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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: Java**

**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 HelloWorld {  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 = Tessa; |
| Find a data type for the value  -9,223,372,036,854,775,808 and set it with the name bigNum | int bigNum = -9223372036854775808; |
| 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 | 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 | int x = random(1,10);  if x > x/2; {  String word = “greater than half”;  else if x < x/2; {  String word = “less than half”;  }  } |
| Create a while loop that prints the numbers 1 to 20 | int x = random(1, 20);  while(x <= 20) {  System.out.println(x);  } |
| Create a for loop that prints the numbers 1 to 20 | int x = random(1, 20);  for(int x = random(1, 20); x <= 20) {  System.out.println(x);  } |
| 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 Hello = “Hello, “  Hello = Hello.concat(“World.”);  System.out.println(Hello);  }  } |

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

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| public class beer {  public static void main(String args[]) {  int beer Num = 99;  String word = “bottles”;  while(beer Num > 0) {  if beer Num == 1; {  word = “bottle”;  }  }  System.out.println(beerNum + “ ” + word + “ of beer on the wall, “ + beerNum + “ ” + word + “ of beer.”)  beerNum = beerNum - 1;  if beerNum > 0 {  System.out.println(“Take one down, pass it around “ + beerNum + “ ” + word + “ of beer on the wall.”)  }  if(bleachNum == 0) {  System.out.println(“No more bottles of bleach on the wall, no more bottles of beer. Go to the store and buy some more, 99 bottles of beer on the wall.”)  }  }  } |

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) |