Outline for February 1

Reading: *text*, §5.2–5.3   **Assignments:** Homework 2, due on February 4 at 11:55pm — note extension

1. String methods: find characters and substrings (return position or cause exception) [*strfind.py*]
   a. *S*.find(*s*) — Return the index of the first occurrence of *s* in *S*; −1 if *s* not in *S*
   b. *S*.index(*s*) — Return the index of the first occurrence of *s* in *S*; ValueError exception if *s* not in *S*
   c. *S*.rfind(*s*) — Return the index of the last occurrence of *s* in *S*; −1 if *s* not in *S*
   d. *S*.rindex(*s*) — Return the index of the last occurrence of *s* in *S*; ValueError exception if *s* not in *S*
2. String methods: miscellaneous [*strmisc.py*]
   a. *S*.count(*s*) — Return the number of times *s* occurs in *S*
   b. *S*.startswith(*s*) — True if *S* starts with *s*
   c. *S*.endswith(*s*) — True if *S* ends with *s*
   d. *S*.replace(*s*,*t*) — Replace all occurrences of *s* with *t* in *S*
3. 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
4. Program to print words in a line [*lines.py*]
5. Program to compute some statistics [*addup.py*]
6. 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
7. 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
8. list(enumerate(L)) produces pairs (*index*, *list element*)
9. 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)
10. Tuples
    a. Used to group data
    b. Like lists, but immutable