**Programming in C++ Weak Student Assignment Questions**

**CO1 related Assignment Questions**

1. Create a class “Cricketer”, having name, country, runs, innings, and number of not outs as data members. Provide input and output member functions to read and display data members respectively. Define a member function to find batting average of a cricketer. Write a C++ program which creates one object of the class and tests the given functionalities.

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

1. Define the class “TaxiMeter” having the following members:

**Data Members/instance members**

taxino – to store taxi number

name - to store pessanger’s name

km – to store number of kilometres travelled

**Member Functions:**

input() - to take input values of members

calculate() – to calculate the bill of a customer according to given conditions

|  |  |
| --- | --- |
| **Kilometres Travelled** | **Rate / km** |
| <= 10 | ₹ 25 |
| 10 < km <=60 | ₹ 22 |
| 60 < km <= 120 | ₹ 18 |
| 120 < km <= 200 | ₹ 15 |
| > 200 | ₹ 10 |

display() - to display the output in the following format

Write a C++ program to test the functionality of “TaxiMeter” class by creating some instances.(array of objects)

**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 C++ program to test the functionality of Student and VisitingFaculty class by creating one object of each class.

**CO3 related Assignment Questions**

1. Write a C++ choice-based C++ program to calculate the area of Circle, Triangle and Square using function overloading.
2. Create a class “Distance”, having km as a data member. Write a C++ program to add 2 Distance objects using operator overloading and display the resultant distance on the screen.
3. Create a class “Distance”, having km as a data member. Write a C++ program to compare 2 Distance objects using operator overloading and display the higher distance on the screen.

**CO4 related Assignment Questions**

1. Write a C++ program to find minimum number from the given array of n numbers using “pointer-to-an array” concept.
2. 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 C++ program to create single object of Book class dynamically and test the functionality of member functions in choice-based manner i.e., choice 1 for updating price and choice 2 for updating quantity.

**CO5 related Assignment Questions**

1. Create a text file “Numbers.txt” and store some numbers inside it. Write a C++ program to read one-by-one number from “Numbers.txt” file and display odd or even number with appropriate message.
2. Define a class “Student” having id, name and semester as data members. Provide setter function to read the data members and store the data into “Student.txt” file. (Use append mode while writing into the file.)