Outline for October 3, 2012

Reading: §2

1. Simple assignment: `variable = expression`
2. Expressions
   a. Operators `+`, `−`, `∗`, `/`, `//`, `%`, `**`
   b. Precedence
      i. Parentheses for grouping (`(, )`)
      ii. Exponentiation (`**`); associates right to left
      iii. Positive, negative (unary `+, −`)
      iv. Multiplication, division, integer division, remainder (`∗`, `/`, `//`, `%`)
      v. Addition, subtraction (binary `+, −`)
      vi. In general, operators of equal precedence are evaluated from the left to the right (associativity);
         exception noted above
3. Input: input statement
   a. `input(prompt)` prints prompt, waits for user
   b. When user hits enter, it returns what was typed as a string
4. Type converter functions `int`, `float`
5. import statement
   a. `import math`
6. Example: program to compute the length of the hypotenuse of a right triangle [hypotf.py]
   a. What is the math formula? (Pythagoras: \( z = \sqrt{x^2 + y^2} \))
   b. Steps in the program:
      i. Ask user for length of two other sides
      ii. Compute hypotenuse, using math library’s square root function
      iii. Print result
   c. Implementation (line by line)
7. Another form of the import statement
   a. `from math import sqrt` [hypot.py]