Car Rental System

Project submitted to the

SRM University – AP, Andhra Pradesh

for the partial fulfillment of the requirements to award the degree in

Computer Science and Engineering

School of Engineering and Sciences

Under the Guidance of

Dr. Mohammad Abdussami

Lecturer, Department of CSE

Submitted by:

Yash Kothari (AP23110011511)
Farhana Kalayi (AP23110011526)
Yarima Tamang (AP23110011536)

SRM University–AP

Neerukonda, Mangalagiri, Guntur

Andhra Pradesh – 522 502

15th April, 2025

Index:

1. Project Title——----------1
2. Project Background——----------3
3. Description of the Project——----------4
4. ER Diagram Creation——----------5
5. Description of ER diagram——----------6
6. Conversion of ER diagram into Tables——----------7
7. Syntax of Table Creation——----------8-11
8. Description of Tables——----------12-13
9. Normalization of tables up to BCNF——----------14-16
10. Foreign Key Used——----------17
11. Creation of Data in the tables——----------18-20
12. Views——----------21-22
13. SQL Queries——----------23-30
14. Conclusion——----------31

Project Background:

In recent years, the transportation industry has seen a significant shift towards shared mobility services, with car rental businesses playing a vital role in offering flexible and cost-effective transportation options. Traditionally, car rental operations have relied on manual systems for managing vehicles, customer records, rentals, and maintenance schedules. These outdated methods are often error-prone, time-consuming, and lack real-time insights into vehicle availability and customer transactions.

As the demand for rental services grows, especially in urban and tourist areas, there is an increasing need for a robust and efficient digital platform to streamline rental operations. This system should ensure data integrity, maintain service records, and provide a smooth rental experience for both the customers and the staff. The solution should also be scalable, secure, and capable of handling complex relationships between different entities such as cars, customers, rentals, and maintenance.

Project Description:

The **Car Rental Management System** is a web-based platform designed to automate and manage all core functionalities of a car rental agency. The system handles essential operations such as vehicle registration, customer management, rental processing, billing, and maintenance tracking. It ensures the integrity and efficiency of data by storing it in a well-structured relational database, normalized to **Boyce-Codd Normal Form (BCNF)** for optimal performance and consistency.

The backend database comprises six main entities: **Cars, Models, Customers, Driving Licenses, Rentals,** and **Maintenance Records**.

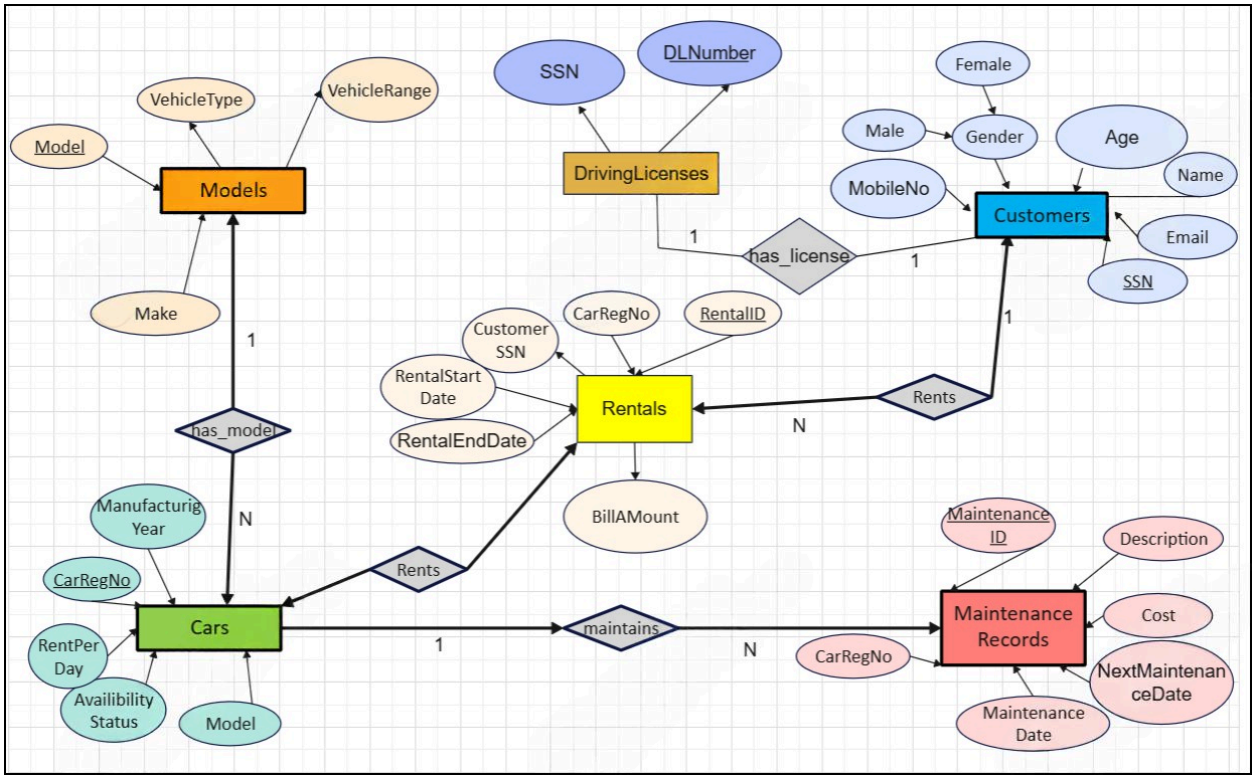
Each entity is logically separated but linked through foreign keys to support data integrity and relational queries.

