**Object Oriented Programming**

The Four Principles

1. Encapsulation
   1. Each object keeps its state **private**
   2. Can only be accessed by calling functions
   3. Get and Set methods
2. Abstraction
   1. Each object should only expose a high-level mechanism for using it
   2. Should hide internal implementation details
   3. Makes implementation changes easier by not tying things together
   4. Example: You click a button on your phone to do something, but you don’t know what is happening under the hood.
3. Inheritance
   1. Allows us to reuse common logic and separate out unique logic
   2. A child class derives information from a parent class
   3. Example: Cat class inherits certain characters from Animal class.
4. Polymorphism
   1. Allows us to use a class exactly like its parent
   2. Each class implements its own version of the parent method
   3. Allows creation of a list of objects of similar type (i.e. circles, squares, rectangles are all shapes)

Source: <https://www.freecodecamp.org/news/object-oriented-programming-concepts-21bb035f7260/>