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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. |

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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 | Hint: you may need an import or include statement… |
| What is the syntax for retrieving a random value from within an array or list | Hint: you may need an import or include statement… |

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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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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| #include <iostream>  #include <stdlib.h>  #include <time.h>  using namespace std;  int dice1[] = {1, 2, 3, 4, 5, 6};  int randomNumber;  int main() {  srand(time(NULL));    for(int i = 0; i < 7; i++) {  randomNumber = rand() % 7;  }  cout << randomNumber;  } |