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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: Java**

**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.  public class fullName {  public static void main(String args[]) {  char[] nameArray = {‘T’, ‘e’, ‘s’, ‘s’, ‘a’, ‘ ‘, ‘V’, ‘u’, ‘.’};  String nameString = new String(nameArray);  System.out.println(nameString);  }  } |

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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 convert fullName to all upper case characters | public class fullName {  public static void main(String args[]) {  char[] nameArray = {‘T’, ‘E’, ‘S’, ‘S’, ‘A’, ‘ ‘, ‘V’, ‘U’, ‘.’};  String nameString = new String(nameArray);  System.out.println(nameString);  }  } |
| Code necessary to convert fullName to all lower case characters | public class fullName {  public static void main(String args[]) {  char[] nameArray = {‘t’, ‘e’, ‘s’, ‘s’, ‘a’, ‘ ‘, ‘v’, ‘u’, ‘.’};  String nameString = new String(nameArray);  System.out.println(nameString);  }  } |
| Code necessary to concatenate your name variable with your age in years. Output would be something like: “FirstName LastName is 17” | public class fullName {  public static void main(String args[]) {  String string1 = “Tessa Vu is “;  System.out.println(string1 + “18.”);  }  } |
| Syntax for including the forward slash in a string or print statement. | public class fullName {  public static void main(String args[]) {  char[] nameArray = {‘T’, ‘e’, ‘s’, ‘s’, ‘a’, ‘ ‘, ‘V’, ‘u’, ‘.’};  String nameString = new String(nameArray);  System.out.println(nameString); //Outputs name.  }  } |
| Code necessary to retrieve the length of fullName string (see starter) | public class fullName {  public static void main(String args[]) {  char[] nameArray = {‘T’, ‘e’, ‘s’, ‘s’, ‘a’, ‘ ‘, ‘V’, ‘u’, ‘.’};  String nameString = new String(nameArray);  System.out.println(nameString);  }  } |
| Research: Code to append a string | public class fullName {  public static void main(String args[]) {  String firstName = “Tessa”;  String lastName = “Vu”;  StringBuilder sb = new StringBuilder(14);  sb.append(firstName).append(“ “).append(lastName);  System.out.println(sb.toString());  }  } |
| Research: Code to split or separate a string (substring) into two or more values | public class fullName {  public static void main(String args[]) {  String Str = new String(“Tessa-Vu”);  for(String retval: Str.split(“-“)) {  System.out.println(retval);  }  }  } |

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

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| import java.util.Scanner;  public class pigLatin {  public static void main(String args[]) {  System.out.println(“Word: “);  Scanner scanner = new Scanner(System.in);  String firstVowel = scanner.nextLine();  char v = Character.toLowerCase(firstVowel.charAt(0));  if(v == ‘a’ || v == ‘e’ || v == ‘i’ || v == ‘o’ || v == ‘u’) {  String convertToPigLatin = firstVowel + “ay”;  System.out.println(convertToPigLatin);  }  else {  String first = firstVowel.substring(0, 1);  String slice = firstVowel.substring(1, firstVowel.length());  System.out.println(slice + first + “ay”);  }  }  } |

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 {  public static void main(String args[]) {  System.out.println(“Word: “);  Scanner scanner = new Scanner(System.in);  String firstVowel = scanner.nextLine();  char v = Character.toLowerCase(firstVowel.charAt(0));  if(v == ‘a’ || v == ‘e’ || v == ‘i’ || v == ‘o’ || v == ‘u’) {  String convertToPigLatin = firstVowel + “ay”;  System.out.println(convertToPigLatin);  }  else {  String first = firstVowel.substring(0, 1);  String slice = firstVowel.substring(1, firstVowel.length());  System.out.println(slice + first + “ay”);  }  }  } |