

## Outline for November 19, 2012

**Reading:** §7, 14

**Assignment due:** Wednesday, November 28, 2012 at 5:00 PM

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1. Example use: linear search [*linsearch.py*]
2. Example use: recursive linear search [*rlinsearch.py*]
3. Example use: linear search using L.`index(x)` [*linsearchix.py*]
4. Tuples
  - a. Used to group data
  - b. Like lists, but immutable
5. Overview of top-down design
  - a. Sometimes called “stepwise refinement”
  - b. Break problem into smaller pieces, plus the “glue” to hold them together
  - c. Do the glue first, with the smaller parts being stubs
  - d. Do the stubs
6. Step 1: the program, at a high level
  - a. Play rock, paper, scissors against the computer
  - b. Define goal, being specific
  - c. Define input
  - d. Define high-level design
7. Step 2: Data representation, smaller pieces, and main program
  - a. Define the routines as stubs
  - b. Do main, directly from the design
8. Step 3: First routine, who wins
  - a. Test it with the main [*rps-prog1.py*]
9. Step 4: Second routine, computer picks
  - a. Be sure to print the result; useful later on, so a separate routine
  - b. Again, test it with main [*rps-prog2.py*]
10. Step 5: Third routine, user picks
  - a. Check for errors on entry, and announce results
  - b. Again, test it with main [*rps-prog3.py*]