Higher Diploma in Information Technology

Introduction to Programming (C++)

Year 1 Semester 1 – 2023

Worksheet 07

Intended Learning Outcomes:

At the end of the class the students should be able to:

- Declare arrays using different methods.
- Implement and use single and multi-dimensional arrays in C++ programs.

Exercise 01: Write a C++ program called **Ex01.cpp** to the following:

a) Create a single-subscripted array of size 10.

b) Initialize the array with 25, 32, 45, 2, 13, 9, 6, 10, 17, 4.

c) Input a search key (number) from the keyboard and display the location within the array, if the search key is found.

Exercise 02: Implement a C++ program called **Ex02.cpp** to calculate the product of the content of array A and B and store it in a new array called C.

```
int A[5] = { 10, 20, 30, 40, 50};
int B[5] = { 34, 67, 12, 89, 12};
```

Exercise 03: Write a C++ program **Ex03.cpp** to create an integer array called **Motion** of size 5. Ask the user to enter values to the array from the keyboard. Rotate the values of the array by one position in the forward direction and display the values in another array called **result**.

Ex: number in index 4 should move to index 3, Number in index 3 should move to index2, number index 0 should move to index 4.

Initial values	10 6 8 2 9
After rotating	6 8 2 9 10

Exercise 04: Write a C++ program **Ex04.cpp** that read numbers from an integer array and graph the information in the form of bar chat. Sample output is given below.

Element	Value	Histogram
0	19	**********
1	3	***
2	15	**********
3	7	*******
4	11	**********
5	9	*********
6	13	**********
7	5	*****
8	17	**********
9	1	*

Exercise 05:

In a Cricket tournament, there are 4 teams selected for the semifinals. The Team No and scores are to be recorded in an array to do an analysis about the competition.

Team No	1	2	3	4
Total Score	100	156	145	180

Write a C++ program **Ex05.cpp** to store Team No and Total Score in a two-dimensional array. The program should display the Team No of the team which scored highest total score.