Outline for October 12, 2023

Reading: §6.1–6.8

Assignments: Homework 1, due October 6, 2021

1. Sequences
   (a) Sequences are a series of values in a particular order
   (b) In Python predominantly strings and lists but also sets and tuples

2. Strings
   (a) Sequence of characters (characters are strings of length 1)
   (b) Strings are immutable; really important for functions

3. Basic string operations
   (a) +, concatenation for strings
   (b) *, repetition repeats given value
   (c) len() returns length of sequence
   (d) s in str returns True if s is a substring of str, False otherwise

4. Indexing, var[position]
   (a) Count from 0 to len(var) – 1
   (b) Position can be a negative number to count from right

5. Assignment with indexing doesn’t work as strings immutable
   x = 'hEllo'; x[1] = 'e' produces an error

6. Slicing, var[start:end]
   (a) Value at index end not included in slice
   (b) If omitted, starting value defaults to 0 and ending value defaults to last index + 1
   (c) Can use negative index

7. Looping over strings: for i in str

8. Example program [strstuff.py]

9. 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

10. 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

11. Example of sets [sets.py]