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| **Date Assigned: 1/17/17** | **Date Due: 1/19/17** |
| **Unit:** Language Basics | **Turn In List:** **1. This document** |
| *“I will start to familiarize myself with a basic application framework, data types, decision making, looping and plan my own basic application.”* | |

**Title: Title**

**Content Objectives:** Students will familiarize themselves with syntax for common language methodology learned in semester one while studying a different language.

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| **Starter Activity** |
| Include code for a **runnable** “hello world” application in your new language below, in this box: see  <https://en.wikibooks.org/wiki/Computer_Programming/Hello_world>  !!INCLUDE CODE HERE!!  public class MyFirstJavaProgram {  public static void main(String []args) {  System.out.println("Hello World");  }  } |

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| **Assignment:** |
| Students will use the following websites to complete the table below:  Java (Use DrJava): <http://www.tutorialspoint.com/java/index.htm>  C++ (Use Bloodshed or XCode): <http://www.tutorialspoint.com/cplusplus/index.htm>  Python (Use Idle): <http://www.tutorialspoint.com/python/index.htm>  C# (Use Visual Studio): <http://www.tutorialspoint.com/csharp/index.htm>  Note: if your editor is NOT functioning on your computer, use the web-based version on <http://www.tutorialspoint.com/codingground.htm> |

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| **Include Proper Syntax for the Concepts Below** | |
| Create a number variable called num1 with no decimals and set it to 10 | int num1 = 10; |
| Create a number variable called num2 with decimals and set it to 3.14 | float num2 = 3.14; |
| Create a text variable called firstName and set it to your first name | String firstName = Nastassja; |
| Find a data type for the value  -9,223,372,036,854,775,808 and set it with the name bigNum | long bigNum = -9,223,372,036,854,775,808; |
| Create variables named a, b, c, d in one statement, then set them to large random decimal numbers between one and 100,000 in another statement (Python you can do this in one statement) | Int a, b ,c, d= 0;  valueOf(a, b, c, d) = random(1, 100000); |
| Create an if statement that checks the value of a number variable and prints “greater than half” when value is more than half and “less than half” when the value is smaller than half | public class Test {  public static void main(String args[]) {  int x=10;  if(x<5){  System.out.print(“less than half”);  if else(x>5){  System.out.print(“greater than half”);  }  }  } |
| Create a while loop that prints the numbers 1 to 20 | while (x<20) {  System.out.print(“value of x : “ + x);  x++;  System.out.print(“\n”); } |
| Create a for loop that prints the numbers 1 to 20 | for(int x = 10; x<20; x = x+1) {  System.out.print(“value of x : “ + x);  System.out.print(“\n.”);  } |
| Create two string variable with words “Hello” and “World” as values and print them to the console with a concatenation | Public class HelloWorld {  Public static void main(String args[]) {  String s = “Hello”;  s = s.concat(“ World”);  System.out.println(s);  }  } |

Psuedocode a “99 Bottles” that checks for plural bottles.

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| So basically make a String for the word bottles that indicates when you are going to say the word bottles, then have the actually word “bottles” be the number so when printing out the line it’ll be like (bottles + word + the rest of the phrase) then say that when the bottles == 1 then the word will be bottle and not bottles. Then when bottles == 0, it’ll go to state the finishing lines of the “lyrics” or else it’ll continue counting down till zero. |

Code a ***working*** “99 Bottles” app and include code to check for plural bottles.

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| Upload your code to the 99Bottles directory in GitHub and include a URL to the source file in this box. File name should be formatted with initials, 99Bottles and the proper file extension (i.e. .java, .cpp, cs and .py)  public class Bottles {  public static void main(String[] args) {  String word = “bottles”;  for(int bottles = 99; bottles > 0) {  System.out.println(bottles + “ “ + word + “ of beer on the wall, “ + bottles + “ “ + word + “ of beer.”);  bottles = bottles - 1;  if (bottles == 1) word = “bottle”;  if (bottles == 0)  System.out.println(“Take one down and pass it around, no more bottles of beer on the wall.\n”);  else  System.out.println(“Take one down and pass it around,” + bottles + “ “ + word + “ of beer on the wall.\n”);  }  System.out.println(“No more bottles of beer on the wall, no more bottles of beer.”);  System.out.println(“Go to the store and buy some more, 99 bottles of beer on the wall.\n”);  }  } |