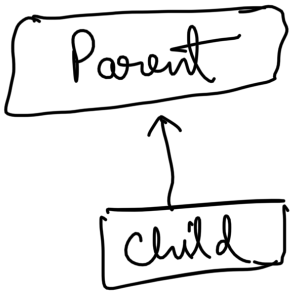
DRY:
Don't Repeat Yourself





Code Reuseability → Main concept behind Inheritance

what you inherit



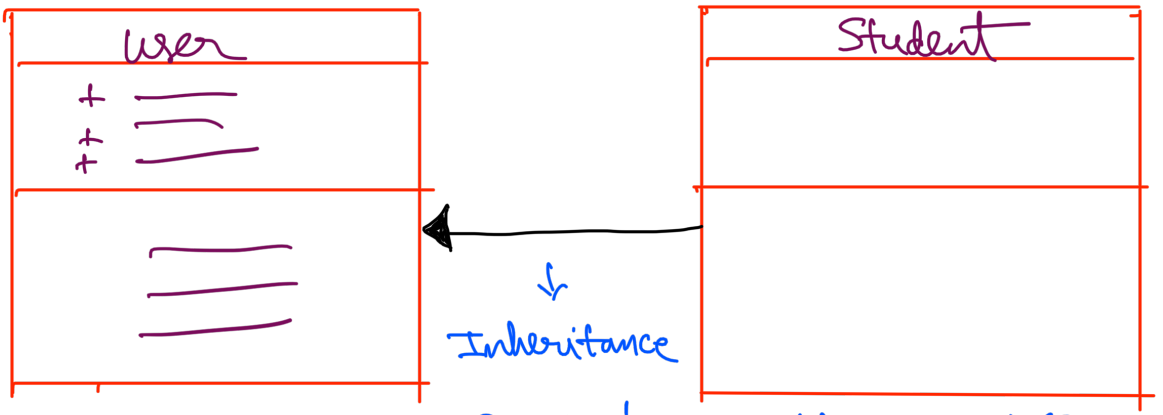
- → Data members
- → Functions/ Methods
- → Constructor

Note: Private members are not inherited

* Reverse inheritance is not allowed.

◇ ← diamond for aggregation

class diagram



Student is child / Sub-class of user
User is Parent class

Concepts

* If you are creating a class in which there is no constructor and it is a sub-class of parent class then from parent class constructor will initialized.

* child class member can not access hidden members of parent class.

* when same method is present in both parent and child class, then child class method will be called. This is Method Overriding.

* Method overriding is the concept comes under polymorphism. In polymorphism, there are 3 things:

  (i) Method overriding
  (ii) Method overloading
  (iii) operator overloading

* when child has no constructor then parent constructor get invoked.

* But when child has constructor then child constructor get invoked.

Super Keyword

with super keyword we can invoke parent method and constructor but not attributes.

super is the first thing we should write after __init__ then only it will work.

Refer Day 4 Python notebook