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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 <iostream>  using namespace std;  int main() {  cout << "Hello World";  return 0;  } |

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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 | #include <iostream>  using namespace std;  extern int num1;  int main() {    } |
| Create a number variable called num2 with decimals and set it to 3.14 | #include<iostream>  using namespace std;  extern float num2;  int main()  {  float num2;  float num2 = 3.14;  cout<<num2<< endl  return 0;  } |
| Create a text variable called firstName and set it to your first name | #include <iostream>  #include <string>  using namespace std;  int main(){  string firstName = "Brooks";    cout << firstName << endl;    return 0;  } |
| Find a data type for the value  -9,223,372,036,854,775,808 and set it with the name bigNum | #include <iostream>  using namespace std;  int main(){  double bigNm = -9223372036854775808 ;    cout << bigNm << endl;    return 0;  } |
| 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) | #include <iostream>  #include <ctime>  #include <cstdlib>  using namespace std;  int main(){  int a,b,c,d;  srand( (unsigned)time (NULL) );  a = rand();  b = rand();  c = rand();  d = rand();    cout << "a is " <<a << "b is "<<b << "c is "<<c << "d is"<<d << endl;    return 0;} |
| 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 |  |
| Create a while loop that prints the numbers 1 to 20 | #include <iostream>  using namespace std;  int main(){  int i = 1  while ( i <20)  i=i—;  else  i=20;  cout<<i<<  return 0;  } |
| Create a for loop that prints the numbers 1 to 20 |  |
| Create two string variable with words “Hello” and “World” as values and print them to the console with a concatenation | #include <iostream>  #include <string>  using namespace std;  int main () {  string str1 = "Hello";  string str2 = "World";  string str3;  int len ;  // copy str1 into str3  str3 = str1;  cout << "str3 : " << str3 << endl;  // concatenates str1 and str2  str3 = str1 + str2;  cout << "str1 + str2 : " << str3 << endl;  // total lenghth of str3 after concatenation  len = str3.size();  cout << "str3.size() : " << len << endl;  return 0;  } |

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

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| #include <iostream>  #include <string>  #include <iostream>#include <string>using namespace std; int main(){ int b=99  b= b--  if(b>2){ cout << b <<"bottles of beverage on the wall"<< b << "bottles of beverage. Take one down pass it around"<<b<<“bottles of beverage on the wall"}else if(b=2){  cout << b <<"bottles of beverage on the wall"<< b << "bottles of beverage. Take one down pass it around"<<b<<“bottle of beverage on the wall"  }else if(b=1)  cout << b <<"bottle of beverage on the wall"<< b << "bottles of beverage. Take one down pass it around no more bottles of beverage on the wall”          return 0;  } |

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) |