FAST School of Computing

Object Oriented Programming – Spring 2023

Cyber Security Department

LAB 02

Pointers in C++

Learning Outcomes

In this lab you are expected to learn the following:

- Basic Implementation of Pointers in C++
- Passing Pointers into functions
- Accessing and Manipulating 1D arrays using pointers

Note: No subscript operator" [ ]" will be used during this task only pointer arithmetic is allowed e.g. *(ptr+1).

Problem 1:

Write a function that takes 1 argument an integer : **void get Address(int &num).**

- You are required to print the number along with its address using a pointer.
- Change the value of the number using pointer.

Problem 2:

Write a function in C++ that swaps **void swap(int* n1, int* n2)** the values of the passed numbers.

Problem 3:

Declare two dynamic arrays of length 5. Initialize one of them from user input. Make the second one duplicate of the first one using pointers arithmetic and assignment operator.

int* duplicate(int* ptr2, int arr2[ ], int length)

Run test cases to check the correctness of your program.

Problem 4:

Write a program that declares a 1D- dynamic array; and count the prime numbers.

int countPrime(int arr[ ], int size,int count)

Run test cases to check the correctness of your program.

Problem 5:

Write a C++ program that takes a char array (char *) that take your name as input, a char pointer point it and convert lower case to upper case.

char* toCapital(char *p)

Run test cases to check the correctness of your program.

Submission Details:

1. Save single .cpp file with your roll no and lab number e.g. i22-XXXX_Lab2.cpp
2. Take screen shot of running test cases of tasks.
3. Zip the .cpp file and screen shots (Do not create .rar file) with roll no and lab no. e.g. i22-XXXX_Lab2.zip.
4. Submit the zip file on google class room.