OBJECT ORIENTED PROGRAMMING
LAB ASSIGNMENT -1

(Topics – Basics of C++, Classes and Objects)

Programming Questions

1. Write a program (WAP) to display "Hello World" on console display. WAP to implement the following control characters:
   '\n' is for new line, or you can use *endl* – cout<<endl<<"message";
   '\t' is for tab ; '\a' is an alarm sound; '\r' is carriage return to go to the beginning of the current line
2. Write a C++ program that will ask for a temperature in Celsius and display it in degree Fahrenheit.[F=9C/5+32]
3. WAP to demonstrate for, while, do-while (with all possible variations), like for loop can be demonstrated without giving initialization in for construct or without giving increment in for construct.

   Sample:
   for (**int** i=0; i<10; i++)

   i=0
   for (; i<10; i++)

   i=0
   for (; i<10;)
   i++

4. Create a structure in C++ containing the details of Students as details below and a main function to execute the structure.

   Data Members(properties):

   > *Name*
   > *Roll No*
   > *Degree*
   > *Hostel*
   > *CurrentCGPA*

   Member Function(behavior):

   > *addDetails();*
   > *updateDetails();*
   > *updateCGPA();*
   > *updateHostel();*
   > *displaydetails();*

5. Differentiate between private and public access/scope. Perform the question no. 4 with class instead of structure with having the data members private and some member functions in private scope and some in public scope.

6. Create a code snippet that illustrates the following:
    a. Calling of private member functions inside public member function
    b. Access private member functions inside public member function

7. Define a class named **Complex** with properties (real and imaginary) and methods as per following details.
    void set () to initialize object values.
    void display () to display complex number.
    Complex sum (Complex) or *void sum (Complex)* to add two complex numbers (objects of Complex class) and *return complex_number* (object of Complex class) as result.

   Properties (real and imaginary) of the code should have private access modifier and member functions should have public access modifier in C++ class.

8. Implement *namespace* in a program to illustrate the use of same name variables and functions in different sections/libraries of the code.