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| **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.

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| **Starter Activity** |
| Include code for creating and setting a string called fullName to the value of your first and last name.  String fullName = “Graham Northrop” |

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| **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) |

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| **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 | String fullName = "Graham Northrop";  fullName = fullName.toUpperCase();  System.out.println(fullName); |
| Code necessary to convert fullName to all lower case characters | String fullName = "Graham Northrop";  fullName = fullName.toLowerCase();  System.out.println(fullName); |
| Code necessary to concatenate your name variable with your age in years. Output would be something like: “FirstName LastName is 17” | String fullName = "Graham Northrop";  String age = " is 15";  fullName = fullName.concat(age);  System.out.println(fullName); |
| Syntax for including the forward slash in a string or print statement. | String name = "\\";  System.out.println(name); |
| Code necessary to retrieve the length of fullName string (see starter) | String fullName = "Graham Northrop";  int len = 0;  len = fullName.length();  System.out.println(fullName + " is " + len + " characters long"); |
| Research: Code to append a string | String fullName = "Graham Northrop";  String age = " is 15";  fullName = fullName.concat(age);  System.out.println(fullName); |
| Research: Code to split or separate a string (substring) into two or more values | String name = "Graham Northrop";  String[] bs = name.split(" ");  name = bs[0];  System.out.println(name); |

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

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| Take first few consonants and move them to the end and add ‘yay’ unless it is a vowel. |

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)

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| import java.util.Scanner;  public class PigLatin {  static Scanner input=new Scanner(System.in);    public static void main(String[] args) {  String stuff = "";  String[] words;  System.out.println("Input the Text you Would Like to Translate: ");  stuff = input.nextLine();  stuff = stuff.toLowerCase();  words = stuff.split(" ");  int x = 0;  while (x<words.length) {  String firstLetter = words[x].substring(0,1);  String restofword = words[x].substring(1);  String pig = "ay";  words[x] = restofword + firstLetter  x++;  }  String output = words[x];  System.out.println(output);  }  } |