

Inheritance

- A subclass extends a superclass (or base class)
- The subclass inherits the base class's methods and attributes
- The subclass can add methods and attributes
- The subclass can override methods
 - Create a new method with the same name and parameters as the base class's methods

Abstract Base Class

- One or more methods are not implemented (they are abstract, or virtual)
- Objects cannot be created directly from an ABC
- A subclass must override the abstract methods

Subtype Polymorphism

- Objects that inherit from the same base class have the base class as a supertype
- Objects that share a supertype can be swapped out for each other since they share the same interface (methods)

Composition

- Composition is a "HAS A" relationship (vs the "IS A" relationship of inheritance)
- Store an object as an attribute of a class and use the methods of that object in this class's methods
- Composition is often preferable to inheritance

Strategy Design Pattern

- Define a family of algorithms, encapsulate each one in a class, and make them interchangeable
- Lets the algorithms vary independently from the classes that use it
- Combines composition and inheritance