Lecture 8: October 24, 2019

Reading: §8

Assignments: Homework 2, due on October 24 at 11:59pm

1. Lists
   (a) Sequence of values (ints, floats, strings, other lists, etc.)
   (b) Denoted by square brackets [ ] with values separated by commas
   (c) Lists are mutable
   (d) How to create a list
2. Lists and strings [datecvt.py]
3. Program to print words in a line [lines.py]
4. What you can do with lists
   (a) Check membership: in, not in
   (b) +: concatenation
   (c) *: repetition
   (d) list[a:b]: slice list from a to b − 1
   (e) del list[i]: delete element list[i]; i can be a slice
5. Searching a list
   (a) Example use: linear search [linsearch.py]
6. Objects, references, aliasing
   (a) For strings, one copy: assume a = "banana"
      i. After b = a or b = a[:], then a is b is True
   (b) For lists, multiple copies: assume A = [ 1, 2, 3 ]
      i. After B = A then A is B is True
      ii. After B = A[:], then A is B is False
7. Lists as parameters: can change list elements in function and they are changed in caller [args2.py]
   (a) Add elements to, remove elements: L.append(x), L.extend(ls), L.insert(i, x), L.pop(), L.remove(x)
   (b) Element ordering: L.reverse(), L.sort()
   (c) Other: L.count(x), L.index(x)
8. More on parameters: named arguments and variable number of arguments [args3.py]
9. Tuples
   (a) Used to group data
   (b) Like lists, but immutable
10. isinstance(obj, type) function
    (a) type is bool, float, int, list, str, tuple