Lab -2 (Assignment - 2)

1) Write a program to define a class with its data members and function members. Use object of this class in main program to access its members.
2) Write a program to define a class named Box which has data **length**, **breadth** and **height** and public functions **ReadData**() for reading data members and **Volume**() to calculate volume of box.
3) Write a program which has class **Book** with data members **book_name, ISBN, author & price** and appropriate function members to read and display data members.
4) Define a class **Rectangle** with data members: **length and breadth**. Initialize its data members with some fixed values (i.e. say 100 and 200 for length and breadth respectively) using a constructor. Write a program to use an object of the class to calculate area of a rectangle.
5) Modify above program to read **length and breadth** of a rectangle in **main()** function and supply them in parameterized constructor to initialize its data members.
6) Write a program of your choice to show the implementation of **this** keyword.
7) Write a program which has two functions with same name, one for addition of two integers and other for addition of three integers.
8) Write a program which has two functions with same name and same number of arguments, one for addition of two integers and other for addition of two double values.
9) Write a program to define a class **Circle** with its data members **pi** and **r** and members functions **getdata()** for initializing data members and **calculate()** for finding area of ac circle. Return result from **calculate()** and display result in **main()** function. Use **pi** as constant.
10) Write a program to implement encapsulation using **getter** and **setter** methods.
11) Create a class named **Person** which has **name & age** as data members and appropriate function members to read and display its data. Create another class **Employee** derived from class **Person** to use features of base class (**single**).
12) Create a class **Polygon** with data members: **dimension1 and dimension2** and a member function: **ReadDimension()** to read data members. Derive two classes **Rectangle** and **Triangle** from **Polygon** class with appropriate member function to calculate area of each rectangle and triangle (**multilevel**).
13) Create a class **Vehicle** with data members: **VNo, no_of_wheel and max_speed**. Derive another class **Passenger** with data member: **no_of_passengers**. Derive two other classes **Bus(with route, fare_per_person and helper_name) and Taxi (with fare_per_km as data member)**. Write a program to use these classes (**multilevel**).
14) Write a program with two classes. Include a function with same name and same signature in each class to illustrate use of function overriding.
15) Create a class **Polygon** with data members to represent two dimensions and **parameterized constructor** to initialize data members. Derive two classes **Rectangle** and **Triangle** from **Polygon** class with appropriate member function to calculate area of each rectangle and triangle.
16) Write a program of your choice to implement **multiple inheritance** using **interface**.
17) Write a program to implement **abstract class and final class** to achieve abstraction.