* What is a computer?
  + An electronic device that accepts information and instructions from a user, manipulates the information according to the instructions, displays the information for retention later
    - Desktops, Laptops, Handhelds, ATMs, Wearable technology
* Operating Systems
  + Software that controls everything the computer does
    - Windows (Microsoft
    - OSX (apple)
    - iOS (iPhone)
    - Android (Google)
* Data
  + Refers to words, numbers, figures, sounds, and graphics, used to represent anything
  + Binary Digits (bits)
    - The 1’s and 0’s of a computer
      * A series of eight bits is called a byte (B)
* Basic Machine Architecture
  + Memory
    - Arithmetic Logic Unit
      * Accumulator, Input /Output
      * (MV, ADD, AND, OR, XOR)
* Programming Languages
  + Languages use different syntax to convert source code into machine code
  + To convert, the source file goes through a compiler, or interpreter, to produce machine code
  + After compiling, you now have an executable file that runs (or executes)
* Computing
  + All knowledge can be thought as declarative or imperative
    - Declarative-statements of fact
      * This class is in room NB-243
        + Pi=3.14159
* Coding the Program
  + Integrated Development Environment, (IDE)
    - Eclipse, NetBeans, jGrasp
  + Text Editors
    - Notepad++, Sublime Text, TextMate
* Basic Programming Logic
  + A Program is a set of instructions, like a recipe
    - Cooking Chicken Cordon Bleu
      * Get Ingredients
      * Mix Dry ingredients
      * Mix Wet Ingredients
      * Cut Chicken
      * Inset Gam and Cheese
      * Bread
      * Cook
* Aspects of Languages
  + Primitive Constructs
    - Java- number, stings, simple operators
    - English-words
  + Syntax- Properly building from the primitives
    - 1.8 +1.8 is valid Java syntax
  + Semantics
    - There should not be more than one meaning associated with any statements because the computer cannot figure out what meaning to consider
* Testing the Program
  + Syntax Errors
    - Typos in the code that cause the programs not to compile
  + Runtime Errors
    - Improperly written software that crashes (stops running)
* Common beginning Errors
  + Missing Brackets
  + Missing Semicolons
  + Missing Quotation Marks
  + Misspelling Names
* Preventing Errors
  + Compile Early, Compile Often
  + Solve the first error first, then recompile
  + Always close a bracket before compiling
* Data Types
  + Two Types; Objects and Primitives
* Casting Numeric Typed
  + Double I = 4.5;
  + Int j = (int) I; // j will now equal 4
  + Float k = (float) j; //what does this equal?
* Naming a Variable
  + Naming Conventions
    - camelCase
  + Must be one word and start with a letter, underscore (\_) or dollar sign ($)
  + Cannot be a keyword
  + Variables are case sensitive