**Variables, Objects and Values**

* Everything in python is an object
  + Variables, functions, even code
* Every object has an ID, Type and Value
  + ID uniquely identifies a particular instance of an object
    - Cannot change for the life of the object
  + Type identifies the class of an object
    - Cannot change for the life of the object
  + Value is the context of the object
    - Mutable objects can change value, immutable object cannot
* All variables in Python are first class objects
  + What looks like a simple variable may be something more complex

**Mutable and immutable objects**

* Objects in Python may be mutable or immutable
* Mutable objects may change value, immutable objects may not
  + May look like it’s value changes
  + Distinction is visible using id()
  + Container object (tuples, lists, etc. ) may appear to change value
* Most fundamental types in python are immutable.
  + Numbers, strings and tuples
* Mutable objects include:
  + Lists, dictionaries, other objects depending upon implementation.