|  |  |
| --- | --- |
| **Date Assigned: 1/25/16** | **Date Due: 1/27/16** |
| **Unit:** Language Basics | **Turn In List:** **1. This document** |
| *“I will understand and use strings appropriately in programming.”* | |

**Title: Title**

**Content Objectives:** Students will familiarize themselves with creating, initializing, splicing and formatting strings.

|  |
| --- |
| **Starter Activity** |
| Include code for creating and setting a string called fullName to the value of your first and last name.  String fullName = "Siddhant Devaru"; |

|  |
| --- |
| **Assignment:** |
| Students will use the following websites and internet searches to complete the table below:   * **C++ Strings:**[**http://www.tutorialspoint.com/cplusplus/cpp\_constants\_literals.htm (Links to an external site.)**](http://www.tutorialspoint.com/cplusplus/cpp_constants_literals.htm) * **C++ Literals:**[**http://www.tutorialspoint.com/cplusplus/cpp\_constants\_literals.htm (Links to an external site.)**](http://www.tutorialspoint.com/cplusplus/cpp_constants_literals.htm) * **C++ String Methods:**[**http://www.cplusplus.com/reference/string/string/ (Links to an external site.)**](http://www.cplusplus.com/reference/string/string/) * **Java Strings:**[**http://www.tutorialspoint.com/java/java\_strings.htm (Links to an external site.)**](http://www.tutorialspoint.com/java/java_strings.htm) * **Java Literals:**[**http://www.tutorialspoint.com/java/java\_quick\_guide.htm (Links to an external site.)**](http://www.tutorialspoint.com/java/java_quick_guide.htm) * **Python Strings:**[**http://www.tutorialspoint.com/python/python\_strings.htm (Links to an external site.)**](http://www.tutorialspoint.com/python/python_strings.htm)   **C# Strings:**[**https://msdn.microsoft.com/en-us/library/system.string(v=vs.110).aspx (Links to an external site.)**](https://msdn.microsoft.com/en-us/library/system.string(v=vs.110).aspx) |

|  |  |
| --- | --- |
| **Include Sample Code Concepts Below (copy and paste lines from editor)** | |
| Code necessary to use the String class in your program | Really C++ ONLY! |
| Code necessary to convert fullName to all upper case characters | public class Test {  public static void main(String []args) {  String fullName = "Siddhant Devaru";  System.out.println(fullName.toUpperCase());  }  } |
| Code necessary to convert fullName to all lower case characters | public class Test {  public static void main(String []args) {  String fullName = "Siddhant Devaru";  System.out.println(fullName.toLowerCase());  }  } |
| Code necessary to concatenate your name variable with your age in years. Output would be something like: “FirstName LastName is 17” | public class Test {  public static void main(String []args) {  String fullName = "Siddhant Devaru";  System.out.println(fullName.toLowerCase());  }  } |
| Syntax for including the forward slash in a string or print statement. | public class Test {  public static void main(String []args) {  String fullName = "/Siddhant Devaru";  fullName = fullName.concat(" is 15");  System.out.println(fullName);  }  }  //forward slash  public static void main(String []args) {  String fullName = "\\Siddhant Devaru";  fullName = fullName.concat(" is 15");  System.out.println(fullName);  }  \\Backslash |
| Code necessary to retrieve the length of fullName string (see starter) | public class Test {  public static void main(String []args) {  String fullName = "Siddhant Devaru";  int length = fullName.length();  System.out.println(fullName + " " + length);  }  } |
| Research: Code to append a string | public class Test {  public static void main(String []args) {  String firstName = "Siddhant";  String lastName = "Devaru";  String fullName = firstName.concat(lastName);  System.out.println(fullName);  }  } |
| Research: Code to split or separate a string (substring) into two or more values | public class Test {  public static void main(String []args) {  String fullName = "Siddhant Devaru";  String[] firstName = fullName.split(" ");  String firstname = firstName[0];  System.out.println(firstname);    }  } |

Psuedocode an English to Pig Latin converter requesting a first and/or last name from user.

|  |
| --- |
| Enter in text  Take first letter and store in string  Take rest of word and store in string.  Print out rest of word plus first letter plus the letters a and y. |

You may work in pairs or small groups to code a ***working*** “PigLatin” converter that alters a first and/or last name to traditional Pig Latin. (Python Hint: Unit 3 in CodeAcademy!) (Java Hint: research substring!) (C++ research vector)

|  |
| --- |
| import java.util.Scanner;  public class PigLatin {  public static void main(String []args) {  System.out.println("Enter name:");  Scanner scanner = new Scanner(System.in);  String name = scanner.nextLine();  String firstLetter="";  String restofword = "";  String pig = "ay";  String[] splitName = name.split(" ");  int a=0;  while (a<splitName.length)  {  pig = "ay ";  firstLetter = splitName[a].substring(0,1);  firstLetter=firstLetter.toLowerCase();  //if (firstLetter=="a" || firstLetter  restofword = splitName[a].substring(1);  restofword = restofword.toLowerCase();  splitName[a] = restofword + firstLetter + pig;  a++;  }  a=0;  String output="";  while (a<splitName.length)  {  output += splitName[a];  a++;  }  System.out.println(output);  }  } |