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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** |
| String fullName="Ian McCarty"; |

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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 | String stringName; |
| Code necessary to convert fullName to all upper case characters | String fullName="Ian McCarty";  fullName=fullName.toUpperCase();  System.out.println(fullName); |
| Code necessary to convert fullName to all lower case characters | String fullName="Ian McCarty";  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 name="Ian McCarty";  String age=" is 15";  name=name.concat(age);  System.out.println(name); |
| 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 name="Ian McCarty";  int len=0;  len=name.length();  System.out.println(name + " is " + len + " characters long"); |
| Research: Code to append a string | String name="Ian McCarty";  String age=" is 15";  name=name.concat(age);  System.out.println(name); |
| Research: Code to split or separate a string (substring) into two or more values | String name="Ian McCarty";  String[] bs=name.split(" ");  System.out.println(bs[0]); |

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 it to the end with ay unless it is a vowel, then add yay. |

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  {    @SuppressWarnings("resource")  **public** **static** **void** main(String[] args)  {  Scanner input=**new** Scanner(System.***in***);  String bs="";  String[] words;  System.***out***.println("Input the text you would like translated: ");  bs=input.nextLine();  bs=bs.toLowerCase();  words=bs.split(" ");  **int** a=0;  **while** (a<words.length)  {  **char** chard;  chard=words[a].charAt(0);  **if** (chard=='a' || chard=='e' || chard == 'i'|| chard == 'o'|| chard == 'u')  {  words[a]=words[a].concat("yay ");  String temp="";  **if** (a==0)  {  chard=words[a].charAt(0);  temp=String.*valueOf*(chard);  words[a]=words[a].replaceFirst(temp, temp.toUpperCase());  }  }  **else**  {  **int** b=0;  **boolean** vowel=**false**;  **while** (b<words[a].length()-1 && vowel==**false**)  {  chard=words[a].charAt(0);  String temp="";  temp=String.*valueOf*(chard);  words[a]=words[a].replaceFirst(temp, "");  words[a]=words[a].concat(temp);  **char** chard2 = words[a].charAt(0);  String temp2 = String.*valueOf*(chard2);  **if** (temp.equals("q")==temp2.equals("u"))  {  words[a]=words[a].replaceFirst(temp2, "");  words[a]=words[a].concat(temp2);  }  b++;  chard=words[a].charAt(0);  temp=String.*valueOf*(chard);  temp=temp.toLowerCase();  **if** (temp.equals("a") || temp.equals("e") || temp.equals("i")|| temp.equals("o")|| temp.equals("u")|| temp.equals("y"))  {  vowel=**true**;  }      }  words[a]=words[a].concat("ay ");  chard=words[a].charAt(0);  String temp = String.*valueOf*(chard);  **if** (a==0)  words[a]=words[a].replaceFirst(temp, temp.toUpperCase());    }  a++;  }  a=0;  bs="";  **while** (a<words.length)  {  bs+=(words[a]);  //System.out.println(words[a]);  a++;  }  System.***out***.println(bs);  }  } |