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| **Date Assigned: 2/2/16** | **Date Due: 2/4/16** |
| **Unit:** Language Basics | **Turn In List:** **1. This document** |
| *“I will understand and implement arrays (or lists) in an application.”* | |

**Title: Arrays and Multidimensional Arrays**

**Content Objectives:** Students will familiarize themselves with creating, initializing, and editing arrays.

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| **Starter Activity** |
| Include code for creating an array (or list) of integers called nums and setting the values within the array to a range of numbers 0-9.  int myList[] = new int [10];  int a = 0;  while (a<myList.length) {  myList[a]=a;  System.out.println(myList[a]);  a++; |

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| **Assignment:** |
| Students will use the following websites and internet searches to complete the table below:  Java: <http://www.tutorialspoint.com/java/java_arrays.htm>  C++: <http://www.cplusplus.com/doc/tutorial/arrays/>  Python: <http://www.tutorialspoint.com/python/index.htm> Lists, tuples and dictionaries  C#: <http://www.tutorialspoint.com/csharp/csharp_arrays.htm> |

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| **Include Sample Code Concepts Below (copy and paste lines from editor)** | |
| Include code for updating only the first position of the array in the starter activity to the value of 5 | int myList[] = new int [10];  int a = 5;  while (a<myList.length) {  myList[a]=a;  System.out.println(myList[a]);  a++; |
| What is the syntax for printing the entire array in the starter activity | int myList[] = new int [10];  int a = 0;  while (a<myList.length) {  myList[a]=a;  System.out.println(myList[a]);  a++; |
| What is the syntax for printing only the second position in the starter activity | int myList[] = new int [10];  int a = 0;  while (a<myList.length) {  myList[a]=a;  System.out.println(myList[1]);  a++;  } |
| What is the syntax for creating an empty integer array (or list) named myList | int myList[] = null; |
| What is the syntax for populating the myList array (or list) with sequential numbers 1-99 | int myList[] = new int[100];  int a = 1;  while (a<myList.length) {  myList[a]=a;  System.out.println(myList[a]);  a++;  } |
| What is the syntax for populating myList with random numbers | int myList[] = new int[100];  int a = 0;  while (a<myList.length) {  myList[a]=(int) (Math.random()\*myList.length);  System.out.println(myList[a]);  a++;  } |
| What is the syntax for retrieving a random value from within an array or list | while (a<myList.length) {  myList[a]=a;  a++;  }  System.out.println(myList[(int) (Math.random()\*myList.length)]); |

Psuedocode an app that simulates a dice roll with at least one array (or list) called dice1 and allows the user to run it to produce a random value from dice.

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| Take input for how many dice and how many sides.  Produce random results, and output them to user. |

Code an app that at least meets the requirements for the above psuedocode but also allows the user to select a set number of dice to roll. Try creating a method to simulate the dice roll.

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