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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 nums[10] = {0,1,2,3,4,5,6,7,8,9}; |

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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 | Int nums[10] = {0,1,2,3,4,5,6,7,8,9}; |
| What is the syntax for printing the entire array in the starter activity | Int nums[10] = {0,1,2,3,4,5,6,7,8,9}; |
| What is the syntax for printing only the second position in the starter activity | Int nums[1] = {1}; |
| 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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| Need variable dice, |

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 <vector>  #include <cstdlib>  #include <ctime>  using namespace std;  int main(int argc, char \*argv[])  {  int userValue;  int userDice;  srand(time(0));  int diceArray[101];    cout << "number of sides on your dice?" << endl;  cin >> userValue;  cout << "how many dice are you rolling?" << endl;  cin >> userDice;    //array <int, 101> diceArray;    for (int i=0; i<userValue; i++){  diceArray[i] = (i + 1);  }  cout << "the numbers you rolled are" << endl;    int i = 1;  while(i <= userDice){  int r = rand() % userValue;  cout << diceArray[r] << endl;  i++;  }  system("pause");  return 0;    } |