WEEK 11

Objects Continued

- Terminology
  - Class: abstraction of an object, defines all member variables and methods
  - Object: instantiation of a class. Is specific INSTANCE of that class. e.g. can have multiple objects that are instantiations of the same class
  - Encapsulation: hides all information associated with the class, can just use the methods. All member variables are private
  - Public: Accessible to the outside world (eg main)
  - Private: Inaccessible to the outside world
  - Getter: a method whose sole purpose to return a data member so that code outside the class can see the value (used on private data members)
  - Setter: a method whose sole purpose is to set a PRIVATE data member to a new value that has been passed in as input. Also referred to as a mutator
  - Static: Variables (or methods) that are the SAME for ALL instances of the class. Declared before the constructor and are accessed by ClassName.variableName
- Code
  - __init__: Constructor, sets up all the member variables to be used
  - __str__: Gets implicitly called when you try to print out an object. You can decide what gets printed when you would like to print the object (give as much or as little information and in whatever format you would like)
  - self.: Preface all member variables with this to make that variable a data member of the class (eg self.name, self.age)
  - self.__: the underscores denote that the data member is private. Also use the double underscore before a method name to indicate the method is private
- Classes in Separate PyCharm Files
  - Dump all your class code into one file (call it whatever you'd like)
  - Syntax to include class: from <file_name> import <class_name>