Key features of the system include:

- Real-time tracking of car availability
- Detailed customer profiles and license verification
- Secure handling of rental transactions and billing
- Scheduling and monitoring of vehicle maintenance
- Robust relational database structure for data normalization

This system enhances the operational efficiency of the car rental business by reducing manual errors, providing instant access to data, and enabling quick decision-making based on real-time insights.

ER diagram:


SSN
DLNumber
Female
VehicleType
VehicleRange
Male
Gender
Age
Model
Models
DrivingLicenses
MobileNo
Name
Customers
1
has_license
1
Email
SSN
Make
1
CarRegNo
RentalID
1
Customer SSN
RentalStart Date
Rentals
Rents
RentalEndDate
N
has_model
N
BillAMount
Manufacturig Year
Maintenance ID
Description
CarRegNo
Rents
Cars
maintains
Maintenance Records
Cost
RentPer Day
1
N
CarRegNo
NextMaintenanceDate
Availibility Status
Model
Maintenance Date

Description of ER diagram:

The Entity-Relationship Diagram (ERD) represents a BCNF data model for a **Car Rental Management System**, capturing the key entities and their interrelations.

The **Customers** entity stores user details such as **SSN** (primary key), **Name**, **Email**, **Mobile Number**, **Gender**, and **Age**. Each customer is associated with a unique **Driving License**, forming a one-to-one relationship with the **DrivingLicenses** entity, which includes **DLNumber** and **SSN**.

