**Programming in Java Weak Student Assignment Questions**

**CO1 related Assignment Questions**

1. Define a class “Book” having data members i.e., ISBN, title, author, publisher, qty and price. Provide setter and getter methods for the Book class. Develop 2 functions “updatePrice()” and “updateQty()” to update the price and quantity of a book respectively.

Write a Java program to create single object of Book class and test the functionality of member functions in choice-based manner i.e., choice 1 for updating price and choice 2 for updating quantity.

1. Define a class “BMI” having height and weight as data members. Provide setter and getter methods. Develop a method “calBMI()” which calculates BMI(Body Mask Index) of a person as per given formula and details.

**BMI = Weight in Kg / (height in meters X height in meters )**

**BMI VALUES**

Underweight: less than 18.5

Normal: between 18.5 and 24.9

Overweight: between 25 and 29.9

Obese: 30 or greater

Write a Java program to create some instances of BMI class (array of objects) and test the functionality of the same class.

**CO2 related Assignment Questions**

1. Define a class "Person" having data members i.e. id, name and city. Derive a class named "Student" from the class Person, having data members i.e. branch, semester and marks of 2 subjects. Develop a member function "avgMarks()" to calculate average marks of a student. Another class "VisitingFaculty" inherits the class Person, having data members i.e. experience (in years) and rate of lecture per hour. Develop a member function "calSalary()" to calculate the salary by inputting number of hours worked per month.

Write a Java program to test the functionality of Student and VisitingFaculty class by creating one object of each class.

1. Define a class “Vehicle” having data members model\_no, model\_name, company, qty and price. Provide appropriate setter and getter methods for “Vehicle” class. Derive 2 classes i.e. “Bike” and “Car” from the Vehicle class , specify unique properties of these classes. Provide necessary methods of derived classes and test their functionality.

**CO3 related Assignment Questions**

1. Create a package named “MyPack”. Define a class “Student” inside this package having id, name, sem and city as data members. Provide appropriate setter and getter methods. Write a Java program to test the functionality of Student class.
2. Write a Java program to count no. of characters from the given String. (without using length() method)
3. Read email address of a user from the keyboard. Write a Java program to check whether given email address contains both ‘@’ and ‘.’ symbol or not.

**CO4 related Assignment Questions**

1. Write a multithreaded Java program to count numbers divisible both by 4 and 8 (both) between 1 to 400. Each thread should look after 100 numbers.
2. Write a multithreaded program to count leap years between 1900 to 2000. Each thread should look after 200 years.

**CO5 related Assignment Questions**

1. Develop an AWT Frame having cricketer name, country, runs, innings, and number of not outs as text fields to enter. Design one button “BatAvg” to calculate the batting average of cricketer and to display in the resultant text field. Provide necessary labels. Also provide “Reset” button.

Note: Batting average = runs/ (innings – not outs)

1. Design and Develop a Swing Frame application to calculate factorial of a given number.