COMMON OPERATORS

Frequently Used, Straightforward Behavior
ASSIGNMENT OPERATOR

• NOT the same as = in algebra
• Stores the expression (i.e., the expression) on the right side in the variable on the left side
• Examples:
  • x = y + 5;
  • int a = y + 5;
  • int z = x = y + 5;
  • w = x = y = z = 0;
ARITHMETIC OPERATORS

- Generally behave as they do in algebra (i.e., as you would expect of them)
- +  Addition
- -  Subtraction
- *  Multiplication
- /  Division
- %  Modular (modulo, remainder)
THE DIVISION OPERATOR

- If one or both operands are floating point values (e.g., float or double), the result is a floating point value
  - 3.14 / 2.7
  - 1.0 / 3
  - 1 / 3.0

- If both operands are integer (char, short, int, or long), the result is a truncated integer
  - 1 / 3 is 0
  - 999 / 1000 is 0
THE MODULAR OPERATOR

- Also known as the remainder operator
- Begin by performing long division but express the results as a quotient and a remainder; discard the quotient; the result is the remainder: \( 11 \% 4 = 3 \)
CASTING OPERATOR

- The compiler will automatically perform some type conversions, called *type promotion*:
  - double max = 95;
  - double x = sqrt(2);
- Explicit cast:
  - int score = (int)95.5;
  - int score = int(95.5);
  - (double)score / 10
  - double(score) / 10    double(score / 10) ????
  - double(score) / 10
  - (int)(3.14 + 2.7)      (int)3.14 + 2.7 ????