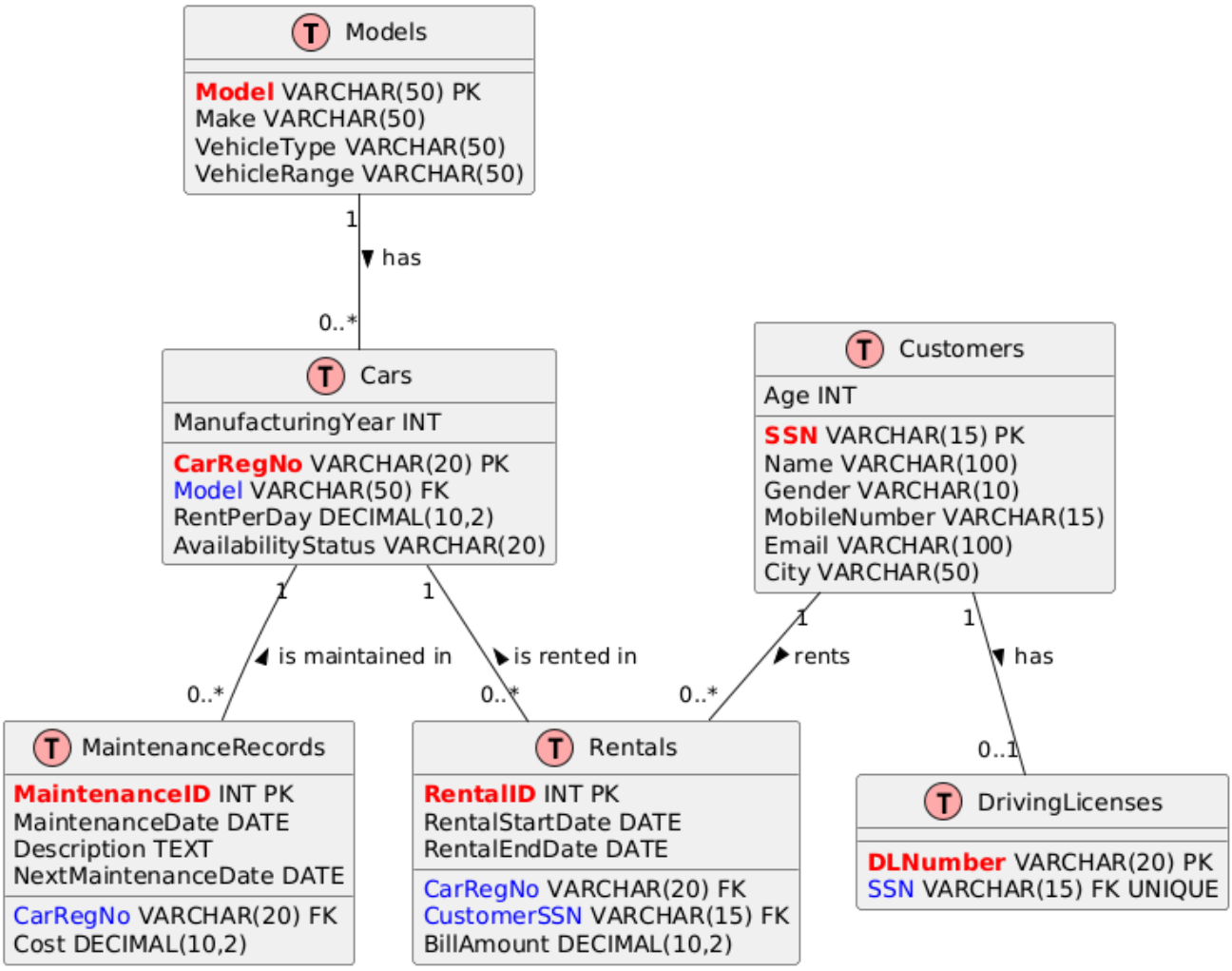
Customers engage in rentals recorded in the **Rentals** entity, which includes **RentalID**, **Customer SSN**, **CarRegNo**, rental dates, and **BillAmount**. Each customer and each car can be linked to multiple rentals, forming two one-to-many relationships.

The **Cars** entity tracks vehicles using **CarRegNo** (primary key) and includes attributes such as **Model**, **RentPerDay**, **Availability Status**, and **Manufacturing Year**. Each car is linked to a specific **Model**, stored in the **Models** entity, which contains details like **Make**, **VehicleType**, and **VehicleRange**.

Vehicle maintenance is recorded in the **MaintenanceRecords** entity, which logs each **MaintenanceID**, **CarRegNo**, **Maintenance Date**, **Description**, **Cost**, and **Next Maintenance Date**, forming a one-to-many relationship from **Cars**.

Overall, the model ensures data integrity and supports key operations such as customer management, rentals, vehicle inventory, and maintenance tracking.

Conversion of ER diagram into Tables:



