

Outline for October 8, 2012

Reading: §4

Assignment due: October 12, 2012 at 5:00PM

1. Iteration
 - a. Definite loops: execute a specific (definite) number of times
 - b. Indefinite loops: execute until a general condition is false
2. For loops
 - a. General form: `for i in iterator`
 - b. *Iterator* is either list or something that generates a list
 - c. Very common form: `for i in range(1, 10)`
3. `range()` in detail [*for.py*]
 - a. `range(10)` gives 0 1 2 3 4 5 6 7 8 9
 - b. `range(3, 10)` gives 3 4 5 6 7 8 9
 - c. `range(2, 10, 3)` gives 2 5 8
 - d. `range(10, 2, -3)` gives 10 7 4
4. Program: counting to 10 [*toten.py*]
5. Program: sum the first 10 squares [*sumsq.py*]
6. Program: Fibonacci numbers [*fib.py*]
7. Decision structures
 - a. If statement
 - b. Executes once, based on condition
 - c. Syntax
8. Conditions
 - a. Resolves to boolean value
 - b. Literal booleans: `True` (1), `False` (0)
 - c. Testable as true or false
 - d. Relational operators
 - i. Use two arithmetic expressions connected with relational operators to create a boolean
 - ii. Relational operators: `>`, `>=`, `<`, `<=`, `==`, `!=`
 - iii. Precedence: resolved after arithmetic operators
 - iv. `6 > 2 + 3`; `"UCD" == "Sac State"`