|  |  |
| --- | --- |
| **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.

|  |
| --- |
| **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!! |

|  |
| --- |
| **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> |

|  |  |
| --- | --- |
| **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 () {  double n;  n = 10;  cout << "num1 :" << n << endl;    return 0;  } |
| Create a number variable called num2 with decimals and set it to 3.14 | #include <iostream>  using namespace std;    int main () {  double n;  n = 3.14;  cout << "num2 :" << n << endl;  return 0;  } |
| Create a text variable called firstName and set it to your first name | #include <iostream>  using namespace std;  int main () {  char greeting[] = "Nick";  cout << "first name: ";  cout << greeting << 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 () {  long n;  n = 9223372036854775808;  cout << "bigNum" << n << endl;  } |
| 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 () {  double a,b,c,d;  a = 35.9836;  b = 8639.48964;  c = 82965.0638;  d = 4.8468847;    cout << "a:" << a << endl;  cout << "b:" << b << endl;  cout << "c:" << c << endl;  cout<< "d:" << d << endl;  } |
| 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 | #include <iostream>  using namespace std;    int main () {  double a;  a = 2;  if(a >= 1) {  cout << "greater then half:"<< a <<endl;  }if(a <= 1){  cout << "less then half:"<< a <<endl;  }  } |
| Create a while loop that prints the numbers 1 to 20 | #include <iostream>  using namespace std;    int main () {  // Local variable declaration:  int a = 1;  // while loop execution  while( a <= 20 ) {  cout << "value of a: " << a << endl;  a++;  }    return 0;  } |
| Create a for loop that prints the numbers 1 to 20 | #include <iostream>  using namespace std;    int main () {  // for loop execution  for( int a = 1; a <= 20; a = a + 1 ) {  cout << "value of a: " << a << endl;  }    return 0;  } |
| Create two string variable with words “Hello” and “World” as values and print them to the console with a concatenation | #include <iostream>  using namespace std;  int main () {  char greeting[6] = {'H', 'e', 'l', 'l', 'o', '\0'};  char greetings[] = {" world"};  cout << "Greeting message: ";  cout << greeting << greetings << endl;  return 0;  } |

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

|  |
| --- |
| You need a while loop  Need a bottle variable |

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

|  |
| --- |
| 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 () {  // a = # of bottles  int a = 99;    while( a >= 3 ) {  cout << a << " bottles of beer on the wall " << a << " bottles of beer take one down pass it around " << a-1 << " bottles of beer on the wall" << endl;  a--;  }  while(a = 2) {  cout << a << " bottles of beer on the wall " << a << " bottles of beer take one down pass it around " << a-1 << " bottle of beer on the wall" << endl;  a--;  }  while(a = 1){  cout << a << " bottle of beer on the wall " << a << " bottle of beer take it down pass it around no bottles of beer on the wall" << endl;    }    return 0;  } |