# 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*]