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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" << endl;    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;    int main () {  int num1 = 10;  cout << num1;  return 0;  } |
| Create a number variable called num2 with decimals and set it to 3.14 | #include <iostream>  using namespace std;    int main () {  float num2 = 3.14;  cout << num2;    return 0;  } |
| Create a text variable called firstName and set it to your first name | #include <iostream>  using namespace std;  int main () {  char firstName[] = {"Chanel"};  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 | Cout << “Size of long int : ” <<sizeof(long int) << endl;  Int max(bigNum); |
| 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>  using namespace std;    int main () {  int a,b,c,d = rand(1, 1000000);  cout <<" a : " << a << endl;  cout <<" b : " << b << endl;  cout <<" c : " << c << endl;  cout <<" d : " << 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 | If ( a > ½ ) {  cout << “greater than half;” << endl;  }else if ( a < ½) {  cout << “less than half;” << endl;  } |
| Create a while loop that prints the numbers 1 to 20 | While ( a < 21 ) {  cout << “value of a: “ << a << endl;  a++;  }  (int a = 1) |
| Create a for loop that prints the numbers 1 to 20 | For ( int a = 1; a < 20, a = a+1) {  cout << “value of a: “ << a << endl;  } |
| Create two string variable with words “Hello” and “World” as values and print them to the console with a concatenation | #include <iostream>  #include <cstring>  using namespace std;  int main () {  char str1[10] = "Hello";  char str2[10] = "World";  strcat( str1, str2);  cout << str1 << endl;  return 0;  } |
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Psuedocode a “99 Bottles” that checks for plural bottles.

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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)  #include <iostream>  using namespace std;  int main()  {  int bottles = 99;  while ( bottles > 0 ) {  if (bottles < 2 && bottles > 0 ) {  cout << bottles << " bottle of beer on the wall," << endl;  cout << bottles << " bottle of beer on the wall," << endl;  cout << "Take one down, pass it around," << endl;  cout << --bottles << " bottles of beer on the wall." << '\n' << endl;  }else{  cout << bottles << " bottles of beer on the wall," << endl;  cout << bottles << " bottles of beer on the wall," << endl;  cout << "Take one down, pass it around," << endl;  cout << --bottles << " bottles of beer on the wall." << '\n' << endl;  }    }    return 0;  } |