# Department of Computing

# CS110: Fundamental of Computer Programming

# Class: BSCS-6AB

# Lab 10: Arrays

# Date: 21-12-2016

# Time: 09:00 to 12:00

# Instructor: Dr Anis Ur Rehman

# Lab 10: Arrays

**Introduction**

After completing this section you will be able to implement arrays in C.

**Objectives**

The objective of this lab is to understand basics of Arrays

**Tools/Software Requirement**

Microsoft Visual Studio 2013

**Description**

C Array is a collection of variables belongings to the same data type. You can store group of data of same data type in an array.

* Array might be belonging to any of the data types
* Array size must be a constant value.
* Always, Contiguous (adjacent) memory locations are used to store array elements in memory.
* It is a best practice to initialize an array to zero or null while declaring, if we don’t assign any values to array.

<http://fresh2refresh.com/c-programming/c-array/>

**Lab Task**

1. Write a code to take an array as input from user and sort it in descending order.
2. Write a code to find Fibonacci series up to the range that user enters.
3. Write a program to take an array as input from user (size being decided by the user). Calculate the number of even entries in the array, average of the entries and the greatest number of the array. Use separate functions to calculate each of the result.
4. Write a program that asks the user to input marks of five courses and then computes the average, variance and standard deviation of them. The formula for variance is;

S2 = [∑ (xi - a) 2]/n

Where S2 is the variance and ais the average of the five scores x1, x2, x3, x4 and x5. The standard deviation is the square root of variance.

1. Write a program that inputs a sequence of 10 numbers into an array, and determines and prints the largest of the numbers and its location within the array.

**Deliverables:**

Upload your all programs in running form without put print screens.