

What is the difference between a class and an object?

A Class can be considered what is the recipe for an object, while an object is the result of using the “class recipe”. It’s starting parameters is predefined and static when initially made but can be altered once the recipe is done.

Analogy: to use the cake recipe (Class) one can make one or more cakes (object(s))

What is Inheritance and what is the correct syntax for it?

Inheritance is a way to create subclasses of a greater more general class. These subclasses will have all of the abilities of the general class but can add it’s own more specialised abilities into the mix

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What is the difference between a has-a and an is-a relationship?

The difference between them is that “has-a” relationships references things it owns and can interact with. “is-a” relationships references what it was made from and what that can do. Meaning “is-a” relationships is all about inheritance, and “has-a” references composition

What is encapsulation? How is encapsulation handled in Python?

Encapsulation is the act of cordoning of interaction with the method/class into very controled or hidden ways of interacting with it. Python handles encapsulation by using underscores to make attributes private and therefore indicated that it should not be accessed directly. One can also do double underscores to make the attribute hidden by python scrambling the attribute name

What is polymorphism?

Polymorphism is the act of making common methods accessible by abstracting the input. This can be achieved by taking in several inputs into a method so that it can be used by a wide range of classes. The attributes or actions are not set in stone.