**Classes and Object Labsheet**

1. Write a class named Student. This class should contain some member variable(such as: name, age, rollno...). Define two method as mentioned below
   1. InitializeStudent(): This method will initialize object by taking all required variable as argument and assign it to the member variables.
   2. printData(): this method will print all the data of student in formatted output format.
2. Write a program that implements Interest class which stores three variables principal, rate and time and calculates simple interest. Create parameterized constructor to initialize the variables. Also define getters and setter for all variable. Write main method to test the class.
3. Design a class to represent a bank account. Include the following members:

**Fields/Data members**

Name of the depositor

Account number

Type of account

Balance amount in the account

**Methods**

Constructor(s)

To assign initial values

To deposit an amount

To withdraw an amount after checking balance

To display the name and balance.

Test the bank account class by performing all actions defined in BankAccount class.

1. Define a class Student as described below:

**Instance variables:**

name, age, marks in three subjects (m1, m2, m3), maximum and average.

**Methods:**

i. A parameterized constructor to initialize the instance variables.

ii. To accept the details of a student.

iii. To compute the average and minimum out of the three marks.

iv. To display the name, age, marks in the three subjects, minimum and average.

v. Write a main method to create an object of the class and call the above methods.

1. Define a constructor for ShowDate class that initializes the ShowDate objects with given

initial values. In case the initial values are not provided, it should initialize the object with

default 0 values.

1. Write a class Circle with a parameterized constructor. If no parameters are passed then its default constructor should be invoke parameterized constructor with default values. A

circle is defined using radius and circumference.

1. Write a program to implement a Book class that stores the details of a book namely, bookcode, name of the book, name of the author(s) and price. The class has methods to display any of the details individually.
2. Implement a class called Dimension based on the following information:

**Constructors**

Dimension(double length, double width, double height)

Dimension(double side)

**Methods**

double volume() // length\*width\*height

double area() // 2\*(length\*width+width\*height+height\*length)

Make all the instance variables private so that they can be accessed only by the methods defined within the class. Make the methods public. Test your program.

1. Modify the implementation of area() given in the previous question using private

methods, faceArea(), topArea() and sideArea(). [Often private methods are helping methods that public methods use, but are not to be used outside the class.] Test your program.

1. Add a new constructor to the Dimension class created in question 1 as

Dimension(Dimension dim)

This constructor creates a new Dimension object with identical dimensions as the old

Dimension object. The old object is not changed.