**Fundamentals of Programming**

**Lab Journal - Lab # 7**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Enrollment #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objective**

This is lab will introduce students to arrays, array input/output and array operations.

**Task 1 :**

Give answers to the following.

|  |  |
| --- | --- |
| 1. | Declare an array of 5 double and assign them any values. |
| 2. | Assign a value of 6.5 to the 3rd element of the array declared above. Remember first index of array is zero. |
| 3. | Display the first value of the array in question 1. |
| 4. | Using a for loop display the values of the array in question 1. |
| 5. | Using a for loop take all the values of the array in question 1 from user and then display them using another for loop. |

**Task 2 :**

Understand the following code fragments and write their output.

|  |  |
| --- | --- |
| 1. | int n[ 10 ] = { 32, 27, 64, 18, 95, 14, 90, 70, 60, 37 };  cout << "Element \t Value" << endl;  for ( int i = 0; i < 10; i++ )  cout << i << “\t\t” << n[ i ] << endl; |
| Output: | |
| 2. | const int arraySize = 10;  int s[ arraySize ];    for ( int i = 0; i < arraySize; i++ )  s[ i ] = 2 + 2 \* i;  for ( int j = 0; j < arraySize; j++ )  cout << “Value at index “<< j <<“ is “ << s[ j ] << endl; |
| Output: | |
| 3. | int billy [] = {10, 20, 30, 40, 50};  int n, result=0;  for ( n=0 ; n<5 ; n++ )  {  result = result + billy[n];  }  cout << result; |
| Write in one line what is happening in above code fragment.  Output: | |

**Exercise 1**

Declare an array of 10 integers and get user input to fill the array values. Then, find the minimum values in the arrays.

**Exercise 2**

Write a program where you declare 3 arrays of 5 integers each. For two of the arrays get the values from the user. Add the respective elements of these two arrays and store the results in the third array.

Example:

Array1= 1 2 3 4 5

Array2 = 1 1 2 2 4

Array3 should be: 2 3 5 6 9

Ar

**Exercise 3**

Write a program to input value in an array of type float and size 10. Find out the average of all the values entered.

Formula for average = sum of all values / total number of values

**Exercise 4**

Write a program to input value in an array of type integer and size 10. Find out the total number of even and odd values entered in the array.

**Wxercise 5**

Write a C++ program that declares an array of size 20 and assign values to it. Then it asks the user “Enter the number to search in this array”. Then search the number entered by user in the array and display the index on which it was found. (This task is similar to exercise 1. Think like that.)

+++++++++++++++++++++++++