Lab Assignment-5

5. Programming project on C++

5.1 Write a program to create a class that represents Complex numbers containing real and imaginary parts. Use the overloaded addition(+) operator to add two complex values.

5.2 Write a program to show how the increment operator (++) is overloaded.

5.3 An educational institution wishes to maintain a database of its employees. The database is divided into a number of classes whose hierarchical relationships are shown in Fig. 1. The
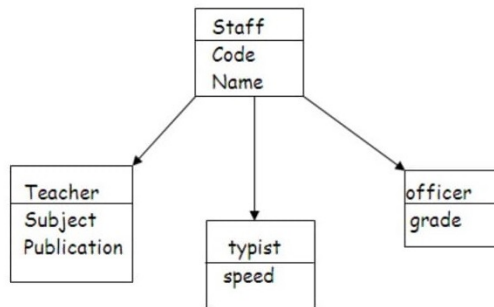

Figure 1: Class Relationships

figure also shows the minimum information required for each class. Specify all the classes and define functions to create the database and retrieve individual information as and when required.

5.4 Create two classes named Mammals and MarineAnimals. Create another class named Blue-Whale which inherits both the above classes. Now, create a function in each of these classes which prints "I am mammal", "I am a marine animal" and "I belong to both the categories: Mammals as well as Marine Animals" respectively. Now, create an object for each of the above class and try calling

function of Mammals by the object of Mammal

function of BlueWhale by the object of BlueWhale

function of each of its parent by the object of BlueWhale

function of MarineAnimal by the object of MarineAnimal.

Now, try calling the function by the object of each of these classes.