

**Navrachana University**  
**School of Engineering and Technology**  
**Department of Computer Science and Engineering**  
**Course: CS1008 Introduction to Computer Programming**  
**Programming Assignment – 6**

Date : 1<sup>st</sup> Nov 2021

**Instructions**

- Implement the given Questions using C programming language.
- Use meaningful and descriptive variable/identifier names:  
Good variable names (camelCase): rollNo, studentName, empSalary, salesPrice, taxRate,  
Every Program should have header and footer having following information in multi-line comments  
""  
@author: RollNo Firstname Lastname  
@description: Program No. - write short purpose/ description here  
""
- Every Program should be with output of the Program in multi-line comment after the code of respective program.
- **Submission details:** Submit your assignment on [lms.nuv.edu.in](https://lms.nuv.edu.in) before the given submission date. Create one **.ZIP file** containing **all C/C++ programs** (.c and .cpp files) and **one word file**. Keep filename as **RollNo-Name-Assignment1.zip**.
- Programs submitted by a student should be the result of individual work based on his/her own efforts. Full or part of the code should not be copied from internet or from peer students or other sources. A student should not share/circulate the code/programs developed by them (for individual assignments) with their peers in any form. Violation of above will be considered as academic dishonesty and any such case will be strictly dealt with and liable to get zero in the evaluation.

## Assignment - 6

**Aim:** Implementation of Basic concept for Object Oriented programming language C++

The purpose of learning C++ programming language was to add object orientation to the C programming language. In C++, Classes and objects are the two main aspects of object-oriented programming. This language fully supports OOP concept like the main four pillars of object-oriented development: Encapsulation, Data hiding, Inheritance, Polymorphism. The students will learn to implement class, object, initialization of pointer and various other concepts of OOP through C++.

**Requirements:**

- 1) A desktop computer system
- 2) Code Blocks IDE

1	(a) Write a program to print a simple message using a simple class and object in C++. (b) Write a program to print the student information like student name, enrolment number, and marks using create an object of a class and access class attributes in C++.
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2	Write a program to print the employ information like employ name, salary, and id number using create <b>multiple objects of a class</b> in C++.
3	(a) Write a program for swap 2 numbers without 3rd variable <b>using pointer</b> in C++. (b) Write a program for illustrate Pointer Arithmetic in c++.
3	Write a program where you can implement a class with public and private members of <b>data abstraction</b>
4	(a) Write a program for print the student enrolment number and their subject marks using <b>Multilevel inheritance</b> in C++. (b) Write a program which display the <b>multiple inheritance</b> in C++.
5	write a program which shows the concept of <b>polymorphism</b> in C++.
6	(a) write a program to display the function <b>overloading</b> in C++. (b) write a program to display the function <b>overriding</b> in C++.
7	(a) Write a program to implement a <b>New operator</b> in c++ (b) Write a program to implement a <b>Delete operator</b> in c++