IU

Iqra University, Islamabad Campus
Faculty of Computing & Technology
Object Oriented Programming (CSC231)
Assignment # 2

Problem # 1: [CLO2]

Create a Java class named Car to represent a vehicle, with attributes for make (String), model (String), year (int), and mileage (double). Develop both a default constructor that initializes all attributes to default values and a parameterized constructor to set all attributes. Ensure appropriate getter and setter methods are included for all attributes. Additionally, implement a method called drive(double distance) for updating the mileage. Write a Java program that demonstrates the functionality of the Car class by prompting the user to input values for the car's attributes in the main method and then passing these values to create instances of Car. Finally, display the updated mileage after each drive.

Problem # 2: [CLO2]

Design a Java class named Employee to represent an employee, including attributes for name (String), id (int), department (String), and salary (double). Implement a default constructor to initialize all attributes to default values and a parameterized constructor to set all attributes. Include appropriate getter and setter methods for all attributes. Additionally, implement a method called calculateTax(double amount) to calculate the tax on the employee's salary based on the following criteria:

If the salary is greater than 50,000, the tax rate is 5%.

If the salary is between 30,000 and 50,000, the tax rate is 3%.

If the salary is less than 30,000, the tax rate is 2%.

Write a Java program to demonstrate the functionality of the Employee class by prompting the user to input values for the employee's attributes in the main method. Create instances of

Employee using these input values and display the calculated tax for each employee.