Reg no:2117230020117

Program:

```
//Done by 2117230020117
package rentt;

import java.sql.*;
import java.util.Scanner;

public class CR {
    private static final String DB_URL = "jdbc:mysql://localhost:3306/car_rental";
    private static final String USER = "root";
    private static final String PASS = "loke@06";

    private Connection conn;

    public static void main(String[] args) {
        CR cr = new CR();
        cr.connectDatabase();
        Scanner scanner = new Scanner(System.in);

        System.out.println("Welcome to Car Rental Management System");
        System.out.println("Choose your role:");
        System.out.println("1. User");
        System.out.println("2. Admin");
        System.out.print("Enter your choice: ");
        int roleChoice = scanner.nextInt();
```

```
switch (roleChoice) {
            case 1:
                cr.userMode(scanner);
                break;
            case 2:
                cr.adminMode(scanner);
                break;
            default:
                System.out.println("Invalid choice. Please try again.");
                return;
        }

        cr.closeDatabase();
    }

    private void connectDatabase() {
        try {
            conn = DriverManager.getConnection(DB_URL, USER, PASS);
            System.out.println("Database connection successful.");
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }

    private void closeDatabase() {
        try {
```

```
if (conn != null && !conn.isClosed()) {
            conn.close();
}
      } catch (SQLException e) {
         e.printStackTrace();
      }
   }

   private void userMode(Scanner scanner) {
      while (true) {
         System.out.println("User Mode");
         System.out.println("1. Display Cars");
         System.out.println("2. Exit");
         System.out.print("Enter your choice: ");
         int choice = scanner.nextInt();

         switch (choice) {
            case 1:
               displayCars();
               break;
            case 2:
               System.out.println("Goodbye!");
               return;
            default:
               System.out.println("Invalid choice. Please try again.");
         }
```

```
}
   }
 private void adminMode(Scanner scanner) {
        while (true) {
            System.out.println("Admin Mode");
            System.out.println("1. Add Car");
            System.out.println("2. Update Car");
            System.out.println("3. Delete Car");
            System.out.println("4. Display Cars");
            System.out.println("5. Switch to User Mode");
            System.out.println("6. Exit");
            System.out.print("Enter your choice: ");
            int choice = scanner.nextInt();

            switch (choice) {
                case 1:
                    addCar(scanner);
                    break;
                case 2:
                    updateCar(scanner);
                    break;
                case 3:
                    deleteCar(scanner);
                    break;
                case 4:
                    displayCars();
```

```
break;
            case 5:
                userMode(scanner);
return;
            case 6:
                System.out.println("Goodbye!");
                return;
            default:
                System.out.println("Invalid choice. Please try again.");
        }
    }
}

    private void addCar(Scanner scanner) {
        System.out.print("Enter company name: ");
        String company = scanner.next();
        System.out.print("Enter model: ");
        String carModel = scanner.next();
        System.out.print("Enter year: ");
        int carYear = scanner.nextInt();
        System.out.print("Enter rate: ");
        double carRate = scanner.nextDouble();
        System.out.print("Enter availability (true/false): ");
        boolean carAvailability = scanner.nextBoolean();

        String sql = "INSERT INTO cars (company_name, model, year, rate, availability) VALUES
(?, ?, ?, ?, ?)";
```

```
    try (PreparedStatement pstmt = conn.prepareStatement(sql)) {