Syntax of Table Creation:

```
<?php

$servername = "localhost";

$username = "root";

$password = "";

$dbname = "CarRentals";


mysqli_report(MYSQLI_REPORT_ERROR | MYSQLI_REPORT_STRICT);


try {
    $conn = new mysqli($servername, $username, $password, $dbname);
    echo "Connected successfully to '$dbname'<br>";


    $conn->query("CREATE TABLE IF NOT EXISTS Models (
        Model VARCHAR(50) PRIMARY KEY,
        Make VARCHAR(50),
        VehicleType VARCHAR(50),
        VehicleRange VARCHAR(50)
    )");
    echo "Table 'Models' created successfully.<br>";


    $conn->query("CREATE TABLE IF NOT EXISTS Cars (
```

```
    CarRegNo VARCHAR(20) PRIMARY KEY,
    Model VARCHAR(50),
    ManufacturingYear INT,
    RentPerDay DECIMAL(10,2),
    AvailabilityStatus VARCHAR(20),
    FOREIGN KEY (Model) REFERENCES Models(Model)
)");
echo "Table 'Cars' created successfully.<br>";

$conn->query("CREATE TABLE IF NOT EXISTS Customers (
    SSN VARCHAR(15) PRIMARY KEY,
    Name VARCHAR(100),
    Gender VARCHAR(10),
    Age INT,
    MobileNumber VARCHAR(15),
    Email VARCHAR(100),
    City VARCHAR(50)
)");
echo "Table 'Customers' created successfully.<br>";

$conn->query("CREATE TABLE IF NOT EXISTS DrivingLicenses (
```

```
    DLNumber VARCHAR(20) PRIMARY KEY,
    SSN VARCHAR(15) UNIQUE,
    FOREIGN KEY (SSN) REFERENCES Customers(SSN)
)");
echo "Table 'DrivingLicenses' created successfully.<br>";

$conn->query("CREATE TABLE IF NOT EXISTS Rentals (
    RentalID INT PRIMARY KEY,
    CarRegNo VARCHAR(20),
    CustomerSSN VARCHAR(15),
    RentalStartDate DATE,
    RentalEndDate DATE,
    BillAmount DECIMAL(10,2),
    FOREIGN KEY (CarRegNo) REFERENCES Cars(CarRegNo),
    FOREIGN KEY (CustomerSSN) REFERENCES Customers(SSN)
)");
echo "Table 'Rentals' created successfully.<br>";

$conn->query("CREATE TABLE IF NOT EXISTS MaintenanceRecords (
    MaintenanceID INT PRIMARY KEY,
    CarRegNo VARCHAR(20),
```

```
        MaintenanceDate DATE,
        Description TEXT,
        Cost DECIMAL(10,2),
        NextMaintenanceDate DATE,
        FOREIGN KEY (CarRegNo) REFERENCES Cars(CarRegNo)
    )");
    echo "Table 'MaintenanceRecords' created successfully.<br>";

    $conn->close();
} catch (mysqli_sql_exception $e) {
    die("Error: " . $e->getMessage());
}
?>
```

Description of Tables:

Database: CarRentals

1. **Models**

- Purpose: Stores general information about car models.
- Columns:
    - Model (Primary Key): Name or identifier for the model.
    - Make: Manufacturer (e.g., Toyota, Honda).
    - VehicleType: Type such as Sedan, SUV, Hatchback.
    - VehicleRange: e.g., Economy, Luxury, Electric.

2. **Cars**

- Purpose: Contains individual car details available for rent.
- Columns:
    - CarRegNo (Primary Key): Unique registration number of the car.
    - Model: Foreign key referencing Models(Model).
    - ManufacturingYear: The year the car was manufactured.
    - RentPerDay: Rental price per day.
    - AvailabilityStatus: Current status (e.g., Available, Rented, Under Maintenance).

3. **Customers**

- Purpose: Stores customer personal information.
- Columns:
    - SSN (Primary Key): Unique identifier (Social Security Number).
    - Name: Full name of the customer.
    - Gender: Gender identity.
    - Age: Customer's age.
    - MobileNumber: Contact phone number.
    - Email: Email address.
    - City: City of residence.

4. **DrivingLicenses**

- Purpose: Stores driving license numbers linked to customers.
- Columns:
    - DLNumber (Primary Key): Driving License Number.

- SSN: Foreign key referencing Customers(SSN); each license is associated with one customer.

5. Rentals

- Purpose: Captures rental transaction data between cars and customers.
- Columns:
  - RentalID (Primary Key): Unique rental transaction ID.
  - CarRegNo: Foreign key referencing Cars(CarRegNo).
  - CustomerSSN: Foreign key referencing Customers(SSN).
  - RentalStartDate: Date the rental began.
  - RentalEndDate: Date the rental ended or is scheduled to end.
  - BillAmount: Total rental cost for the transaction.

6. MaintenanceRecords

- Purpose: Tracks maintenance performed on each car.
- Columns:
  - MaintenanceID (Primary Key): Unique maintenance event ID.
  - CarRegNo: Foreign key referencing Cars(CarRegNo).
  - MaintenanceDate: Date of the maintenance.
  - Description: Details of the maintenance work performed.
  - Cost: Expense incurred for the maintenance.
  - NextMaintenanceDate: Scheduled or suggested next maintenance**.**

Normalization of tables up to BCNF

We originally had the following 4 tables:

1. Cars

- CarRegNo (PK)
- Model
- Make
- ManufacturingYear
- VehicleRange
- VehicleType
- RentPerDay
- AvailabilityStatus

2. Customers

- SSN (PK)
- Name
- Gender
- Age
- MobileNumber
- Email
- DrivingLicenseNumber
- City

3. Rentals

- RentalID (PK)
- CarRegNo
- CustomerSSN
- RentalStartDate
- RentalEndDate
- BillAmount

4. MaintenanceRecords

- MaintenanceID (PK)

- CarRegNo
- MaintenanceDate
- Description
- Cost
- NextMaintenanceDate

Step 1: Remove Partial Dependencies (1NF → 2NF)

Target: Remove attributes that depend on part of a composite key, but only single-attribute primary keys exist. Therefore, no changes required.

