

# 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.