        pstmt.setString(1, company);
        pstmt.setString(2, carModel);
        pstmt.setInt(3, carYear);
        pstmt.setDouble(4, carRate);
        pstmt.setBoolean(5, carAvailability);
        pstmt.executeUpdate();
        System.out.println("Car added successfully.");
    } catch (SQLException e) {
        e.printStackTrace();
    }
}

private void updateCar(Scanner scanner) {
    System.out.print("Enter the ID of the car to update: ");
    int id = scanner.nextInt();

    System.out.print("Enter new company name: ");
    String company = scanner.next();
    System.out.print("Enter new model: ");
    String carModel = scanner.next();
    System.out.print("Enter new year: ");
    int carYear = scanner.nextInt();
    System.out.print("Enter new rate: ");
    double carRate = scanner.nextDouble();
    System.out.print("Enter new availability (true/false): ");
```

```
boolean carAvailability = scanner.nextBoolean();

String sql = "UPDATE cars SET company_name = ?, model = ?, year = ?, rate = ?, availability
= ? WHERE id = ?";


    try (PreparedStatement pstmt = conn.prepareStatement(sql)) {
        pstmt.setString(1, company);
        pstmt.setString(2, carModel);
        pstmt.setInt(3, carYear);
        pstmt.setDouble(4, carRate);
        pstmt.setBoolean(5, carAvailability);
        pstmt.setInt(6, id);
        pstmt.executeUpdate();
        System.out.println("Car updated successfully.");
    } catch (SQLException e) {
        e.printStackTrace();
    }
}


private void deleteCar(Scanner scanner) {
    System.out.print("Enter the ID of the car to delete: ");
    int id = scanner.nextInt();


    String sql = "DELETE FROM cars WHERE id = ?";


    try (PreparedStatement pstmt = conn.prepareStatement(sql)) {
        pstmt.setInt(1, id);
        pstmt.executeUpdate();
```

```
System.out.println("Car deleted successfully.");
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }

    private void displayCars() {
        String sql = "SELECT * FROM cars";

        try (Statement stmt = conn.createStatement(); ResultSet rs = stmt.executeQuery(sql)) {
            while (rs.next()) {
                System.out.println("Car ID: " + rs.getInt("id"));
                System.out.println("Company: " + rs.getString("company_name"));
                System.out.println("Model: " + rs.getString("model"));
                System.out.println("Year: " + rs.getInt("year"));
                System.out.println("Rate: " + rs.getDouble("rate"));
                System.out.println("Availability: " + (rs.getBoolean("availability") ? "Available" :
"Not Available"));
                System.out.println();
            }
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }
}
```

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Output:

```
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 1
Enter company name: Mahindra
Enter model: Bolero
Enter year: 2017
Enter rate: 2700
Enter availability (true/false): false
Car added successfully.
Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 2
Enter the ID of the car to update: 3
Enter new company name: Tata
Enter new model: Harrier
Enter new year: 2021
Enter new rate: 3100
Enter new availability (true/false): true
Car updated successfully.
Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 4
Car ID: 2
Company: Honda
```

```
Company: Honda
Model: City
Year: 2020
Rate: 1100000.0
Availability: Available

Car ID: 3
Company: Tata
Model: Harrier
Year: 2021
Rate: 3100.0
Availability: Available

Car ID: 4
Company: Mini
Model: Cooper
Year: 2005
Rate: 700000.0
Availability: Not Available

Car ID: 5
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 6
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 7
Company: Honda
Model: City
```

```
Rate: 3000.0
Availability: Available

Car ID: 8
Company: Suzuki
Model: Swift
Year: 2010
Rate: 2100.0
Availability: Available

Car ID: 9
Company: Mahindra
Model: Bolero
Year: 2017
Rate: 2700.0
Availability: Not Available

User Mode
1. Display Cars
2. Exit
Enter your choice:
```


```
Rate: 3000.0
Availability: Available

Car ID: 8