Step 2: Remove Transitive Dependencies (2NF → 3NF)

Target: Break down dependencies that aren't directly related to the primary key.

Table: Cars
Original columns: CarRegNo (PK), Model, Make, VehicleType, VehicleRange, ManufacturingYear, RentPerDay, AvailabilityStatus
Observation:
Model → Make, VehicleType, VehicleRange (i.e., non-key attributes depend on a non-key field → transitive dependency)
Solution:
Separate into two tables:
Cars(CarRegNo, Model, ManufacturingYear, RentPerDay, AvailabilityStatus)
Models(Model, Make, VehicleType, VehicleRange)
Now each non-key attribute is fully dependent on the key → **3NF achieved.**

Table: Customers
Original columns:
SSN (PK), Name, Gender, Age, MobileNumber, Email, DrivingLicenseNumber, City
Observation:
1. Create scope to attach more details to the license later (issue date, expiry date, issuing authority, etc.).

2. Treat DrivingLicenses as a separate entity for modular design.

Solution:
Extract into a new table:
Customers(SSN, Name, Gender, Age, MobileNumber, Email, City)
DrivingLicenses(DLNumber, SSN) — where DLNumber is PK and SSN is unique FK.
This makes the DL data atomic and non-redundant. Now, both are in **3NF**.

Step 3: Apply BCNF

Target: BCNF requires that every determinant is a candidate key.

Models:
Model → Make, VehicleType, VehicleRange

Cars:
CarRegNo is the only determinant

Customers:
SSN is the only determinant

DrivingLicenses:
DLNumber → SSN

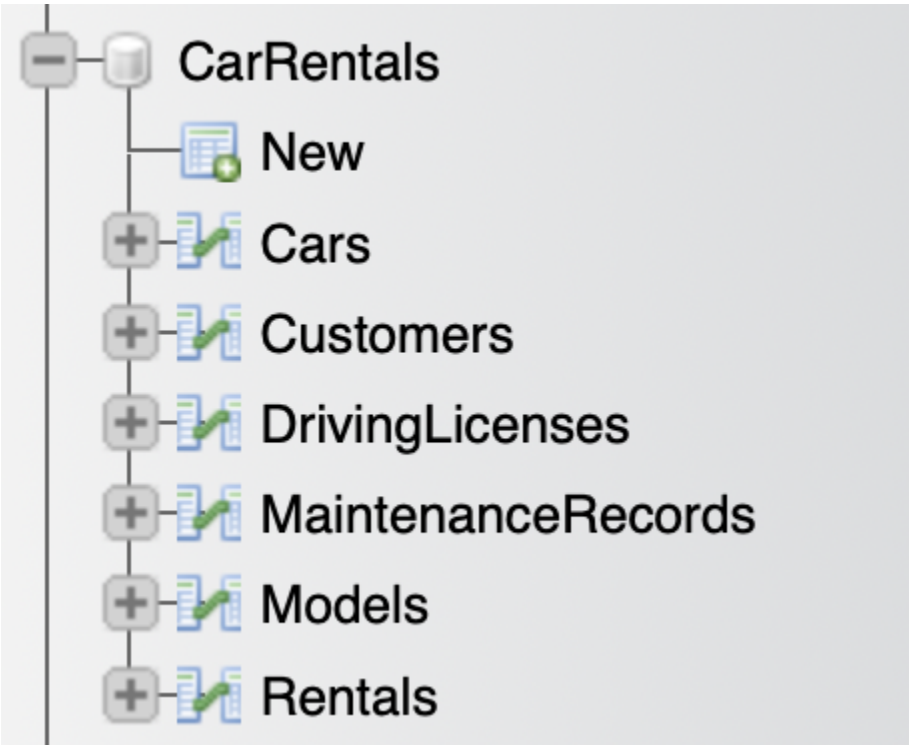
Rentals:
RentalID → CarRegNo, CustomerSSN, Dates, BillAmount

MaintenanceRecords:
MaintenanceID → All

Foreign Keys used:

Foreign Key	References	Relationship
Cars.Model	Models.Model	One Model → Many Cars
Rentals.CustomerSSN	Customers.SSN	One Customer → Many Rentals
Rentals.CarRegNo	Cars.CarRegNo	One Car → Many Rentals
MaintenanceRecords.CarRegNo	Cars.CarRegNo	One Car → Many Maintenance Records
DrivingLicenses.SSN	Customers.SSN	One Customer → One License

