National University of Computer and Emerging Sciences



**Lab Manual**

*for*

# Object Oriented Programming

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| Section | OOP BSCS-2J |
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## Lab Manual 1

**Objectives:**

After performing this lab, students shall be able to:

* Have an improved understanding of pointers.
* Declaring and Initializing pointers
* Dereference Operator
* Pointer Operations

**Problem 1**

Write the following code and observe the output:

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| int a=1, b=3;  int \* p;  int \* q;  int \* r;  p=& a;  q=& b;  cout<<a<<'\t'<<p<<'\t'<<\*p<<'\t'<<&p<<'\t'<<&a<<endl;  cout<<b<<'\t'<<q<<'\t'<<\*q<<'\t'<<&q<<'\t'<<&b<<endl;  r=q;  \*r = \*r \*5;  cout<< b<<'\t'<<r<<'\t'<<\*r<<'\t'<<&r<<'\t'<<endl; |

## Problem 2

Write a program that takes two integers from user and pass their addresses to swap function.

void swap(int\* , int\*);

**Problem 3**

**Problem 3**

## Problem 3

Write a C++ program that takes 3 numbers from user and print largest and smallest number using pointer variables.

**Example Input:** Enter three numbers Num1: 3

Num2: 1

Num3: 5

**Output:**

Num3 is largest number Num2 is smallest number

## Problem 4

Write a C++ program that input test score (integer value in the range 0-100), determine if the score is passing (50 or more) using pointer variables and then display accordingly (fail if the score is below 50; pass otherwise).

## Problem 5

Given the declaration:

int num1, num2;

int \*p1;

int \*p2;

double \*p3;

1. Mark the following statements as valid or invalid. If a statement is invalid, why.
2. p1 = &num1;
3. num2 = num1 - \*p2;
4. p3 = p2;
5. \*p3 = num1;
6. \*p3 = \*p1;
7. num1 5 p2;
8. p1 = &p2;
9. p3 = &num1;
10. num1 = \*p3;
11. num2 = &p1;