**Assignment 3**

1. Create two classes DM and DB which stores the value in distances. DM stores distance in meters and centimeters and DB in feet and inches. Write a program that can read values for the class objects and add one object of DM with another object of DB. Use a friend function to carry out the addition operation. The object that stores the results may be a DM object or DB object, depending on the units in which the results are required. The display should be in the format of feet and inches or meters and centimeters depending on the object on display.
2. Write a program to swap private values of two classes using a friend function.
3. Write a program to count the objects of a class using static data member.
4. Write a program to count the objects of a class using static member function.
5. Write the definition for a class called complex that has floating point data members for storing real and imaginary parts. The class has the following member functions:

A constructor to ask the data member values of an object from the user and assign these values to the object.

void disp() to display complex number object

complex sum(complex) to sum two complex numbers & return complex number

A destructor showing “destructing object” message

a) Write the definitions for each of the above member functions.

b) Write main function to create three complex number objects. Set the value in two objects and call sum() to calculate sum and assign it in third object. Display all complex numbers.

1. Write a program for matrix multiplication with following specifications.

a )Use constructor dynamic memory allocation for matrix.

b) Use getdata() function to input values for matrix.

c ) Use show( ) to display the matrix.