Creation of Data in the Tables:



Cars:

CarRegNo	Model	ManufacturingYear	RentPerDay	AvailabilityStatus
KA01AB1234	ModelX	2021	1500.00	Available
KA01AB1235	ModelY	2022	1200.00	Rented
KA01AB1236	Civic	2020	900.00	Available
KA01AB1237	Accord	2019	1000.00	Maintenance
KA01AB1238	Corolla	2022	850.00	Available
KA01AB1239	Rav4	2021	1100.00	Rented
KA01AB1240	Fortuner	2023	2000.00	Available
KA01AB1241	Altroz	2021	700.00	Available

Customers:

SSN	Name	Gender	Age	MobileNumber	Email	City
1111	Alice Smith	Female	30	9876543210	alice@example.com	Mumbai
2222	Bob Johnson	Male	40	9123456789	bob@example.com	Delhi
3333	Charlie Lee	Other	28	9988776655	charlie@example.com	Bangalore
4444	David Kim	Male	35	9123451234	david@example.com	Hyderabad
5555	Eva Green	Female	32	9123412345	eva@example.com	Chennai
6666	Frank Wang	Male	29	9191919191	frank@example.com	Pune
7777	Grace Liu	Female	33	9000000001	grace@example.com	Kolkata
8888	Hank Mo	Male	38	9000000002	hank@example.com	Ahmedabad

Driving Licenses:

DLNumber	SSN
DL01	1111
DL02	2222
DL03	3333
DL04	4444
DL05	5555
DL06	6666
DL07	7777
DL08	8888

Maintenance Records:

MaintenanceID	CarRegNo	MaintenanceDate	Description	Cost	NextMaintenanceDate
1	KA01AB1237	2024-02-01	Engine Tuning	3000.00	2024-08-01
2	KA01AB1240	2024-01-20	Brake Replacement	4500.00	2024-07-20
3	KA01AB1236	2023-12-10	Oil Change	1200.00	2024-06-10
4	KA01AB1235	2024-02-10	AC Service	2200.00	2024-08-10
5	KA01AB1238	2024-02-25	Windshield Cleaning	800.00	2024-08-25
6	KA01AB1241	2024-03-01	Battery Replacement	4000.00	2024-09-01
7	KA01AB1241	2023-10-10	Tire Rotation	1500.00	2024-04-10
8	KA01AB1240	2024-03-15	Wheel Alignment	1700.00	2024-09-15

Models:

Model	Make	VehicleType	VehicleRange
Accord	Honda	Sedan	480
Altroz	Tata	Hatchback	410
Civic	Honda	Sedan	450
Corolla	Toyota	Sedan	430
Fortuner	Toyota	SUV	520
ModelX	Tesla	Sedan	560
ModelY	Tesla	SUV	525
Rav4	Toyota	SUV	500

Car Rentals:

RentalID	CarRegNo	CustomerSSN	RentalStartDate	RentalEndDate	BillAmount
1	KA01AB1235	1111	2024-03-01	2024-03-05	6000.00
2	KA01AB1239	2222	2024-03-10	2024-03-12	2200.00
3	KA01AB1236	3333	2024-03-15	2024-03-20	4500.00
4	KA01AB1238	4444	2024-03-18	2024-03-21	2550.00
5	KA01AB1240	5555	2024-04-01	2024-04-04	6000.00
6	KA01AB1241	6666	2024-04-05	2024-04-07	2100.00
7	KA01AB1236	1111	2024-04-07	2024-04-14	4556.00
8	KA01AB1241	2222	2024-04-10	2024-04-12	5581.00
9	KA01AB1238	2222	2024-04-09	2024-04-16	7517.00
10	KA01AB1237	1111	2024-04-09	2024-04-14	2714.00
11	KA01AB1237	4444	2024-04-12	2024-04-15	7067.00
12	KA01AB1236	3333	2024-04-03	2024-04-08	4425.00

Views:

View: AvailableCars

CarRegNo	Make	Model	RentPerDay	ManufacturingYear
KA01AB1234	Tesla	ModelX	1500.00	2021
KA01AB1236	Honda	Civic	900.00	2020
KA01AB1238	Toyota	Corolla	850.00	2022
KA01AB1240	Toyota	Fortuner	2000.00	2023
KA01AB1241	Tata	Altroz	700.00	2021
TS10XX9999	Nissan	X-Trail	2500.00	2023

