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**Car Showroom Management System — Project Report**

**1. Overview**

The Car Showroom Management System is designed to manage operations within a car dealership showroom. It handles cars’ inventory, customer details, salespersons, bookings, payments, suppliers, and stock information efficiently. The system ensures that the showroom can manage its sales workflow from car listing to final payment, with organized record-keeping and smooth transaction processing.

**2. Key Features**

* **Car Inventory Management:**  
  Add, modify, or remove car details, manage stock quantities, and apply arithmetic checks for pricing and availability.
* **Customer Management:**  
  Register customers, update their information, and track sales history.
* **Salesperson Records:**  
  Manage salesperson profiles, salaries, and assignments to sales.
* **Showroom Details:**  
  Maintain information about showroom capacity, staff count, and cars available.
* **Invoice and Payments:**  
  Create invoices, handle returns, manage different payment methods, and track payment statuses.
* **Bookings:**  
  Record bookings for cars, check booking status, and update bookings as needed.
* **Supplier Management:**  
  Manage supplier information, brands supplied, and contact details.
* **Stock Tracking:**  
  Monitor stock quantities, shipment dates, and availability status.
* **Admin Control:**  
  Handle admin login credentials and perform administrative operations securely.

**3. Commands Used**

**A. DDL (Data Definition Language)**

Used for creating and modifying tables:

sql

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-- Create database

CREATE DATABASE cars;

USE cars;

-- Create tables

CREATE TABLE cars (...);

CREATE TABLE customer (...);

CREATE TABLE salesperson (...);

CREATE TABLE showroom (...);

CREATE TABLE invoice (...);

CREATE TABLE payment (...);

CREATE TABLE booking (...);

CREATE TABLE supplier (...);

CREATE TABLE stock (...);

CREATE TABLE admin (...);

-- Alter tables

ALTER TABLE cars MODIFY chasenumber VARCHAR(20) PRIMARY KEY;

ALTER TABLE cars DROP COLUMN importyear;

ALTER TABLE customer MODIFY customerid VARCHAR(8) PRIMARY KEY;

ALTER TABLE salesperson MODIFY salespersonid VARCHAR(8) PRIMARY KEY;

ALTER TABLE salesperson DROP COLUMN address;

ALTER TABLE showroom MODIFY location VARCHAR(50) PRIMARY KEY;

ALTER TABLE invoice MODIFY invoiceid VARCHAR(30) PRIMARY KEY;

ALTER TABLE invoice ADD returnamount INT;

ALTER TABLE payment MODIFY paymentid VARCHAR(30) PRIMARY KEY;

ALTER TABLE payment ADD paymenttime VARCHAR(10);

ALTER TABLE booking MODIFY bookingid VARCHAR(28) PRIMARY KEY;

ALTER TABLE booking DROP COLUMN bookingpayment;

ALTER TABLE supplier MODIFY supplierid VARCHAR(19) PRIMARY KEY;

ALTER TABLE supplier DROP COLUMN email;

ALTER TABLE stock MODIFY stocknumber VARCHAR(35) PRIMARY KEY;

ALTER TABLE admin MODIFY userid VARCHAR(25) PRIMARY KEY;

ALTER TABLE admin DROP COLUMN role;

**B. DML (Data Manipulation Language)**

Used to insert, update, and delete data:

sql

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-- Insert records

INSERT INTO cars VALUES (...);

INSERT INTO customer VALUES (...);

INSERT INTO salesperson VALUES (...);

INSERT INTO showroom VALUES (...);

INSERT INTO invoice VALUES (...);

INSERT INTO payment VALUES (...);

INSERT INTO booking VALUES (...);

INSERT INTO supplier VALUES (...);

INSERT INTO stock VALUES (...);

INSERT INTO admin VALUES (...);

-- Update records

UPDATE customer SET customername='iqra', address='bharia block 1' WHERE customerid='f102045';

UPDATE payment SET paymentmethod='debitcard' WHERE paymentid='py34576';

UPDATE supplier SET address='pakistan' WHERE supplierid='si0936';

UPDATE admin SET password="12345" WHERE userid='jhon6786@5';

