Poject- Tax Calculation Application

```
package Project;
import java.util.*;
import java.io.*;
class User {
 private String username;
 private String password;
 public User(String username, String password) {
 this.username = username;
 this.password = password;
 }
 public boolean checkCredentials(String username, String password) {
 return this.username.equals(username) &&
this.password.equals(password);
 }
}
class Property {
 private double baseValue;
 private boolean inCity;
 private double ageFactor;
 private double builtUpArea;
 // Constructors, getters, and setters
 public Property() {
 }
 public Property(double baseValue, boolean inCity, double ageFactor,
double builtUpArea) {
 this.baseValue = baseValue;
```

```
this.inCity = inCity;
this.ageFactor = ageFactor;
this.builtUpArea = builtUpArea;
}
public double calculatePropertyTax() {
double tax;
if (inCity) {
tax = (builtUpArea * ageFactor * baseValue) + (0.5 * builtUpArea);
} else {
tax = builtUpArea * ageFactor * baseValue;
}
return tax;
}
public double getBaseValue() {
return baseValue;
}
public void setBaseValue(double baseValue) {
this.baseValue = baseValue;
}
public boolean isInCity() {
return inCity;
}
public void setInCity(boolean inCity) {
this.inCity = inCity;
}
public double getAgeFactor() {
return ageFactor;
}
```

```
 public void setAgeFactor(double ageFactor) {
 this.ageFactor = ageFactor;
 }
 public double getBuiltUpArea() {
 return builtUpArea;
 }
 public void setBuiltUpArea(double builtUpArea) {
 this.builtUpArea = builtUpArea;
 }
}
class Vehicle {
 private String registrationNumber;
 private String brand;
 private double purchaseCost;
 private double velocity;
 private int capacity;
 private int vehicleType;
 public Vehicle() {
 }
 public Vehicle(String registrationNumber, String brand, double
purchaseCost, double velocity, int capacity,
 int vehicleType) {
 this.registrationNumber = registrationNumber;
 this.brand = brand;
 this.purchaseCost = purchaseCost;
 this.velocity = velocity;
 this.capacity = capacity;
```

```
this.vehicleType = vehicleType;
}
public double calculateVehicleTax() {
double tax;
if (vehicleType == 1) {
tax = velocity + capacity + (0.10 * purchaseCost);
} else if (vehicleType == 2) {
tax = velocity + capacity + (0.11 * purchaseCost);
} else if (vehicleType == 3) {
tax = velocity + capacity + (0.12 * purchaseCost);
} else {
tax = 0;
}
return tax;
}
public String getRegistrationNumber() {
return registrationNumber;
}
public void setRegistrationNumber(String registrationNumber) {
this.registrationNumber = registrationNumber;
}
public String getBrand() {
return brand;
}
public void setBrand(String brand) {
this.brand = brand;
}
public double getPurchaseCost() {
```

```
 return purchaseCost;
 }
 public void setPurchaseCost(double purchaseCost) {
 this.purchaseCost = purchaseCost;
 }
 public double getVelocity() {
 return velocity;
 }
 public void setVelocity(double velocity) {
 this.velocity = velocity;
 }
 public int getCapacity() {
 return capacity;
 }
 public void setCapacity(int capacity) {
 this.capacity = capacity;
 }
 public int getVehicleType() {
 return vehicleType;
 }
 public void setVehicleType(int vehicleType) {
 this.vehicleType = vehicleType;
 }
}
public class TaxCalculatorApp {
 public static void main(String[] args) {
 User user = new User("krashn tripathi", "12345678");
```

```
List<Property> properties = new ArrayList<>();
List<Vehicle> vehicles = new ArrayList<>();
Scanner scanner = new Scanner(System.in);
System.out.println("Welcome to Tax Calculator App");
System.out.println("----------------------------------------");
System.out.print("Enter username: ");
String username = scanner.nextLine();
System.out.print("Enter password: ");
String password = scanner.nextLine();
if (user.checkCredentials(username, password)) {
System.out.println("Login successful!");
System.out.println("========================================");
while (true) {
System.out.println("Display Main Menu : ");
System.out.println("1. Add Property");
System.out.println("2. Add Vehicle");
System.out.println("3. Calculate Total Tax");
System.out.println("4. Close Application");
System.out.print("Enter your choice: ");
try {
int choice = scanner.nextInt();
scanner.nextLine();
switch (choice) {
case 1:
System.out.println("========================================");
Property property = new Property();
System.out.print("Enter base value a Property : ");
```

```
 property.setBaseValue(scanner.nextDouble());
 scanner.nextLine(); // Consume the newline character
 System.out.print("Enter the age of Land in years : ");
 property.setAgeFactor(scanner.nextDouble());
 System.out.print("Enter built-up area of land : ");
 property.setBuiltUpArea(scanner.nextDouble());
 System.out.print("Is the property in the city? (true/false): ");
 property.setInCity(scanner.nextBoolean());
 properties.add(property);
 System.out.println("Property added successfully!");
System.out.println("========================================");
 break;
 case 2:
System.out.println("========================================");
 Vehicle vehicle = new Vehicle();
 System.out.print("Enter registration number: ");
 vehicle.setRegistrationNumber(scanner.nextLine());
 System.out.print("Enter Vehicle brand: ");
 vehicle.setBrand(scanner.nextLine());
 System.out.print("Enter purchase of vehicle : ");
 vehicle.setPurchaseCost(scanner.nextDouble());
 System.out.print("Enter velocity: ");
 vehicle.setVelocity(scanner.nextDouble());
 System.out.print("Enter seat capacity: ");
 vehicle.setCapacity(scanner.nextInt());
 System.out.print("Enter vehicle type (1 for petrol, 2 for diesel, 3 for
CNG/LPG): ");
 vehicle.setVehicleType(scanner.nextInt());
```

```
 vehicles.add(vehicle);
 System.out.println("Vehicle added successfully!");
System.out.println("========================================");
 break;
 case 3:
System.out.println("========================================");
 double totalPropertyTax =
properties.stream().mapToDouble(Property::calculatePropertyTax).sum();
 double totalVehicleTax =
vehicles.stream().mapToDouble(Vehicle::calculateVehicleTax).sum();
 double totalTax = totalPropertyTax + totalVehicleTax;
 System.out.println("Total Property Tax:"+"\t"+"Total Vehicle Tax:
"+"\t"+"Total Tax Payable: " );
 System.out.println(totalPropertyTax + "\t\t"+
totalVehicleTax + "\t\t"+ totalTax);
System.out.println("========================================");
 break;
 case 4:
 System.out.println("Closing Application...");
 scanner.close();
 System.exit(0);
 default:
 System.out.println("Invalid choice. Please try again.");
 }
 }
 catch (InputMismatchException e) {
 System.out.println("Invalid input. Please enter a valid number.");
 scanner.nextLine();  }
```

```
 }
 } else {
 System.out.println("Login failed. Incorrect username or password.");
 }
 }
}
```