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: \texttt{for i in iterator}
   b. \texttt{Iterator} is either list or something that generates a list
   c. Very common form: \texttt{for i in range(1, 10)}

3. \texttt{range()} in detail [for.py]
   a. \texttt{range(10)} gives 0 1 2 3 4 5 6 7 8 9
   b. \texttt{range(3, 10)} gives 3 4 5 6 7 8 9
   c. \texttt{range(2, 10, 3)} gives 2 5 8
   d. \texttt{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: \texttt{True} (1), \texttt{False} (0)
   c. Testable as true or false
   d. Relational operators
      i. Use two arithmetic expressions connected with relational operatorsto create a boolean
      ii. Relational operators: >, >=, <, <=, ==, !=
      iii. Precedence: resolved after arithmetic operators
      iv. 6 > 2 + 3; "UCD" == "Sac State"