**C. DQL (Data Query Language)**

Used to query and retrieve data:

sql

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-- Select statements

SELECT \* FROM cars;

SELECT \* FROM customer;

SELECT \* FROM salesperson;

SELECT \* FROM showroom;

SELECT \* FROM invoice;

SELECT \* FROM payment;

SELECT \* FROM booking;

SELECT \* FROM supplier;

SELECT \* FROM stock;

SELECT \* FROM admin;

-- Conditional queries

SELECT \* FROM admin WHERE password IS NULL;

**D. Arithmetic and Logical Subqueries**

Applied arithmetic operations directly in WHERE clauses for checks:

sql

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SELECT \* FROM cars WHERE price / 2 = 11000000;

SELECT \* FROM cars WHERE stockquantity + 100 = 200;

SELECT \* FROM cars WHERE model - 2 = 22;

SELECT \* FROM customer WHERE customerid % 2 = 23456;

SELECT \* FROM customer WHERE contactnumber \* 3 = 7859392;

SELECT \* FROM salesperson WHERE salary - 5600 = 14400;

SELECT \* FROM salesperson WHERE salespersonid + 6 = "sp4585";

SELECT \* FROM showroom WHERE capcity / 2 = 61750;

SELECT \* FROM showroom WHERE numberofstaffs \* 2 = 12;

SELECT \* FROM showroom WHERE numberofcar - 56000 = 156000;

SELECT \* FROM invoice WHERE totalamount \* 10 = 0;

SELECT \* FROM invoice WHERE returnamount % 2 = 250000;

SELECT \* FROM invoice WHERE totalamount - 5 = 3545600;

SELECT \* FROM payment WHERE paymentid / 5 = 3465;

SELECT \* FROM payment WHERE paymenttime + 30 = 1205;

SELECT \* FROM booking WHERE bookingid \* 2 = 56694;

SELECT \* FROM booking WHERE carchasenumber % 5 = 1728.4;

SELECT \* FROM supplier WHERE suppliedcar + 70 = 190;

SELECT \* FROM supplier WHERE contactnumber / 5 = 14939464;

SELECT \* FROM supplier WHERE suppliedcar \* 9 = 4104;

SELECT \* FROM stock WHERE quantityofstock - 300 = 2000;

SELECT \* FROM stock WHERE availabiltyofstock / 2 = 250;

SELECT \* FROM admin WHERE password % 4 = 3086.25;

SELECT \* FROM admin WHERE password + 3 = 12348;

**4. System Workflow**

1️⃣ **Add new car records** to the database with pricing and stock details.  
2️⃣ **Register new customers** and assign unique customer IDs.  
3️⃣ **Assign salespersons** to handle sales and manage their salaries.  
4️⃣ **Record bookings** for interested buyers and update booking status.  
5️⃣ **Generate invoices** upon sale confirmation, apply returns if needed.  
6️⃣ **Process payments** with appropriate payment methods and payment times.  
7️⃣ **Manage suppliers** for car inventory replenishment.  
8️⃣ **Update stock levels** after sales or new shipments.  
9️⃣ **Admin control** for overseeing all records securely.

**5. User Interface (Frontend Concept)**

Your **frontend** should include:

* **Admin Login Page:** Secure authentication for admin users.
* **Dashboard:** Overview of cars in stock, bookings, payments, and sales stats.
* **Car Inventory Management:** Add/edit/delete car details and check arithmetic conditions.
* **Customer Records:** Register and update customer info.
* **Salesperson Management:** Manage staff, salaries, and assigned sales.
* **Booking Panel:** Create new bookings, update booking status.
* **Invoices & Payments:** View, generate, and update invoices and payments.
* **Supplier & Stock Management:** Update supplier details and monitor stock levels.
* **Reports:** Generate queries to check data integrity using arithmetic checks.

**✅ Conclusion**

Your Car Showroom Management System combines robust **database design**, practical **SQL operations**, and logical arithmetic queries to ensure efficient management of cars, customers, and sales processes. Once paired with a user-friendly frontend, it will deliver a comprehensive, automated solution for car dealership management.