**Introduction to Computing**

**Lab Manual**

**Week 3 – Lab 01**

****

**Arrays - 2**

**Session: FALL 2012**

**Faculty of Information Technology**

**UCP Lahore Pakistan**

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# Objective

* Understanding the working of arrays.
* To work with arrays
* To be able to write a C++ program using arrays.

# Things to remember:

* Indent your code
* Comment your code
* Use meaningful variable names
* Plan your code carefully on a piece of paper before you implement it

# Lab Task 1

Write a C++ program to initialize an integer array of length 100. Values with which the array is to be initialized should the index of array plus 100. For example

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Index** | 0 | 1 | 2 | 3 | 4 |  |  |  |  |  |  |  |  |  | 97 | 98 | 99 |
| **Value** | 100 | 101 | 102 | 103 | 104 |  |  |  |  |  |  |  |  |  | 197 | 198 | 199 |

An Integer Array of size 100

Print the content of array.

# Lab Task 2

Write a C++ program to get 10 integer values from user into an array, sort these values in any order, ascending or descending, and then print the sorted array onto screen.

# Lab Task 3

Write a C++ program to get 10 integer values from user and store these values into an array. Find out maximum and minimum value in the array and also the numbers which are palindrome. (A palindrome number is a number that reads the same forward and backward e.g. 11 22 121 33233 91219)

# Lab Task 4

Write a program that will input marks of five courses for an undetermined number of students. Your program will calculate average of the marks entered and store average marks for each student in an array. Your program should read the array and store grades in a character array. Grades are assigned on a 10 point spread. 90-100 A 80-89 B 70-79 C 60-69 D Below 60 F.

**Expected output:**

Do you want to enter the Marks: (y / n) y

Enter Marks for course 1: 95

Enter Marks for course 2: 93

Enter Marks for course 3: 98

Enter Marks for course 4: 95

Enter Marks for course 5: 94

Do you want to enter the Marks: (y / n) y

Enter Marks for course 1: 50

Enter Marks for course 2:56

Enter Marks for course 3: 57

Enter Marks for course 4: 58

Enter Marks for course 5: 54

Do you want to enter the Marks: (y / n) n

Student 1 has an average of 93.33 which gives the letter grade of A

Student 2 has an average of 56.67 which gives the letter grade of F