View: RentalHistory

RentalID	CustomerName	CarRegNo	Make	RentalStartDate	RentalEndDate	BillAmount
1	Alice Smith	KA01AB1235	Tesla	2024-03-01	2024-03-05	6000.00
7	Alice Smith	KA01AB1236	Honda	2024-04-07	2024-04-14	4556.00
10	Alice Smith	KA01AB1237	Honda	2024-04-09	2024-04-14	2714.00
2	Bob Johnson	KA01AB1239	Toyota	2024-03-10	2024-03-12	2200.00
8	Bob Johnson	KA01AB1241	Tata	2024-04-10	2024-04-12	5581.00
9	Bob Johnson	KA01AB1238	Toyota	2024-04-09	2024-04-16	7517.00
3	Charlie Lee	KA01AB1236	Honda	2024-03-15	2024-03-20	4500.00
12	Charlie Lee	KA01AB1236	Honda	2024-04-03	2024-04-08	4425.00
4	David Kim	KA01AB1238	Toyota	2024-03-18	2024-03-21	2550.00
11	David Kim	KA01AB1237	Honda	2024-04-12	2024-04-15	7067.00
5	Eva Green	KA01AB1240	Toyota	2024-04-01	2024-04-04	6000.00
6	Frank Wang	KA01AB1241	Tata	2024-04-05	2024-04-07	2100.00
201	Rohit Yadav	TS10YY9998	Nissan	2025-04-05	2025-04-07	5600.00

View: HighRentCars

CarRegNo	Model	ManufacturingYear	RentPerDay	AvailabilityStatus
TS10YY9998	X-Trail	2022	2800.00	Rented

View: CityWiseRentals

City	Rentals
Bangalore	2
Chennai	1
Delhi	3
Hyderabad	2
Mumbai	3
Pune	1
Warangal	1

View: UpcomingMaintenance

CarRegNo	NextDue
KA01AB1235	2024-08-10
KA01AB1236	2024-06-10
KA01AB1237	2024-08-01
KA01AB1238	2024-08-25
KA01AB1240	2024-09-15
KA01AB1241	2024-09-01
TS10YY9998	2025-06-30

SQL Queries:

1. Available Cars

CarRegNo	Make	Model	RentPerDay	ManufacturingYear
KA01AB1234	Tesla	ModelX	1500.00	2021
KA01AB1236	Honda	Civic	900.00	2020
KA01AB1238	Toyota	Corolla	850.00	2022
KA01AB1240	Toyota	Fortuner	2000.00	2023
KA01AB1241	Tata	Altroz	700.00	2021
TS10XX9999	Nissan	X-Trail	2500.00	2023

---

2. Cars with RentPerDay > 2000

CarRegNo	Model	ManufacturingYear	RentPerDay	AvailabilityStatus
TS10XX9999	X-Trail	2023	2500.00	Available
TS10YY9998	X-Trail	2022	2800.00	Rented

---

3. Customers in Hyderabad

SSN	Name	Gender	Age	MobileNumber	Email	City
4444	David Kim	Male	35	9123451234	david@example.com	Hyderabad

---

4. Cars Manufactured After 2020

CarRegNo	Model	ManufacturingYear	RentPerDay	AvailabilityStatus
KA01AB1234	ModelX	2021	1500.00	Available
KA01AB1235	ModelY	2022	1200.00	Rented
KA01AB1238	Corolla	2022	850.00	Available
KA01AB1239	Rav4	2021	1100.00	Rented
KA01AB1240	Fortuner	2023	2000.00	Available
KA01AB1241	Altroz	2021	700.00	Available
TS10XX9999	X-Trail	2023	2500.00	Available
TS10YY9998	X-Trail	2022	2800.00	Rented

---

5. Rental History (Customer + Car Model)

RentalID	Name	Model	RentalStartDate	RentalEndDate
1	Alice Smith	ModelY	2024-03-01	2024-03-05
7	Alice Smith	Civic	2024-04-07	2024-04-14
10	Alice Smith	Accord	2024-04-09	2024-04-14
2	Bob Johnson	Rav4	2024-03-10	2024-03-12
8	Bob Johnson	Altroz	2024-04-10	2024-04-12
9	Bob Johnson	Corolla	2024-04-09	2024-04-16
3	Charlie Lee	Civic	2024-03-15	2024-03-20
12	Charlie Lee	Civic	2024-04-03	2024-04-08
4	David Kim	Corolla	2024-03-18	2024-03-21
11	David Kim	Accord	2024-04-12	2024-04-15
5	Eva Green	Fortuner	2024-04-01	2024-04-04
6	Frank Wang	Altroz	2024-04-05	2024-04-07
201	Rohit Yadav	X-Trail	2025-04-05	2025-04-07

