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| **Date Assigned: 2/6/17** | **Date Due: 2/8/17** |
| **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. |

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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 |  |
| What is the syntax for printing the entire array in the starter activity |  |
| What is the syntax for printing only the second position in the starter activity |  |
| What is the syntax for creating an empty integer array (or list) named myList |  |
| What is the syntax for populating the myList array (or list) with sequential numbers 1-99 |  |
| What is the syntax for populating myList with random numbers |  |
| What is the syntax for retrieving a random value from within an array or list |  |

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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| import java.util.Scanner;  public class arrayDice {  public static void main(String[] args) {  Scanner k = new Scanner(System.in);  System.out.print(“Maximum Dice Number: “);  int maxDice = k.nextInt();  int[] dice = new int[maxDice];  for(int i = 0; i < dice.length; i ++) {  dice[i] = i + 1;  }  for(int i = 1; i <= quantityDice; i++) {  System.out.print(“Dice #” + i + “ is: “ + dice[(int) (Math.random() \* dice.length)] + “ “);  }  }  } |

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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