

Outline for October 18, 2022

Reading: §4.9

Assignments: Homework 2, due October 20, 2022

1. Lists as parameters: can change list elements in function and they are changed in caller [*args2.py*]
2. More on parameters: named arguments and variable number of arguments [*args3.py*]
3. `isinstance(obj, type)` function
 - (a) `type` is `bool`, `float`, `int`, `list`, `str`, `tuple`
4. Recursion
 - (a) n factorial [*nfact.py*]
5. Thinking recursively [*recfun.py*]
 - (a) First: think of the recursive case (write the problem in terms of something involving a smaller instance of the problem)
 - (b) Next: think of base case (when to stop)
 - (c) Example: Find the length of a string
 - (d) Example: Does the string only have alphabetic characters in it?
 - (e) Example: Find the maximum element of a list
 - (f) Example: Construct a string from a list of strings
 - (g) Example: Reverse a string
6. Recursion
 - (a) Palindromes [*palindrome.py*]
 - (b) Fibonacci numbers [*rffb.py*]
 - (c) Tower of Hanoi [*hanoi.py*]