**AP Computer Science - Chapter 2 Skills Checklist**

* Variables - int, double, char
* Scanner Class - Getting input from console, Declaring, Importing
* Naming Conventions/Rules (Identifiers)
  + lastName, valid starting characters
* Constants – *final* keyword
* Mathematical Operators - addition, subtraction, multiplication, division and modulus (remainder, %)
* Order of Operations

1. Parentheses
2. Multiplication, Division, Remainder (%) - (Left to Right)
3. Addition, Subtraction (Left to Right)

* Math.pow, Math.sqrt
* Augmented Assignment Operators

|  |  |  |
| --- | --- | --- |
| Operator | Example | Equivalent |
| += | X += 3; | X = X + 3; |
| -= | Z -= 2; | z = z - 2; |
| \*= | a \*= b; | a = a \* b; |
| /= | i /=2; | i = i /2; |
| %= | x %=5; | x = x % 5; |

* Incrementing and Decrementing Operators - (**Assume that x is an integer variable with a starting value of 1**)

1. Postfix increment - Add 1 to x after x is used in the formula
   1. x++; (x is incremented by 1) Thus, x = 2
   2. y = x++; (y is first assigned the value of x, then x is incremented) Thus, x = 2 and y = 1
2. Postfix decrement (x--)

* Number Type Conversion (AKA "Casting")

1. (double), (int)
2. Value that follows is converted to that type
3. (Assuming int x;) x = (int) 3.14; (x = 3)

* Character Data Type (char)

1. Uses single quotes char c = 'R';
2. ASCII Table (Corresponding int value)

* Escape Characters

1. Uses backslash and appears as part of a String (inside double quotes)
   1. \n - new line (equivalent to pressing <Enter> )
   2. \t - Tab (Used to align data into tables)
   3. \\ - Used to output a backslash
   4. \" - Used to output a double quote

* String Class

1. Used for output, either in System.out.println
2. Uses the (+) character to append static text and variables.
3. Ex: String showX = "The value of x is " + x;

**Test Format**

1. Objective Questions
2. Calculate Output
3. Livelab Program