---

6. Model & Total Maintenance Cost

Model	Make	TotalMaintenanceCost
Accord	Honda	3000.00
Altroz	Tata	5500.00
Civic	Honda	1200.00
Corolla	Toyota	800.00
Fortuner	Toyota	6200.00
ModelY	Tesla	2200.00
X-Trail	Nissan	1200.00

---

7. Customer and Driving License

Name	DLNumber
Alice Smith	DL01
Bob Johnson	DL02
Charlie Lee	DL03
David Kim	DL04
Eva Green	DL05
Frank Wang	DL06
Grace Liu	DL07
Hank Mo	DL08
Rohit Yadav	DLR9998887

---

8. Cars Never Rented

CarRegNo	Model	ManufacturingYear	RentPerDay	AvailabilityStatus
KA01AB1234	ModelX	2021	1500.00	Available
TS10XX9999	X-Trail	2023	2500.00	Available

---

9. Rentals Per City

City	Rentals
Bangalore	2
Chennai	1
Delhi	3
Hyderabad	2
Mumbai	3
Pune	1
Warangal	1

---

10. Average RentPerDay by VehicleType

VehicleType	AvgRent
Hatchback	700.000000
Sedan	1062.500000
SUV	1920.000000

---

11. Car with Most Maintenance

CarRegNo	MaintenanceCount
KA01AB1240	2

---

12. Customers with More Than 2 Rentals

CustomerSSN	RentalCount
1111	3
2222	3

---

13. Customers Who Rented Expensive Cars

SSN	Name	Gender	Age	MobileNumber	Email	City
999887776655	Rohit Yadav	Male	33	9090909090	rohit@example.com	Warangal

---

14. Customers Who Rented SUV Cars

SSN	Name	Gender	Age	MobileNumber	Email	City
1111	Alice Smith	Female	30	9876543210	alice@example.com	Mumbai
2222	Bob Johnson	Male	40	9123456789	bob@example.com	Delhi
5555	Eva Green	Female	32	9123412345	eva@example.com	Chennai
999887776655	Rohit Yadav	Male	33	9090909090	rohit@example.com	Warangal

---

15. Models With Multiple Cars

Model	CarCount
X-Trail	2

---

16. Car with Highest Rent

CarRegNo	Model	ManufacturingYear	RentPerDay	AvailabilityStatus
TS10YY9998	X-Trail	2022	2800.00	Rented

---

17. Customers Who Rented and Have License

Name
Alice Smith
Bob Johnson
Charlie Lee
David Kim
Eva Green
Frank Wang
Rohit Yadav

---

18. Cars Maintained in Last 30 Days

MaintenanceID	CarRegNo	MaintenanceDate	Description	Cost	NextMaintenanceDate
3001	TS10YY9998	2025-03-30	Engine Tuning	1200.00	2025-06-30

---

19. Last Maintenance Description per Car

CarRegNo	Description	MaintenanceDate
KA01AB1237	Engine Tuning	2024-02-01
KA01AB1236	Oil Change	2023-12-10
KA01AB1235	AC Service	2024-02-10
KA01AB1238	Windshield Cleaning	2024-02-25
KA01AB1241	Battery Replacement	2024-03-01
KA01AB1240	Wheel Alignment	2024-03-15
TS10YY9998	Engine Tuning	2025-03-30

---

20. Total Income by Car

CarRegNo	TotalIncome
KA01AB1235	6000.00
KA01AB1236	13481.00
KA01AB1237	9781.00
KA01AB1238	10067.00
KA01AB1239	2200.00
KA01AB1240	6000.00
KA01AB1241	7681.00
TS10YY9998	5600.00

Conclusion:

In conclusion, this Car Rental Management System effectively demonstrates a robust and normalized relational database design that ensures data integrity and efficient management of various components including cars, models, customers, rentals, driving licenses, and maintenance records. Implemented using PHP and MySQL, the system supports a wide range of SQL operations including complex joins, nested queries, views, and aggregations—providing a solid backend foundation for analytical reporting and real-time data access. With a scalable structure and practical sample data, it showcases how database-driven applications can streamline operations and enhance decision-making in real-world rental businesses.