Company: Suzuki
Model: Swift
Year: 2010
Rate: 2100.0
Availability: Available

Car ID: 9
Company: Mahindra
Model: Bolero
Year: 2017
Rate: 2700.0
Availability: Not Available

User Mode
1. Display Cars
2. Exit
Enter your choice:
```

```
Enter your choice: 4
Car ID: 2
Company: Honda
Model: City
Year: 2020
Rate: 1100000.0
Availability: Available

Car ID: 3
Company: Tata
Model: Harrier
Year: 2021
Rate: 3100.0
Availability: Available

Car ID: 4
Company: Mini
Model: Cooper
Year: 2005
Rate: 700000.0
Availability: Not Available

Car ID: 5
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 6
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 7
```

```
Enter your choice: 4
Car ID: 2
Company: Honda
Model: City
Year: 2020
Rate: 1100000.0
Availability: Available

Car ID: 3
Company: Tata
Model: Harrier
Year: 2021
Rate: 3100.0
Availability: Available

Car ID: 4
Company: Mini
Model: Cooper
Year: 2005
Rate: 700000.0
Availability: Not Available

Car ID: 5
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 6
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 7
```

```
Car ID: 7
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 8
Company: Suzuki
Model: Swift
Year: 2010
Rate: 2100.0
Availability: Available

Car ID: 9
Company: Mahindra
Model: Bolero
Year: 2017
Rate: 2700.0
Availability: Not Available

Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 5
User Mode
1. Display Cars
2. Exit
Enter your choice: 1
Car ID: 2
Company: Honda
Model: City
Year: 2020
```


```
Car ID: 7
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 8
Company: Suzuki
Model: Swift
Year: 2010
Rate: 2100.0
Availability: Available

Car ID: 9
Company: Mahindra
Model: Bolero
Year: 2017
Rate: 2700.0
Availability: Not Available

Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 5
User Mode
1. Display Cars
2. Exit
Enter your choice: 1
Car ID: 2
Company: Honda
Model: City
Year: 2020
```

```
Year: 2020
Rate: 1100000.0
Availability: Available

Car ID: 3
Company: Tata
Model: Harrier
Year: 2021
Rate: 3100.0
Availability: Available

Car ID: 4
Company: Mini
Model: Cooper
Year: 2005
Rate: 700000.0
Availability: Not Available

Car ID: 5
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 6
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 7
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
```

```
Year: 2020
Rate: 1100000.0
Availability: Available

Car ID: 3
Company: Tata
Model: Harrier
Year: 2021
Rate: 3100.0
Availability: Available

Car ID: 4
Company: Mini
Model: Cooper
Year: 2005
Rate: 700000.0
Availability: Not Available

Car ID: 5
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 6
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 7
Company: Honda
Model: City
Year: 2020
Rate: 3000.0
```

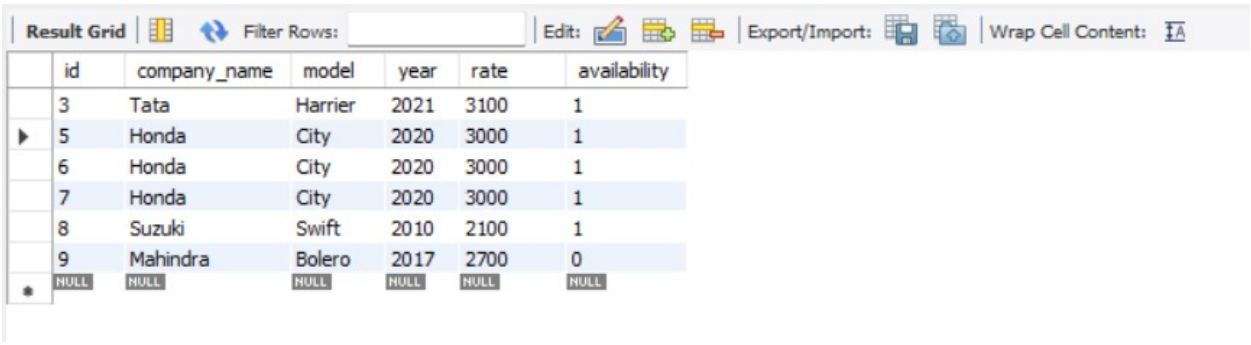
```
Database connection successful.
Welcome to Car Rental Management System
Choose your role:
1. User
2. Admin
Enter your choice: 2
Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 1
Enter company name: Honda
Enter model: City
Enter year: 2020
Enter rate: 3000
Enter availability (true/false): true
Car added successfully.
Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 1
Enter company name: Suzuki
Enter model: Swift
Enter year: 2010
Enter rate: 2100
Enter availability (true/false): true
Car added successfully.
Admin Mode
1. Add Car
2. Update Car
```

```
Model: City
Year: 2020
Rate: 3000.0
Availability: Available

Car ID: 8
Company: Suzuki
Model: Swift
Year: 2010
Rate: 2100.0
Availability: Available

Car ID: 9
Company: Mahindra
Model: Bolero
Year: 2017
Rate: 2700.0
Availability: Not Available

Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 3
Enter the ID of the car to delete: 1
Car deleted successfully.
Admin Mode
1. Add Car
2. Update Car
3. Delete Car
4. Display Cars
5. Switch to User Mode
6. Exit
Enter your choice: 4
```



id	company_name	model	year	rate	availability
3	Tata	Harrier	2021	3100	1
5	Honda	City	2020	3000	1
6	Honda	City	2020	3000	1
7	Honda	City	2020	3000	1
8	Suzuki	Swift	2010	2100	1
9	Mahindra	Bolero	2017	2700	0
NULL	NULL	NULL	NULL	NULL	NULL